

RESEARCH STUDIES SERIES

A HISTORY OF THE CIVIL RESERVE AIR FLEET

By

Theodore Joseph Crackel

Air Force History & Museums Program

Washington, D.C., 1998

PREFACE

This is the second in a series of research studies—historical works that were not published for various reasons. Yet, the material contained therein was deemed to be of enduring value to Air Force members and scholars. These works were minimally edited and printed in a limited edition to reach a small audience that may find them useful. We invite readers to provide feedback to the Air Force History and Museums Program.

Dr. Theodore Joseph Crackel, completed this history in 1993, under contract to the Military Airlift Command History Office. Contract management was under the purview of the Center for Air Force History (now the Air Force History Support Office). MAC historian Dr. John Leland researched and wrote Chapter IX, "CRAF in Operation Desert Shield."

Rooted in the late 1930s, the CRAF story revolved about two points: the military requirements and the economics of civil air transportation. Subsequently, the CRAF concept crept along for more than fifty years with little to show for the effort, except for a series of agreements and planning documents. The tortured route of defining and redefining of the concept forms the nucleus of the this history. Unremarkable as it appears, the process of coordination with other governmental agencies, the Congress, aviation organizations, and individual airlines was both necessary and unavoidable; there are *lessons* to be learned from this experience. Although this story appears terribly short on action, it is worth studying to understand how, when, and why the concept failed and finally succeeded. The payoff came during the Persian Gulf War, over the period from August 1990 until January 1991, when the CRAF flew in support of Operation Desert Shield. The CRAF provided the "greatest airlift in history," eclipsing in some aspects even the 1948-1949 Berlin Airlift. The statistics were staggering: during those 165 days the CRAF transported some 400,000 troops and 355,000 tons of cargo from the U.S. east coast to the Arabian Peninsula, an average distance of 7,000 miles. By May 1991 CRAF aircraft had transported 60 percent of the troops and 25 percent of the cargo.

Jacob Neufeld, General Editor
July 1998

TABLE OF CONTENTS

Preface	iii
Introduction	ix
I. The Roots of the Civil Reserve Air Fleet	1
The Army and Air Transport	1
Enter Edgar Gorrell	5
War Clouds, Air Transport, and Military Airlift Requirements	9
II. The Air Transport Industry in World War II	25
Pan Am and the British: Showing the Way	25
Organizing Air Transport for War	28
Across the Oceans	38
Summary and Analysis	42
III. Birth of the Civil Reserve Air Fleet, 1947-1951	55
The Airlines and Strategic Military Airlift	55
CRAF: The Conception	62
CRAF: The Gestation	67
Summary and Analysis	71
IV. Shaping the Civil Reserve Air Fleet, 1952-1954	85
Military Air Transport Service and the Airlines	85
Introducing the Civil Reserve Air Fleet	87
Organizing the Civil Reserve Air Fleet	94
Summary and Analysis	99
V. A Period of Redefinition, 1955-1962	105
A Redefined Environment: MATS and the Airlines	105
Redefining CRAF: Structure and Strategy	113
Strategy Redefined	118
Summary and Analysis	123

VI.	An Era of Modernization, 1963-1972	133
	Refining CRAF Management and Organization	133
	New Contracts	135
	Revisiting the Environment: The Airlines vs. MAC	143
	MAC, the Airlines, and the Vietnam War	145
	The "Competition Issue" Revisited	148
	Summary and Analysis	152
VII.	CRAF Enhancement, 1973-1979	159
	The Strategic and Economic Environment	161
	Bonus Awards	165
	CRAF Enhancement	172
	Summary and Analysis	182
VIII.	Management Challenges in a New Era, 1980-1987	193
	Airlift Shortfall—Strategic Demand and Economic Reality	193
	Advancing CRAF Enhancement	197
	CRAF Management—Looking Ahead	203
	Summary and Analysis	209
IX.	CRAF in Operation Desert Shield	219
	Activation of CRAF Stage I	219
	Quest for Additional Commercial Airlift	220
	Conclusion: An Assessment of CRAF	227
	Bibliographic Essay	231

List of Tables

2.1	Air Transport Command Airline Operations, 1942-1945	37
4.1	Airline Passenger Travel, 1950-1954	86
4.2	Initial CRAF Allocation Plan, 1952	89
4.3	CRAF Composition, 1952-1954	91
5.1	Incremental Stages of CRAF Activation, 1963	122
6.1	CRAF Aircraft Allocated, 1963-1972	134
6.2	CRAF Aircraft Types, 1960-1972	138
6.3	Incremental CRAF Activation, 1970	141
6.4	Commercial Airlift Procurement, 1960-1971	144
6.5	U.S. Military Personnel in South Vietnam, 1960-1973	146
6.6	Commercial Augmentation for Cargo, 1962-1971	149
7.1	CRAF Aircraft Allocated, 1972-1980	160
7.2	CRAF Cargo Capability, 1965-1980	161
7.3	USAF Strategic Airlift Capability, 1963-1979	163
7.4	CRAF Passenger Capability, 1965-1980	164
7.5	MAC Airlift Awards, FY 1973	166
7.6	CRAF Modification Proposals, 1975	176
7.7	CRAF Modification Proposals, FY 1977	178
7.8	NATO Long-Range Commercial Aircraft, 1978	179
8.1	CRAF Aircraft Allocations, 1979-1987	195
8.2	CRAF Enhancement Program: Pan Am Options, 1984-1986	202
8.3	Express Air Freight Aircraft, 1984	203
8.4	CRAF Aircraft Allocations, 1979-1987	205
8.5	CRAF Plus Initiatives	208
9.1	CRAF Volunteers, 1990	220
9.2	CRAF Carriers and Aircraft, 1990	221
9.3	CRAF Carriers for Desert Shield, 1991	223

INTRODUCTION

This is the story of the Civil Reserve Air Fleet (CRAF) from its inception to 1991. In suggesting such a reserve airlift fleet in 1947, Admiral E. S. Land, President of the Air Transport Association (representing the U.S. scheduled airlines), drew on the organization's experience with mobilization planning in the mid- to late-1930s and on the airlines' experience in the early months of World War II. "As I see it," he said, "we would have to face it along the same general lines as we did then, omitting as many of the mistakes as possible, of course.... At the beginning of the last war, the air transport system had a detailed war plan. Given the necessary information from the military services as to their needs, we can develop this one."¹

The Civil Reserve Air Fleet concept was formally approved on December 15, 1951—by a memorandum of understanding between the Departments of Commerce and Defense.² It began to take shape in 1952, when it was allocated some 300 four-engine, airline aircraft for use in case of war or a national emergency. Planning for the use of these assets began almost immediately and interim arrangements were in place by mid-1953. Still, it was not until 1958 that a formal wartime organization was agreed to, and not until 1959 that the first major carrier signed the standby contract that obligated it to provide crews and aircraft in case of a major war or national emergency.

Two factors clearly shape the Civil Reserve Air Fleet. The first, the nation's military strategies, dictated the airlift resources CRAF was asked to supply. As it happened, evolving strategies entailed an ever growing requirement for CRAF airlift. By the late 1950s, U.S. military strategy promised the ability to respond across the spectrum of aggression, and then, two decades later, it committed the nation to an increasingly rapid deployment of forces to NATO.

The second factor was economic, the economics of the air transportation marketplace. Despite the efforts of the Military Air Transport Service (MATs) and, its successor, the Military Airlift Command (MAC) to influence the make-up of airline fleets—in particular attempts to encourage the airlines to increase their cargo capability—it was the circumstances of the commercial marketplace that drove the decisions. When the air freight business failed to grow as expected, and when the lower-lobe capacity of the airlines' wide-body jets proved capable of handling what air freight there was, the scheduled airlines began to divest themselves of their freighter aircraft. MAC's efforts to halt or even to slow this process proved ineffectual. It was not until the development of the air express parcel business, that the industry began once again to add cargo aircraft. Again, it was the economic forces that intervened, not MAC.

This is the story of the evolution of the Civil Reserve Air Fleet—from its roots in the pre-World War II planning of the ATA and the Army Air Corps Staff, through its creation in 1951 and its evolution over the years, to a seemingly troubled existence in 1987. In that latter year, one knowledgeable observer characterized CRAF's 35-year history as "long and tortured," and he was not far from the mark.³ The memorandum of understanding that had created CRAF in 1951 followed more than four years of effort, much of that time was spent haggling over whether airline services should be obtained by contract or by militarizing the planes and pilots. Moreover, the contest would not have ended then, if the National Defense Resources Board had not forced the Air Force to accept the contract approach. It took six more years—from 1952 to 1958—to obtain final agreement on a workable wartime organization and operational format. In 1983, the Commander-in-Chief of Military Airlift Command, Gen. Thomas M. Ryan, Jr., lamented the problems of one key CRAF program:

"Regrettably, as in the past, the enthusiasm for CRAF Enhancement does seem to fluctuate, and it's extremely difficult to get all the players pulling in the same direction at the same time."⁴ He could just as well have been describing CRAF as a whole.

This work was accomplished for the History Office, Military Airlift Command, now Air Mobility Command, under Air Force contract F49642-89-C0074 (later redesignated F4950-89-C5074).

In the process of writing this manuscript I have become indebted to a number of persons, and I want to express my appreciation for their help. At the History Office of the Air Mobility Command at Scott AFB, Illinois, I owe a particular debt to Mary Anna Kaufer who manages the extensive collection of airlift related documents held there and still found time to respond cheerfully and effectively to my every request. Thanks also to John Leland for his many kindnesses on my numerous research visits.

Marion Mistrik at the Air Transport Association Library was another who always went out of her way to make my visits profitable. She is the custodian of a truly remarkable collection of air transport documents and papers. Thanks also to the staffs of the several repositories I visited: Library of Congress, National Archives, Federal Aviation Administration Library, Department of Commerce Library, Truman Library, Air Force Academy Library, Library of the University of Texas at Dallas, Air University Library, U.S. Air Force Historical Research Agency (AFHRA), and the U.S. Army Military History Institute. In addition, a nod of gratitude goes to Dale Grinder and Ned Preston, historians of the Department of Transportation and Federal Aviation Administration respectively, and to Mark Renovitch at the Roosevelt Library.

I am particularly in debt to two persons whose comments on the nearly completed manuscript were especially useful—to Robert Owen who challenged my thinking and to Kathy Willis who brought a layman's eye and a scholar's pen to it. Also, I want to acknowledge the contribution of Cargill Hall at the Center for Air Force History [now Air Force History Support Office] who edited each page with passion, who attacked every use of the passive voice with the fervor of a zealot, and who, in the end, made me concede that aggregates of people were in fact things, not beings. Finally, my sincere thanks to Betsy Phillips, who in a very real sense made this possible.

Endnotes

1. Ltr, Adm. E. S. Land (President, ATA), to Thomas K. Finletter (Chairman, President's Air Policy Commission), October 1, 1947, Records of the President's Air Policy Commission, Box 3, Folder B1-1ATA (9/15/47), Harry S. Truman Library.
2. Military Airlift Command (and now Air Mobility Command), by tradition, celebrated Mar 20, 1952 as the date of CRAF's origin. That was the date of the widely circulated "Gray Book,"—*The Department of Defense Plan for the Civil Reserve Air Fleet*—which is often said to be "the first CRAF plan formulated." [Booklet, MAC, "25th Anniversary Civil Reserve Air Fleet," n.d., CRAF Papers, Box 4, Folder 25th Anniversary of CRAF, AMC/HO.] In fact, the "Gray Book" was merely a sanitized version of the Top Secret CRAF plan that had been written and approved by MATS in Apr 1951, and which was approved for implementation by a memorandum of understanding (MOU) signed on Dec 15, 1951 by the Secretaries of Defense and Commerce. By Dec 15, 1951, all of the program elements were in place; the MOU constituted the creation of CRAF.
3. Article, Steve Hull, "CRAF: Tough Choices Ahead," *Military Logistics Forum* (April 1987), p. 38. Hull quoted Gene Overbeck, an American Airlines Washington lobbyist, concerning CRAF's history.
4. Ltr, Gen. Thomas M. Ryan, Jr. (CINCMAC), to Antonia H. Chayes (former Under Secretary of the Air Force), July 21, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84,MAC/HO.

CHAPTER I

ROOTS OF THE CIVIL RESERVE AIR FLEET

Little if anything in the experience of the United States Army Air Service during World War I suggested an important role for air transport in its or the nation's future defense efforts. The war was hardly over, however, when the U.S. Post Office's air mail program—begun in May 1918 by Army flyers but soon taken over by the Post Office itself—pointed toward an important role for air transport.¹ And the commercial potential of air passenger transportation, coupled with government promotion of aviation through air mail contracts, by the late 1920s spurred unprecedented growth in the air transport industry. By the early 1930s, the scheduled airlines had become an important, if still small, component of the nation's transportation system. The growth of scheduled airlines encouraged the development of a new generation of transport aircraft, particularly the Douglas DC-2s, and promoted Army interest in air transport. By the mid-1930s, rapidly increasing aerial commerce also awakened government officials to the important role civil aviation might play in the service of national defense.

The Army and Air Transport

The first stirrings of America's air transport industry in 1920, including, for example, the Post Office's introduction of transcontinental air mail service in September of that year, directed Army attention to air transport and the air transport industry.² In 1921, the General Staff circulated a questionnaire asking about "probable improvements in aerial warfare" with particular reference to the "aerial transport of troops." The Air Service's engineering division replied that for the rapid movement of troops, ammunition, and supplies, nothing could compare with air transportation—adding "there is no doubt of its [eventual] extensive use." But aircraft then in use, the division reported, could transport no more than "six to ten passengers," and the largest airplane then under construction—the Barling Bomber (NBL-1, of which only one was built)—would haul no more than fifty troops over a limited range. Although admitting that "future development will increase this number to perhaps a hundred" troops, the engineering division concluded that transporting men in airplanes in large numbers was currently impossible. Instead, the division foresaw that future large-scale troop movements would "be done with rigid dirigibles." Still, it urged the War Department to establish an air transport capability "either thru the agency of subsidized commercial lines, or by establishing an actual air transport system, similar to that at present maintained for troop transports on water."³

Indeed, between 1921 and 1923, the Air Service began regularly scheduled aerial transport of supplies and passengers with the establishment of a "model airway" connecting selected air service depots. According to the airway control officer, the model airway was to "bear the brunt of the burden in the development of aeronautics in the United States until such time as the utility of aircraft for transportation has proven itself beyond doubt to the people of this country."⁴ The system in 1921 initially linked four airfields—Bolling (Washington, D.C.), McCook (Ohio), Langley (Virginia), and Mitchel (New York)—and carried mostly aircraft parts and an occasional hardy government official. The Army employed for this purpose some of its wartime, two-place, open cockpit DH-4B biplanes, with the word "AIRWAY" painted prominently on the underside of the lower wing—the same type of aircraft then being used by the Post Office. Depot personnel at Fairfield, Ohio, modified them for the

model airway. They installed larger gas and oil tanks, the latest cockpit devices to assist the pilot, and they converted the rear cockpit into a cargo compartment with a streamlined cover and a collapsible seat that allowed a passenger to be carried. The Army airway's route ultimately was extended to Kansas City, San Antonio, and, by 1923, to San Diego and Los Angeles. Despite its success, or more likely because of it, the Army disestablished the Air Service's airway in 1926 just as the civil airlines began to expand and as air mail routes were taken over by private contracts. In four years of operation, the aircraft of the model airway flew over 1.2 million miles, transporting more than 1,200 passengers and 62,000 pounds of freight.⁵

In 1923, shortly after the model airway began operations, the Army's Field Service Regulations for the first time recognized air transport as an element of the military transportation system in a theater of operations—although air employment was still judged to be "ordinarily limited to emergency transport of mail, ammunition, staff officers, carriers, and possibly small detachments."⁶ In 1924, the Air Service Tactical School at Langley Field expanded on this reasoning when it determined "the maneuverability of an Air Service Unit is [currently] limited to that of its ground components despite the fact that its flying equipment and personnel were transported great distances within a short time." A combat air force, it concluded, could not depend upon surface transportation alone but required air transport aircraft.⁷ It may have been serendipitous, but the Air Service that same year began to buy just such airplanes, albeit in limited numbers. At the same time, Air Service leaders considered using transport aircraft of the civilian airline industry for supplemental military service during a war emergency.⁸

For air leaders who still doubted the wisdom of such a course of procurement, the 1925 Air Service maneuvers held at Mitchel and Langley Fields made clear that airlift was essential for the movement and mobility of an air force. An after-action report avowed that "the change of base of the air brigade to meet [a] change in the enemy's plans could be accomplished only with the assistance of air transports."⁹ Not long afterward, in 1927, the Air Corps Tactical School began to ask its students to consider the problem of using transport aircraft to resupply and move units by air.¹⁰ During the summer maneuvers that same year, the Army Air Corps¹ concentrated aerial units at San Antonio, where they supported the ground operations of a maneuvering army and in the exercise clearly demonstrated that both spare parts and ground support personnel could and should be transported by air. The tactical school requested a more thorough evaluation of "emerging air transport problems,"¹¹ and the 1928 maneuvers provided an opportunity for just such a test. On that occasion, a squadron of bombers—organized as a transport squadron—carried over 65,000 pounds of equipment and personnel between Virginia Beach and Langley Field on the morning of the first day. The remaining 8,000 pounds could easily have been moved by mid-afternoon, but the cargo was not needed immediately and officers and men were allowed their usual

¹The Air Corps Act of 1926 changed the name Air Service to Air Corps—hence the name the Air Corps Tactical School—and it authorized a five-year expansion of the Army's air arm. The Air Corps came into being with 919 officers, 8,725 enlisted, and 1,254 aircraft, with a legislated ceiling strength of 1,650 officers, 15,000 enlisted, and 1,800 aircraft to be reached over five years. The anticipated expansion never was achieved, in part because of the depression that began in 1928-1929, but primarily because subsequent Congresses did not appropriate the funds required for the buildup. See Maurer Maurer, *Aviation in the U.S. Army, 1919-1939* (Washington, D.C.: Office of Air Force History, 1987), pp. 191-203.

Wednesday half holiday.¹² This aerial demonstration proved so convincing that the bomber squadron supply officer concluded: "movement of Air Corps units by air is entirely practicable and, if not the normal means of changing stations, will be much used in future wars." Air transport, he reported, interrupted operations less than either rail or truck movement and overcame the difficulty of congested roads.¹³

Despite growing evidence that air transport in combat or peacetime was desirable, if not essential, the new Air Corps remained woefully short of such aircraft. Although a five-year plan approved in 1926 called for 158 cargo planes, only thirty-one were on hand by 1929 and nearly half of those were obsolete. Moreover, only ten more were on order. Maj. Hugh J. Knerr, whose 2d Bombardment Group took part in the 1928 maneuvers, now believed that air units should be self-sustaining and should have allocated the transport aircraft necessary for their own resupply. "If an air force is tied down to railheads and its service of supply dependent upon motor transportation, its mobility is that of the flat car and the truck," argued Knerr. To him, rapid transportation represented the "controlling factor." "The ideal situation," he believed, was one in which "the air force [was] maintained and accomplish[ed] all of its transportation by air."¹⁴

By 1930, the Army gave the subject more serious consideration. Regular studies concerning air power were offered at the Army War College during this period and the utilization of air transport—including commercial aviation—was explored repeatedly.¹⁵ Although "no authoritative regulations exist for the organization, control, and operation of air transport in the theater of operation," one war college officer concluded in 1932, "air transport in major warfare should be used when practicable for supply for air combat units, for evacuation, and for emergency troop movements." Annexed to his study were references to the extensive use of air transportation by the Marine Corps in Nicaragua and examples of foreign air transport operations.¹⁶

The maneuver reports, the recommendations that sprang from them, and the earlier model airways experience had convinced the Materiel Division by 1931 to recommend activating air transport squadrons at selected depots on a test basis. Chief of the Army Air Corps, Maj. Gen. James E. Fechet, agreed, and he directed—effective January 1932—that a transport supply service, composed of two aircraft, be established at each of the four depot control areas—Sacramento, California; San Antonio, Texas; Fairfield, Ohio; and Middletown, Pennsylvania.¹⁷ General Fechet, who served as Air Chief between 1927 and 1931, could speak on the experience of an aviation career that began ten years earlier, in 1917, when he took command of Scott Field, Illinois, and the Signal Corps' aviation school located there. In 1918, he commanded Kelly Field, and in 1924 he headed the Advanced Flying School at Kelly.¹⁸

At an engineering supply conference held at Wright Field, Ohio, in October 1932, Lt. Col. Albert Sneed, commander of the Fairfield Air Depot, and Major Knerr both called attention to the air transport issue and the supply service test that began ten months before. Sneed warned conferees that they should not think of air transportation as supporting the needs of the Air Corps alone, but of all the military services as well. Air transport's "logical destiny," the percipient colonel insisted, was to evolve "to a position of equality with rail and motor transport." Knerr concurred and called for the establishment of an air transport group that would serve as a coordinating headquarters and as a peacetime skeleton for wartime expansion. With such an organization, the problems of transporting men and equipment on maneuvers, and of handling extraordinary cargo could be solved—although its routine employment would remain that of serving the various depots and their respective service areas.¹⁹ A month later, in November 1932, Maj. Gen. Benjamin D. Foulois, the new Chief of the Army Air Corps (1931-1935), directed the establishment of the 1st Air Transport Group

(Provisional) and assigned to it the four depot transport squadrons.²⁰ Foulois, who replaced General Fechet in December 1931, brought unique aviation accomplishments to his new assignment. In 1909, for example, he had ridden with Orville Wright on the Army's final acceptance flight of the Wright Flyer. He had commanded the 1st Aero Squadron in the Mexican Punitive Expedition (1915-1916), and had served as Chief of the Air Service with the American Expeditionary Force in France during World War I.²¹ If his creation of an air transport group in November 1932 focused new attention on transport aviation, Air Corps leaders had only begun to grasp the significance of transport aviation in the projection of U.S. military might.²²

The rapid growth of the air transport industry after the Kelly Act of 1925, which made air mail routes available to commercial firms, prompted Army officials to consider seriously the potential wartime value to their service of the civil airlines' assets—the aircraft and the personnel, communications, and control apparatus. Among the first indicators was an Army War College Study in late 1925 that surveyed the civilian airline companies recently organized to haul passengers and freight, and predicted a continuing growth of that business. Although this early study did not consider how commercial air transport might be employed to haul Army passengers or cargo in case of war or an emergency,²³ by decade's end most on the Army Staff could agree, "for the present we must allow commercial aviation to develop along strictly commercial lines." To them, commercial aviation interests would best assist the War Department by "(1) Creating a friendly interest in our problems on the part of commercial aviation and the public at large. (2) Inducing commercial pilots to become Reserve Officers. (3) Doing everything possible to induce Congress to provide the funds necessary for the approved expansion of Air Corps."²⁴

Nonetheless, Army thinking was changing. In 1930, when another Army War College study reiterated a growing assumption that all commercial aircraft would be acquired by the military services upon mobilization, the office of the Chief of Air Corps replied tartly that in view of "public demand for commercial air transportation" such a takeover was no longer possible.²⁵ By the spring of 1931, civil airlines reached most population centers in the country, and feeder routes linked the country to three great transcontinental systems—United Air Lines, Trans World Airways (TWA), and American Airways. In addition, Northwest Airways, which dominated the northwestern tier of the United States, was well on its way to becoming a transcontinental route, and Eastern Air Transport continued to expand its service up and down the eastern seaboard.²⁶

In 1932, the war college again turned its attention to military utilization of commercial air transport in a national emergency and concluded that the airlines actually could operate their most essential routes with only two-thirds of their total aircraft. In time of war, the balance—some 197 aircraft—could be divided between the Navy and Army.²⁷ Charles L. Lawrence, president of the Aeronautical Chamber of Commerce of America, implied an endorsement when he contended that "the 650 transports, big and little, now operating on schedule day and night" actually constituted "a flying reserve" for the War and Navy Departments. "These ships and their crews are to the Army and Navy air forces what the merchant marine is to the battle fleet of the Navy." During the next war, he predicted, the commercial airlines "will be available for the expeditious movement of personnel and...for essential pieces of military equipment."²⁸

Another Army War College study of commercial aviation in 1933 became the most extensive one conducted to date. In conclusion, it declared that commercial aviation could make a number of contributions in a national emergency. The civil sector could provide and train pilots and mechanics, and furnish weather forecasting and communication along

airways; moreover, it could transport small bodies of troops by air and serve as "a directing agency for the control of commercial aviation requiring only a military coordinator."²⁹ A 1933 War Department board, headed by Deputy Chief of Staff Maj. Gen. Hugh Drum, was more reserved in its judgment about the utility of the nation's commercial air fleet, but did acknowledge civil air transport's potential for moving men and materiel, and for providing pilots and pilot training.³⁰ By the end of 1933, numerous members of the Army and its Air Corps had come to believe that at least a portion of the civil air fleet should be considered as a reserve, available to the military services in time of emergency, even though those aircraft might remain under the control of the airlines. How they might be used remained uncertain, but the proposition that the civilian airlines would somehow play a role in the nation's defense in case of war was now widely shared. A workable mechanism by which this might be accomplished awaited only the maturing of the civil air transport industry.

The short-lived and little-lamented Army Air Corps assumption of the air mail routes in the winter and early spring of 1934, and severe difficulties the military service encountered in its effort to deliver the U.S. mail, awakened among many in the service a new respect for the commercial aviators who had been flying at night and in poor weather for years. Air Corps officers gained a new appreciation for the equipment, navigational skills, and organizational ability of the civilians who daily operated the air mail routes. In April 1934, even before the Army's air mail flights terminated, Secretary of War George H. Dern appointed a committee, headed by Newton D. Baker, to study the Army Air Corps and the difficulties it had encountered in hauling the mail.³¹ The Baker Board sat for roughly a month, heard 105 witnesses, and took over 4,000 pages of testimony. The resultant report acknowledged the "striking" progress made by the air transport industry, especially the "production of the high speed, long range, large capacity passenger and cargo air transport." Moreover, the report averred, "this type of airplane with certain structural changes in its design can be so constructed as to be adapted for military use."³²

Indeed, in spite of the Great Depression, the late 1920s and early 1930s had brought unprecedented growth for the airlines. Commercial airline route mileage nearly doubled, and the miles flown on these routes tripled from 1928 to 1930. Route mileage doubled again in the decade of the 1930s. Even more impressive, the number of passengers and the amount of freight transported by the airlines increased immensely: passengers soared from 50,000 carried in 1928 to 2,940,000 by 1940; freight from 145,000 pounds transported in 1931 to 12,283,000 in 1940. By the mid-1930s, the American military clearly judged the emergent air transport industry to be a vital component for national defense. "There should be a very close liaison between civil and military aviation, but the control of the two systems, civil and military, must be separate and distinct," members of the Baker Board concluded. That said, they specifically called for "the use of commercial airplanes as a reserve of transport and cargo airplanes."³³ But the board also recommended that "cargo and transport airplanes procured by the Air Corps be developed from types in use in commercial service and in production, instead of specially developed [military] types."³⁴ That placed on the recently introduced Douglas DC-2 (and after it the DC-3), soon a staple of the airline fleets—the TWA "Skyliners" and American "Flagships"—a military cachet. These aircraft would come to form the backbone of the Army Air Corps interwar transport fleet—variously designated, by the army the C-33 and C-39 (DC-2s), and the C-47 and C-53 (DC-3s).³⁵

Enter Edgar Gorrell

One member of the Baker Board—a man particularly committed to civil aviation—was

Edgar S. Gorrell, a West Point graduate of the class of 1912.³⁶ Although short in stature, he was ambitious and tenacious. A friend recalled him as a "little runt of a plebe in 'C' Co. who...amused his classmates with an assertion of the high level he expected to attain before he graduated." Before long, his plebe contemporaries nicknamed him Napoleon—or simply "Nap."³⁷ Gorrell became an aviator in June 1915—the 324th person to gain an aviation license in the United States.³⁸ The newly-minted Army officer flew with the Army's punitive expedition into Mexico in 1916, and the next year, promoted to captain, he joined the Army's aviation elements in France. By 1918, he had become the assistant chief of staff of the American Expeditionary Forces' Air Service. Gorrell left the Army in 1920 as a colonel. In 1926, he joined the Stutz Motor Car Company, becoming its president in 1929. The 1934 invitation to serve in Washington on the Baker Board gave him an opportunity to renew his acquaintance with numerous old Army comrades—including George C. Marshall and Henry H. "Hap" Arnold. Gorrell's precise role in shaping the 1934 Baker Board's recommendations that urged a close liaison between the Army Air Corps and the scheduled airlines remains unclear, but subsequent events suggest he exerted a significant influence.³⁹

In January 1936, Edgar Gorrell, the former air officer and industry chieftain, became president of the scheduled airlines' newly formed, Chicago-based organization, the Air Transport Association of America (ATA).² Less than a month after taking the reins at ATA, he reappeared in Washington to testify before a Senate subcommittee investigating aviation safety. "I came," he affirmed, "solely to benefit [American] commercial aviation, to try to keep it supreme in the air, [and] to do what I could for national defense."⁴⁰ Gorrell was earnest about cementing the connection between the civilian airlines and national security. He aimed, purposefully, he said, "to complete the whole projection of civil aviation into its great and invaluable place in the national defense."⁴¹ While in the nation's capital, he urged those in the defense establishment to take a new look at how best to mobilize and use the airlines in case of a war. Gorrell, who moved easily in the upper reaches of Washington social and military circles, used his access to senior officials in and out of uniform to advantage. Within a few days of his visit, the War Department referred the problem of mobilizing the airlines to the Aeronautical Board—a joint military board that dealt with aviation issues with implications for both the Army and Navy. That board was asked to formulate a policy acceptable to both services regarding the operation of scheduled airlines in the event of war, and to comment on the advisability of military commandeering of aircraft owned by the airlines.⁴²

In October 1936, Secretary of War Harry H. Woodring directed Maj. Gen. Oscar Westover, who succeeded Foulois as Chief of the Air Corps (1935-1938), to "institute a study with a view of determining to what extent our private and commercial aircraft...can be utilized in war to expand and supplement the peace time air establishments."⁴³ That study, based on the latest version of Mobilization Plan 1922 and on a preliminary draft of the ongoing Aeronautical Board air mobilization study, established an M-day [the day on which mobilization would begin] requirement for a total of 217 transport aircraft—military or civilian. That requirement, the plan predicted, would increase to 374 aircraft within 120 days.

²The Aeronautical Chamber of Commerce of America, a separate organization formed by the nation's major manufacturers of commercial, military, and business aircraft in 1919, continued in operation and would evolve to become today's Aerospace Industries Association. For a history, see *Take the Wings of the Morning and Fly to the Uttermost Parts of the Sea*, AIA reprinting of "75 Years of Success" series of articles from the AIA Newsletter, December 1994.

But the Army had only 61 military transports on hand to contribute, whether on M-Day or four months later. Furthermore, the service could count on receiving few more in the depression years. (Even after the factories of the aircraft industry went into full production for the war effort, the service would receive only a handful more transports before mid-1942.) The Army learned it would be short at least 200 transport aircraft in the event of mobilization.⁴⁴

The airlift study that Woodring ordered also concluded that the aircraft available from the airlines would make up less than one-third of the projected shortfall. The wartime importance of air mail and domestic commercial transport service would dictate continued operation of much of the airline route structure. All of the lines operated by Eastern Airlines, Pan American Airways, Pan American Grace Airways, Inter-Island Airways, and United Airways were deemed essential for this purpose, as were selected routes of American Airways, Pennsylvania-Central Airlines, Chicago & Southern Airlines, TWA, and Western Air Express. All other routes could be terminated, the study concluded, but that action would yield only forty-five modern aircraft to augment Army and Navy aviation.⁴⁵

Gorrell and others in the ATA's Chicago office worked as closely as possible with the War Department staff to acquaint them with air transport industry operations and how the airlines could best serve the immediate, emergency requirements of the services. That effort, however, was barely mentioned in the 1936 revision of the federal Industrial Mobilization Plan. This plan called for the organization of a Transportation Division in the War Resources Administration, which, in wartime, would formulate policies for the employment of commercial transportation, and of a Transportation Division in the Munitions Board, which would coordinate transportation requirements. The general policy held that commercial transportation facilities would be operated under the management of their own civilian leaders, as would the airlines. To Gorrell, the plan not only was disappointingly sketchy, but air transport was lumped together with other tedious forms of surface transportation.⁴⁶

In February 1937, the military Aeronautical Board completed its examination of Army and Navy airline mobilization policy. It recommended that most airlines continue in operation during a war. Moreover, the board specifically advised the military against taking over or operating the airlines. "Each air line continuing to operate during an emergency should do so under its own officers and with its own personnel, who should be deferred from military service for this purpose." The board also recommended that "a Federal Coordinator should be appointed by the President, authorized to exercise control over and coordinate the operations of all civil air lines." The coordinator would report to the War Resources Administration through a Director of Transportation, and, it was hoped, thereby eliminate any duplication of effort among the airlines.⁴⁷

In March 1937, barely a month after the release of the Aeronautical Board report, Senator Royal S. Copeland (D-N.Y.), chairman of the Senate Commerce Committee, proposed that the scheduled airlines be mobilized for a day or two during the Army's upcoming summer maneuvers "in order that the War Department may try out the efficacy of such of its mobilization plans as pertains to the use of our domestic air lines in a time of emergency."⁴⁸ Copeland had become interested in this issue through his discussions with Gorrell, who previously had appeared before his committee. The idea for a mobilization test, however, seems to have been Copeland's own. The Air Corps demurred, insisting that it did not have the executive authority to call up the civilian airlines prior to a declaration of emergency and suggested instead a "paper mobilization." The ATA surely would cooperate, said the Air Corps staff. "Colonel Gorrell, President of the organization, has, heretofore, expressed his willingness to carry out any such desires of the War Department."⁴⁹

Neither Copeland nor War Department leaders were immediately willing to subscribe to a "paper" exercise, but, as debate continued, the impossibility of revising plans to include civil airline participation in the summer of 1937 became increasingly apparent. Instead, in late June 1937, the Army ordered the Air Corps to examine the feasibility of a test mobilization of the civilian airlines in 1938.⁵⁰ Gorrell did work with the Air Corps planners, but, at this stage, seems to have been acting on his own without the consent of the ATA board. He asked military staff members not to discuss the issue with the representatives of individual airlines, and, as one of the officers wrote, said that "he would appreciate it if we submitted as many questions as possible at one time, as it would be difficult to obtain answers to questions over an extended period without making an explanation [to the airlines] of what it was all about."⁵¹ In August 1937, General Headquarters Air Force notified its commands of a planned maneuver the next spring in the New England area, and that to test "the feasibility of utilizing civilian air lines for mobilization purposes," it intended to conduct "simulated movement of elements of the GHQ Air Force." Each command was asked to indicate the number, location, and destination of officers and men to be moved, the amount of tactical equipment to be transported by commercial air carriers, and the priorities of movements of personnel and equipment.⁵² These responses, consolidated into a single plan, were forwarded to Gorrell for his comments.⁵³

The Air Corps asked Gorrell about the ability of the airlines to handle the personnel and equipment in the time allowed, the amount of time it would take the Air Transport Association to start its execution once the order was issued, and whether this plan would interfere with the air mail. Gorrell replied bluntly: "Your plan could not be executed without cancelling all transportation of mail by air during the period required to execute the plan," and all passengers and cargo as well. But, he added, "we would start to execute our orders in between two and three hours after the receipt of your order in my office." Gorrell summarized for the service the plan's ramifications for the civil air carriers:

To execute within forty-eight hours...would require (1) the discontinuance, immediately upon receipt of your order, of all transportation of persons, property and mail by air at the nearest safe airport. (2) We would need to ferry our ships to the points of origin of their new missions. (3) The missions...approximately equal the volume of one day's business. This we could do within the time specified by you [forty-eight hours]. (4) Subsequent to having performed the mission you prescribe, our ships would need to be ferried to their proper point for their normal commercial duties. (5) Arriving at said points, the various rules governing the transportation of persons and property by civil aircraft would need to be complied [with] prior again to engaging in civil air transport. (6) A total disruption of the transportation by air of passengers, express and mail would exist over a period of approximately seven days. (7) Lost business, due to the disruptive effect of a maneuver such as the one proposed, would plague the scheduled air transport system for perhaps a month or maybe even longer.

Altogether, the estimated cost to the government would be in the "general vicinity of \$5,000,000, lost business included."⁵⁴ In light of the potential disruption of domestic air service and attendant costs, Air Corps Chief General Westover prudently recommended that no actual test mobilization of the commercial airlines be made. That recommendation, accepted by the War Department, brought no objection from Senator Copeland.⁵⁵

In April 1938, after its own deliberations, the military Joint Board,³ an inchoate precursor of today's Joint Chiefs of Staff/Joint Staff, recommended that all civilian aviation be subject to call in case of a major war, but that commercial aviation in particular should not be commandeered "unless the immediate necessity for such action is apparent." The most important commercial airlines were to be permitted to continue in operation, or, at least, their planes would be the last commandeered.⁵⁶ The joint military consensus also held continued operation of the airlines to be too important for either the Army or Navy to interfere by drawing from them any appreciable number of aircraft or crews.⁵⁷

War Clouds, Air Transport, and Military Airlift Requirements

A longtime advocate of air power, Edgar Gorrell firmly believed that the airlines could contribute to national defense without being impressed as a military component. And as head of ATA he also knew that the interests of the air transport industry could be well served in a preferential linking of the commercial airlines with national defense. The association's letterhead directly promoted such a connection, proclaiming boldly: "By Common Action to Advance the Airline Industry for Better Service to the Public and for the National Defense." Indeed, Gorrell and other members of the association missed no opportunity to refer publicly to the airlines' potential contribution to national defense.⁵⁸ In the midst of congressional debates over the Civil Aeronautics Act in 1938, Gorrell reminded a Senate subcommittee, "the civilian air force is to our military air force what our merchant marine is to our Navy.... Our [military] air force does not maintain its transport and cargo ships; it depends upon the commercial air lines to supply them."⁵⁹ Through the efforts of Commerce Committee chairman Senator Copeland, Gorrell had inserted in the act a statement that the airlines should be supported and built up not only to meet "the present and future needs of the foreign and domestic commerce of the United States, [and] of the Postal Service," but also to meet the needs "of the national defense." Anything that strengthened the airlines of America strengthened the defenses of America, the statute implied.⁶⁰

The Civil Aeronautics Act of 1938 created the Civil Aeronautics Authority and charged its administrator with the responsibility for fostering air commerce. It freed civil airlines from control of the Post Office Department, promoted safety and airway development, secured the rights of large airlines to their routes, and effectively rid the industry of unwanted competition. The Authority was to play a guardian role in the development of the nascent air transport industry. Its most urgent task was to build public confidence in aviation as a safe, reliable form of transportation and to assure the industry's economic health. Combining airline economic regulation with safety regulation seemed the way to achieve this outcome. Within the Authority, a five-man board had quasi-legislative and judicial authority—including issuing route certificates, fixing rates, and promulgating safety rules. The board would work to insure the orderly growth of existing airlines by selectively approving applications for new routes and route extensions—and restricting the entry of new firms into the market.⁶¹ Gorrell's message also was embraced by America's political leaders,

³Originally formed in 1903 and significantly reorganized in 1919, the Joint Board consisted of the Army Chief of Staff and the Chief of Naval Operations and their principal deputies and planning assistants. A Joint Planning Committee, created in the reorganization of 1919, and composed of officers detailed from the respective War Plans Divisions in the Army and Navy, supported the military leadership of the Joint Board.

including President Franklin D. Roosevelt. "Civil aviation," the President declared, "is clearly recognized as the backlog national defense in the Civil Aeronautics Act." America's commercial airlines, Roosevelt continued, formed "a reservoir" for the "military and naval forces in the form of men and machines."⁶²

Increasingly ominous, swiftly paced events in Europe in 1938 and early 1939—Germany's annexation of Austria and the occupation of the Sudetenland, and then the balance of Czechoslovakia—made urgent war and mobilization planning in the United States. Immediately after the Munich crisis of September 1938, the nation began to move toward a new policy of hemispheric defense. Up to that time, the Army and Navy had focused their war planning on meeting an attack on American territory by some aggressor nation. Separate plans were maintained for each potential adversary and identified by a color identifying that nation—for example, Orange for Japan, Red for Great Britain, and Green for Mexico. Hence, plans to use the airlines proposed in the mobilization test of 1937 turned on moving forces, usually elements of the GHQ Air Force, to some point along one or another of America's coasts to meet the threat of an invasion.⁶³

In November 1938, the Joint Board instructed its Joint Planning Committee to investigate the courses of action open to the military forces of the nation in the event of a violation of the Monroe Doctrine by one or more of the Fascist powers, and of a simultaneous attempt by Japan to conquer the Philippines. The planners submitted their final report to the Joint Board on April 21, 1939. In the Pacific, the report anticipated Japanese efforts to seize the Philippines and Guam and eliminate Western influence altogether from eastern Asia and the western Pacific. In the Atlantic, the planners foresaw German and Italian encroachment in Latin America—specifically military action, via west Africa, to occupy the eastern bulge of Brazil, from which point Axis control might be expanded both north and south. The Joint Board approved the report on May 6, and, ten days later, its joint planners began work on a new series of plans—the Rainbow plans—to meet the newly projected two-prong threat.⁶⁴

In July 1939, as international tensions increased, Edgar Gorrell briefed the directors of the Air Transport Association on his conversations with War Department officials and appears to have received their approval to continue that effort.⁶⁵ When, on September 1, 1939, Germany invaded Poland and plunged Europe into war, Gorrell was vacationing in Canada. A plane immediately returned him to Chicago, where, from his office that afternoon, he phoned the Army's new Chief of Staff, George C. Marshall. "General, the airlines are ready," he reported.⁶⁶ He met with Marshall a few days later to discuss in more detail how the airlines should be used in case of a national emergency.⁶⁷

By this time, Gorrell had completed with the War Department and Air Corps staffs detailed, joint plans to mobilize the air transport industry. The War Department plan, designed to meet the routine needs of the military for air transport as it prepared to go to war, also addressed other emergency operational requirements that might occur. Although it called for the industry "to eliminate all feeder civil aviation transport lines and build up the main lines" to meet an anticipated increase in military use of those lines after mobilization, the airlines saw this action as an evolutionary process—one to be accomplished in response to increased wartime demands. The ATA plan called for imposing a priority system that would insure the uninterrupted aerial movement of war-essential military and civilian passengers and cargo, and furnish aircraft and crews for individual missions related to a war or mobilization effort. The ATA plan also called for the massing of aircraft and crews to meet operational emergencies, reinforce a critical point in the nation's continental defense, or, possibly, strengthen the defenses of the Panama Canal. For such missions the airlines' entire inventory of transport aircraft might be diverted temporarily to the movement of forces

and then returned to commercial service. In all cases, both of these plans were to be put into execution and controlled through ATA headquarters. Still, neither Gorrell nor those in uniform envisioned converting the airlines' aircraft or facilities to military use. "In war," another Army study averred in late 1939, "the domestic demands on [the airlines] will be increased and reliance should not be placed on them to augment the military establishment." No one in 1939 (or, for that matter, in 1940 or 1941) foresaw the worldwide route structure that the airlines would be operating for the military by the end of America's first year at war, or the enormous demands that would be levied on the airlines and their equipment, personnel, and facilities.⁶⁸

Germany's invasion of Norway on April 9, 1940, of the Netherlands and Belgium on May 10, and of France on June 5 triggered a frenzy of new planning activity at the War and Navy Departments. Intelligence reports fueled concerns about possible Nazi action against Brazil, and possibly in Colombia, near the Panama Canal. On May 25, the President ordered the preparation of a joint plan that would preempt any such Axis moves. The planning staffs hurriedly prepared a plan—code-named POT OF GOLD—that called for the emergency movement of a large expeditionary force to protect the Brazilian coast. At the first sign of an Axis move or pro-Axis movement, the first 10,000 men of this force were to be transported to Brazil by air.⁶⁹

Germany's military successes in Europe also prompted other officials in the air transport industry to reexamine their role in national defense. While Gorrell continued to play an active role in coordinating industry matters with the War Department as ATA's president, various senior airline officials now stepped forward to offer initiatives of their own. In May 1940, Cyrus R. "C. R." Smith, president of American Airlines, attempted to shift the focus of wartime planning from individual aircraft and pilots to "airline systems"—the aggregate of planes, pilots, mechanics, facilities, communication, and management. "We would like to find out something definite about the national defense value of an air line system," he wrote to Assistant Secretary of War Louis Johnson. "We should be diligently studying the problem of where we fit in the problem of national defense.... Certainly there was never a time when there was a more urgent requirement for definite and tangible information about our resources."⁷⁰ Johnson replied that "the role of commercial aviation in the scheme of National Defense...has been exhaustively studied individually by both the Army and the Navy, and collectively by their representatives on the Joint Board and the Aeronautical Board." No further studies in this venue were required, he advised Smith.⁷¹

The anxious airline executives, however, were not easily put off. Besides, they had concerns that went beyond mobilization. In the summer of 1939, the Army Air Corps began a dramatic expansion. It called up reservists and recruited and trained larger numbers of pilots and mechanics. It also placed large orders for new aircraft. At the same time, the airlines also sought to expand—adding new routes and new service on existing routes. They, too, sought new aircraft and more flight crews. The airlines now competed with the military for both men and machines. With the intercession of the Civil Aeronautics Authority, senior airline officials and members of the Authority and the Navy and War Departments met in the spring of 1940 "to develop an active and coordinated policy that may assist in the furtherance of our National Defense Program."⁷²

Navy and War planners met beforehand with representatives of the Authority establish a common position. The principal issues were clear enough—personnel, equipment, and expanded air routes or schedules. On personnel, the airlines' greatest concern remained that of retaining pilots and copilots, many of whom were reserve officers and subject to military call-up in the Air Corps' expansion. Although Assistant Secretary of War Johnson

earlier had promised that "the War department as a matter of policy will not call to active service Reserve Officers who are pilots or key employees of civilian airlines if this can be avoided," that policy would now be reviewed.⁷³ On the question of new routes, the Army and Navy agreed on approving additional routes outside the continental United States where they shared a clear military justification, but no others.⁷⁴

The airline operators likewise met in advance and drew up a memorandum that in their view set the proper relationship between the air transport industry and national defense. In it, they urged "the fullest co-ordination" by the airlines "with the National Defense Program," but argued against "any tendency to 'freeze' the air transport companies at their present level of operation." They asked the government not to curtail orders already placed for aircraft—particularly the larger twin- and four-engine transports. And they suggested various cooperative ventures: a training program for flight personnel, mechanics, and other specialists in air transport operations; a long-range program of airport construction and airway establishment; and more research to improve ground equipment, flying techniques, and navigation aids. Finally, they urged "the expansion of [civil] air transport routes...as part of the National Defense Program." The airlines, while conceding that this "would require considerable expansion of equipment and flying personnel" that the military would have to forego, boldly suggested that "the government...facilitate this development by sponsoring the prompt manufacture and delivery of transport planes and by supplying pilot personnel to man the increased service."⁷⁵

Brig. Gen. George V. Strong, Army Assistant Chief of Staff (Plans), opened the June 19, 1940, joint military and civil air transport meeting by assuring the airline operators that "all governmental agencies realized fully the great importance of the operation of the airlines." Nevertheless, he added emphatically, "it should be definitely understood that in the situation now existing the interests of the National Defense are paramount and must govern."⁷⁶ TWA's Wilson responded that the airlines "proposed to extend the fullest cooperation," but they particularly wanted to know: "'Where do we stand?' 'Where do we fit into the National Defense picture, and what help can we give?'" William A. Patterson, of United, asked specifically what was expected of the airlines by way of moving troops. The best the combined civil airlines could do on any single lift, he said, was to move a total of about 6,700 men, and he warned that such an effort would require at least twenty-four hours' notice. But if the airlines were assisted by the government in acquiring the additional transports they sought, Patterson added, their lift capability would be increased substantially—permitting an emergency lift of about 13,000 men. General Strong, who in the event seemed poorly informed, responded that he could foresee "only one or two possible contingencies...in which the airlines would be called on to transport troops." The principal activity of civil airlines in wartime, he declared, would involve serving the essential needs of the traveling public.⁷⁷

Despite extensive preparations for this meeting on both sides, little more than posturing was accomplished. Afterward, Lt. Col. Thomas Handy of the War Plans Division remained properly skeptical of the airlines' expressed motives. "The [real] airline objective is to use the National Defense program as a means to facilitate their own activities and expansion," he mused, but in wartime "the situation requires the reverse." What the War Department needed now, said Handy, was "a detailed and realistic plan for making commercial air transport available for military use." A better basis for realistic wartime planning, he suggested, "may be found in previous studies on mobilization of air transport which were handled by G-3 [operations staff], the Chief of the Air Corps, and [ATA president] Colonel Gorrell."⁷⁸

Although Gorrell remained in touch with the Army's senior leadership, little more mobilization planning—or discussion—was accomplished that summer.⁷⁹ In August 1940, American Airlines' C. R. Smith told Ralph Budd of the Advisory Commission to the Council of National Defense that, although a fine spirit of cooperation and understanding existed between the air transport industry and the defense establishment, no formal and orderly mechanism as yet existed for bringing together the groups interested in applying civil air transportation to the national defense. He believed the element most needed now was not a plan, but an organization, one that would make the facilities of air transportation available to the military "in the event that the commercial facilities would have to be used by the military without very much notice. There should be some place where these problems could be discussed before they 'hit us in the face.'"⁸⁰

In September 1940, the War and Navy Departments restated their joint policy with respect to the air transport industry. The military services still judged the airlines' equipment needs subordinate to those of national security, but again recognized the ultimate importance of that industry to national defense. Reserve officers in the airlines would be called up, said the joint declaration, only in the event of a general mobilization and then only if the "needs of the service are more important to the nation than the needs of the industry." The services would cooperate with the CAA and the industry in solving the various aviation personnel problems and in assuring that commercial airlines obtained "such aircraft, engines, and aeronautical material as are essential to continuance of safe and reliable air transportation." The airlines were called "to designate a permanent representative for liaison with the governmental agencies with respect to the foregoing matters."⁸¹ Given his past experience, the ATA board formally named Gorrell as the sole representative of the scheduled air transport industry on all matters relating to national defense and directed all industry committees to clear their contacts with the various governmental agencies through him.⁸²

Early in 1941, with all of Europe in Axis hands and with Japan concerning itself in French Indochina, Gorrell and the ATA revisited the issue of mobilizing the air transport industry. This time, a six-man team, headed by Maurice Stallter (on loan to Gorrell from American Airlines), studied the emergency troop airlifts that might be required in conjunction with the new hemisphere defense plans—a problem that previously had faced the POT OF GOLD planners.⁸³ Contemporary estimates suggested that the airlines could move up to 6,700 men per day for a limited period from bases in the United States to points as far away as the Panama Canal.⁸⁴ Executing such a plan, however, would require the termination of all scheduled commercial operations and the use of all airline transports. Stallter sought to create an exercise that would test how such a mission might best be conducted. To work out the details, Stallter and his team studied the airline schedules and examined airport facilities in Florida, where the planned exercise was to take place. The study took five weeks and the final report and attendant plan, "Movement of Troops by the Airline Industry of United States," included a detailed mobilization schedule that in a matter of hours shifted all operable aircraft of the scheduled airlines to the vicinity of Tampa, Florida. The exercise began by halting operations at midnight of the designated day. The commercial transports would then move along assigned routes and through refueling depots chosen to bring the aircraft most rapidly to Tampa. Stallter's exercise called for no further movement, but in a real emergency the planes could just as well have been sent onward to reinforce units in Panama or move troops to Brazil. In this case, arriving aircraft were scheduled to remain on the ground at Tampa only long enough to refuel and refresh the crew, then return to their normal operations. Although Stallter's civil air transport mobilization exercise was designed to last just twenty-four hours,⁸⁵ like the 1937 plan, his proposed test was never conducted.

Still, Stallter's reports and planning documents were used by the Air Corps and War Department staffs as they continued to consider the potential for airlifting troops.⁸⁶

When the Japanese attacked Pearl Harbor a few months later, on December 7, 1941, America's air transport industry quite literally flew to the colors. Minutes after the news of the attack flashed to the country, the airlines began placing their equipment and manpower at the disposal of the government as prearranged by Gorrell, the Air Transport Association, and the Army Air Corps. Four days later, Gorrell wired General Arnold: "The scheduled air lines under the American flag are functioning smoothly and efficiently and are quietly, efficiently and safely carrying out, without bothering you or your associates, the war time functions assigned to [them] for a moment such as this by the written plans upon which we have worked with the War Department from time to time over the last six years."⁸⁷ General Marshall received a similar message. Arnold responded on December 13, thanking Gorrell and the airlines: "So carry on," he told Gorrell. "We will call for you when and if we need you." Marshall responded in the same vein a few days later.⁸⁸

That first call came almost immediately. Even before Arnold's letter had left his office, troop movement plans were in the works that involved the airlines. "Arrangements are under way," the United States Military Mission in Brazil learned on December 12, 1941, "for the transfer of United States Marines to Belem, Natal and Recife, Brazil, immediately. A force of approximately 170 men is being moved by commercial air transport from Quantico, Virginia, and should arrive at destination on December 17."⁸⁹ Not until about 10:30 on Sunday morning, December 14, however, did the War Department ask ATA for aircraft to conduct the airlift. Gorrell, already in Washington to coordinate the mobilization of the airlines—the problem on which he had spent so much energy since 1936—went immediately to Army headquarters to receive the orders for the troop movement.⁹⁰

Intending to stagger airlift assignments, Gorrell chose American Airlines to handle this operation and quickly dispatched the orders to C. R. Smith. Smith, in turn, directed that the necessary aircraft be made ready for the operation. Those in the air were ordered to land at the closest available airport. Passengers were disembarked and put on trains to complete their trips. Express and air mail were handled the same way. American Airlines aircraft were refueled and serviced, nonessential equipment removed, and new crews assigned. Soon the planes were away on the military mission. Twelve airplanes removed from commercial service quickly were placed at the disposal of the military, arriving at the Quantico Marine Base in Virginia on the afternoon of December 14, only hours after they had been called up and even before the troops they were to transport were assembled. In Washington, Gorrell spent the next several days passing along orders from the War Department over ATA and American Airlines communication networks.⁹¹

The transports departed Quantico in the early morning hours of December 15, with the 17th, 18th, and 19th Marine Provisional Companies. The twelve-plane flight reached the island of Trinidad on December 17, but there it was briefly held up while the Army and the State Department straightened out a new tangle. The Brazilian government, which at first agreed to admit the U.S. Marines under the guise of aircraft technicians, now said that it did not want them to land in uniform or bearing arms. They finally agreed that the Marines could land in uniform, but insisted that their arms be left crated or, at least, out of sight. The airlift then proceeded. The company for Belem arrived on December 19, and the other two companies reached Natal and Recife the following day.⁹²

Although this movement of some 170 Marines was hardly a test of the industry's capability, it demonstrated that the airlines could react quickly to meet military demands and substantiated the planning efforts of Gorrell and the ATA. If this airlift demonstration met

the emergency requirements of the War Department, it definitely forestalled a military takeover of the industry authorized by executive order the day before the War Department "requested" the airlift of troops to Brazil. The President's executive order authorized the Secretary of War to "take possession and assume control of any civil aviation system, or systems, or any part thereof, to the extent necessary for the successful prosecution of the war."⁹³ Needless to say, Gorrell took pains to underscore for General Marshall the airlines' prompt and effective response. "Your officers," he wrote, "very generously thanked us saying that, had the War Department itself tried to execute it, it would have been impossible...to have done so rapidly."⁹⁴ Although a formal Civil Reserve Air Fleet still lay in the future, its roots—the airlines' initial response to military airlift requirements in a national emergency—were firmly planted in the years just prior to World War II. And that outcome was owed in large measure to the skills, foresight, and connections that Edgar S. Gorrell wielded for the airlines and his country. But how well or how poorly the civil airlines would discharge much greater wartime challenges remained to be seen.

Endnotes

1. Maurer Maurer, *Aviation in the U.S. Army, 1919-1939* (Washington, D.C.: Office of Air Force History, 1987), p. 152; R. E. G. Davies, *Airlines of the United States Since 1914* (Washington, D.C.: Smithsonian Institution Press, 1972 [revised 1982, reprinted 1988]), pp. 12-13.
2. On air mail, see: Davies, p. 19. On early Army interest in commercial aviation, see: Rpt, [Air War College], "Air Service—Air Ways of the World," [1920], File 51-4, Army War College Files, U.S. Army Military History Institute (MHI) Archives, Carlisle Barracks, Pa.
3. Memo, Chief, Engineering Division to Chief of Air Service, Subj: "Training Questionnaire," Feb. 15, 1921, Army War College Curriculum (AWCC) File 97-11, MHI. The most advanced transport then in the Army inventory was the single-engine T-2 (the Fokker F-IV) that had recently been built under U.S. Air Service contract in the Netherlands and carried up to eight passengers in an interior cabin behind the pilot.
4. Capt. St. Clair Street quoted in Davies, p. 12.
5. Davies, pp. 12-13; Maurer, p. 152.
6. U. S. Army, *Field Service Regulations, 1923*, quoted in Genevieve Brown, *Development of Transport Airplanes and Air Transport Equipment* (Historical Div., Air Technical Services Cmd, 1946), pp. 21-22.
7. Air Service Tactical School report quoted in Brown, p. 22.
8. Brown, p. 21.
9. Rpt, [unsigned], Subj: Air Force Maneuvers, Oct 1925, quoted in Charles E. Miller, *Airlift Doctrine* (Maxwell AFB, Ala.: Air University Press, 1988), p. 9.
10. Memo, Maj. Roy S. Brown (Air Corps Tactical School) to Asst Cmdt, Subj: The Supply and Transportation of Units by Air, [1927], Gen. Collection, File 248.602-23 (1927-1928), Air Force Historical Research Agency (AFHRA), Maxwell AFB, Ala..
11. Dorothy Bruce, *The Evolution of the Storage System of the Air Technical Service Cmd*, Part I [Air Materiel Cmd Historical Study No. 262], (Wright Field, Ohio: Air Materiel Cmd, n.d.), p. 127. Also, Miller, p. 10.
12. Ltr, C. C. Culver (Cmdt, Air Corps Tactical School) to Chief of Air Corps, Jul. 16, 1927, quoted in Miller, p. 10. Maurer [p. 242] says that "a transport squadron (15 cargo planes) [was] drawn from various stations" for the maneuvers, but other reports suggest that these "cargo planes" were in fact bombers.
13. Rpt, [Maj. H. H. C. Richards], Subj: Report of the Supply Officer, Virginia Beach Maneuvers, May 18-20, 1928, quoted in Miller, pp. 10-11.
14. Knerr quoted in Bruce, p. 128.
15. Student committee reports often dealt with the military utility of commercial aviation. Many of these reports are in the AWCC files maintained by the Archives Branch, MHI.
16. Army War College Study, Maj. Hugh Knerr, Subj: Air Force Logistics and the Cargo Transport, [1932], quoted in Miller, p. 13.
17. Miller, p. 11.
18. Walter T. Bonney, "Chiefs of the Army Air Forces, 1907-1947," *Airpower Historian* (July 1968): 135-36.
19. Brown, pp. 49-50.
20. *Ibid.*, pp. 47-51.
21. John F. Shiner, "General Benjamin Foulois and the 1934 Air Mail Disaster," *Aerospace Historian* (Winter, December 1978): 221-30.
22. Robert Frank Futrell, *Development of Aeromedical Evacuation in the United States Air*

- Force, 1909-1960*, USAF Historical Studies No. 23 (Maxwell AFB, Ala.: Aerospace Studies Institute, 1961), pp. 28-29.
23. Army War College Study, R. C. Burlison, "The Airplane Industry," Dec. 24, 1925, AWCC Files [AY 1925-26], MHI.
 24. Memo, Brig. Gen. Campbell King (Asst CofS, USA) to CofS, USA, Subj: Advancement of National Defense by the development of commercial aviation along lines suitable for use in an emergency, Mar. 11, 1929, RG 407, AG 580 (1926-39), National Archives (NA).
 25. Army War College Study, Col. Innes P. Swift, "Commercial Aviation as the Military Asset," Mar. 24, 1930, AWCC File 367-76, MHI.
 26. Davies, pp. 110-32.
 27. Army War College Rpt, Committee No. 6, Subj: [G-4 course] Motor and Air Transport in the Theater of Operations, Nov. 21, 1932, AWCC File 394-6, MHI.
 28. Charles L. Lawrence, *Our National Aviation Program* (New York: Aeronautical Chamber of Commerce, 1932), pp. 23-24, 66-67.
 29. Army War College Rpt, Committee No. 5, Subj: [G-3 course] Aviation, Sep. 27, 1933, AWCC Files, MHI.
 30. Rpt, Drum Board, "Report of Special Committee on Employment of Army Air Corps under certain Strategic Plans," [Oct. 1933], p. 15, AWCC File 97-78, MHI.
 31. John F. Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935* (Washington, D.C.: Office of Air Force History, 1983), pp. 125-49.
 32. Rpt, Baker Board, *Final Report of War Department Special Committee on Army Air Corps*, Jul. 18, 1934, p. 7. Cited hereafter as Baker Board Report.
 33. Baker Board Report, p. 59.
 34. Foulois objected to this recommendation. Until the aircraft industry developed "a purely cargo type," he recommended that the Air Corps continue to follow an independent line of development. Maj. Gen. Benjamin D. Foulois to Adjutant Gen., Nov. 30, 1934, 1st Indorsement to William F. Pearson (Adjutant Gen.) to Chief of Air Corps, Oct. 5, 1934, Subj: Recommendation of Special Committee, Air Corps (Item 28), Foulois Papers, Box 29, File BBI, Library of Congress (LC).
 35. C-47 and C-53 were the most common military designators of the DC-3. The constant military modification resulted in such an assortment of models it became difficult to track them. In all, there were more than fifty different versions of the DC-3 in the Army lexicon. One must add to these a dozen or so Navy designations. See Henry M. Holden, "The Douglas DC-3—Wings of the World," Part I, *Journal of the American Aviation Historical Society* (Winter 1985): 258.
 36. Concerning Gorrell's early attitude toward commercial aviation and the airlines, see "Colonel Gorrell Prophecies After Flying for Eighteen Years," *U.S. Air Services* (Jun. 1932): 16-20.
 37. Ltr, Col. [William Horace] "Bunny" Hobson to E. S. Gorrell, Aug. 27, 1942, Microfilm Archives, Misc Items V, Gorrell Letters Received, [Dec. 1941 -] Jun. 30, 1944, ATA Library.
 38. Juliette A. Hennessy, *The United States Army Air Arm: April 1861 to April 1917* (Washington, D.C.: Office of Air Force History, 1985 [reprint]), p. 239.
 39. Reginald M. Cleveland, *Air Transport At War* (New York: Harper & Brothers, 1946), pp. 13-20; Robert Frank Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force, 1907-1960*, 2 vols. (Maxwell AFB, Ala.: Air University Press, 1989), vol. I, pp. 24-26. W. B. Courtney, "Don't Call Me Napoleon," *Colliers* (Aug. 7, 1937): 25-26+; Fowler Barker, "Airline Association President," [four-part article], *Air Transport* (Apr. 1944): 53-55, (May 1944): 73-78, (Jun. 1944): 73-79, and (Jul. 1944): 63-67; Hearing, U.S. Congress, Senate,

Hearings before a Subcommittee of the Committee on Commerce, "Safety in Air," 74th Cong., 2d Sess., Feb. 11, 1936, p. 163. This hearing, before a subcommittee chaired by Senator Royal S. Copeland (D-NY), had been prompted by a TWA crash the year before in Missouri in which Senator Bronson Cutting (R-N Mex) was killed.

40. Hearing, U.S. Congress, Senate, Hearings before a Subcommittee of the Committee on Commerce, "Safety in Air," Feb. 11, 1936, p. 163.

41. Courtney, "Don't Call Me Napoleon," p. 58.

42. Ltr, Sec of the Navy [Claude A. Swanson] to the Aeronautical Board, Subj: Operation of scheduled Air Lines in National Emergency—Policy of Army and Navy," Feb. 18, 1936, as cited in Ltr, Aeronautical Brd to Sec of the Navy, Subj: "Operation of Scheduled Air Lines in National Emergency—Policy of Army and Navy," Feb. 8, 1937, Gen. Collection, File 145.93-184, AFHRA. The Aeronautical Board had been created in 1919 to study and make recommendations on issues submitted to it of interest to both the Army and Navy—particularly programs of aircraft construction, experimental stations, coastal air stations, and other stations to be used jointly. The board was composed of equal numbers of officers from the Army and Navy. Although it sometimes submitted recommendations to the Joint Board, it was not formally subordinated to it. Maurer, p. 110; Futrell, *Ideas, Concepts, Doctrine*, vol. I, pp. 34-35.

43. Ltr, Robert L. Collins (Adjutant Gen.) to Chief of Air Corps, Oct. 17, 1936, RG 407, AG 580 (1926-1939), Box 2738, NA.

44. 1st Ind. [Report], Lt. Col. H. C. Davidson (Executive, Office of the Chief of Air Corps) to Adjutant Gen., Oct. 29, 1936. This document is filed with: Office of Sec of War to Adjutant Gen., Oct. 16, 1936, RG 407, AG 580 (1926-1939), Box 2738, NA.

45. *Ibid.*

46. Memo, Brig. Gen. George P. Tyner (Asst CofS, USA) to CofS, Subj: Mobilization of Civilian Air Lines, May 19, 1937, Gen. Collection, File 145.93-170, AFHRA.

47. Ltr Rpt, Aeronautical Brd to Sec of the Navy, Subj: Operation of scheduled Air Lines in National Emergency—Policy of Army and Navy, Feb. 8, 1937, Gen. Collection, File 145.93-184, AFHRA. The letter report was signed by Maj. Gen. O. Westover [Chief of Air Corps], Senior Army Member Present, and RAdm A. B. Cook, Senior Navy Member Present.

48. Rpt, U.S. Congress, Senate, Rpt of the Committee on Commerce, "Safety in the Air," Rpt No. 185, 75th Cong., 1st Sess., Mar. 17, 1937, p. 35.

49. Memo, Col. Rush B. Lincoln (Chief, OCAC Plans Section), Subj: Rpt of the Copeland Committee on Air Safety, Mar. 22, 1937, Gen. Collection, File 145.93-184, AFHRA.

50. Ltr, E. R. Householder (Adjutant Gen.) to Chief of Air Corps, Subj: Mobilization of Civilian Air Lines, Jun. 25, 1937, Gen. Collection, File 145.93-184, AFHRA.

51. Memo, [unknown Air Corps staff officer], Subj: Mobilization of Civilian Air Lines G-3/6541-AC-86 and AGO (6-22-37) (Misc.) C, same subject [notes for use in conference with GHQ], [Aug. 4, 1937], Gen. Collection, File 145.93-170, AFHRA. The supposition that Gorrell's early work on mobilization planning with the Army and Air Corps staffs did not have formal approval of the ATA board is reinforced by the absence of any note of his activity in either memoranda to member airlines or in the minutes of ATA board meetings of the period. Moreover, the Air Corps and GHQ Air Force staffs planning for this mobilization were counseled "that the subject matter should not be discussed with any representative of an air carrier, other than Air Transport Association of America." Ltr, Col. Hugh J. Knerr (Air Corps CofS) to Cnding Gen., GHQ Air Force, Subj: Mobilization of Civilian Air Lines, Aug. 10, 1937, Gen. Collection, File 145.93-170, AFHRA.

52. Ltr, Col. Hugh J. Knerr to Cnding. Gen., 1st Wing, GHQ Air Force [similar letters also

sent to 2d and 3d Wings], Subj: Mobilization of Civilian Air Lines, Aug. 11, 1937, Gen. Collection, File 145.93-184, AFHRA.

53. Ltr, Col. C. G. Hall (Acting Chief of Air Corps) to Edgar S. Gorrell (Pres, ATA), Sep. 21, 1937, Gen. Collection, File 145.93-184, AFHRA.

54. Ltr, Edgar S. Gorrell (Pres, ATA) to Chief of Air Corps (Attn: Col. C. G. Hall), Oct. 24, 1937, Gen. Collection, File 145.93-170, AFHRA.

55. Rpt, Maj. Gen. O. Westover (Chief of Air Corps), Subj: "Mobilization of Civilian Air Lines," Nov. 18, 1937, Gen. Collection, File 145.93-184, AFHRA.

56. Memo, Joint Brd to Sec of War, Subj: Operation of Scheduled Air Lines in National Emergency—Policy of Army and Navy, Apr. 20, 1938, Gen. Collection, File 145.93-184, AFHRA.

57. See, for example, Rpt, Maj. Gen. O. Westover, Chief of Air Corps, Subj: Mobilization of Civilian Air Lines, Nov. 18, 1937, Gen. Collection, File 145.93-184, AFHRA; and 2d Ind. [to 1st indorsement (OCAC to Materiel Div., Mar. 4, 1938) to Rpt, Materiel Div., Subj: Operating Cost Cargo Airplanes, Feb. 14, 1938], Materiel Div. to Chief of Air Corps, May 13, 1938, Gen. Collection, File 145.91-510, AFHRA.

58. See, for example, Speech, E. V. Rickenbacker (Gen. Manager, Eastern Airlines and Member of ATA Board of Governors), "Air Transportation and Communication—Their Place in National Defense," [delivered before] Women's Patriotic Conference of National Defense, [early 1936], ATA Heads Memos, ATA Library; and Brief, George W. Lupton, Jr., "Argument in favor of elimination or revision of state aviation taxes in states where refund of all or part is not allowed" [A brief prepared for the American Legion National Aeronautics Commission], [c. Apr. 1936], ATA Heads Memorandums, ATA Library. Lupton argued, among other things, that "a great air transport system would be a tremendous national asset in time of war."

59. Testimony, Gorrell, Hearing on S. 3659 before Subcommittee of Senate Committee on Interstate Commerce, 75th Cong., 3d Sess., [1938] quoted in Oliver James Lissitzyn, *International Air Transport and National Policy* (New York: Council on Foreign Relations, 1942), p. 73.

60. Barker, "Airline Association President," (Jun. 1944): 75.

61. Nick A. Komons, *Bonfires to Beacons: Federal Civil Aviation Policy under the Air Commerce Act, 1926-1938* (Washington, D.C.: Federal Aviation Administration, 1978), pp. 347-79. John R. M. Wilson, *Turbulence Aloft: The Civil Aeronautics Administration Amid Wars and Rumors of Wars, 1938-1953* (Washington, D.C.: U.S. Department of Transportation, 1979), pp. 10-11.

The Civil Aeronautics Act of 1938 created the five-member Civil Aeronautics Authority, a three-member Air Safety Board, and an administrator. The five-member Authority was given the power to regulate airline tariffs, air mail rates, and business practices (statistics, mergers, and competition). The safety board handled the investigation of accidents and recommendations concerning accident prevention. The administrator attended to the civil airways, navigation facilities, and regulation of air traffic. In 1940 that organizational structure was changed. The Air Safety Board was abolished and its functions transferred to the five-member authority, which was redesignated the Civil Aeronautics Board (CAB). The administrator of civil aeronautics presided over an organization that became known as the Civil Aeronautics Administration. The old "authority" continued to exist, for a time, on paper, embracing both the CAB and the new "administration." All of this, on Jun. 30, 1940, was placed under the Department of Commerce.

Both the older "authority" and the new "administration" are generally referred to as the CAA—leading to some confusion. For practical purposes, however, after Jun. 1940 the

term CAA—even when specifically identified as the Civil Aeronautics Authority—can be assumed to mean that portion of the "authority" which was the Civil Aeronautics Administration. I have not used the term CAA to describe any organization prior to the creation of the "administration" in 1940. The "board" function—the original five-man Authority or the newer Civil Aeronautics Board—are always referred to as the Authority before Jun. 1940 or the CAB after Jun. 1940.

62. Ltr, Roosevelt to National Aviation Forum, Jan. 24, 1939, quoted in part in Lissitzyn, p. 92.

63. Stetson Conn and Byron Fairchild, *The Western Hemisphere: The Framework of Hemisphere Defense*, a volume in *United States Army in World War II* (Washington, D.C.: Office of the Chief of Military History, 1960), pp. 1-7. Maurer, pp. 292-93.

64. Conn and Fairchild, pp. 7-19. The second chapter of this history contains a discussion of Pan American Airways' secret contracts, first awarded in 1940, to build air fields along the Atlantic coast of Central and South America to the critical shoulder of Brazil in the vicinity of Natal.

65. Memo, Gorrell to [Directors, ATA], Subj: Proposed Agenda for Directors' Meeting on Jul. 10, 1939, Jul. 5, 1939, in *Minutes of Meetings, Board of Directors, Air Transport Association of America*, Book I, ATA Library. This supposition is based on the published meeting agenda. The minutes of the meeting itself reveal nothing of this briefing, however, possibly because the substance was considered classified. The supposition that Gorrell's War Department planning activities received the blessing of the board at this point is based on his subsequent actions.

66. Barker, "Airline Association President," (Jul. 1944): 64. Marshall's reply was not recorded.

67. Memo, Maj. W[illiam] E. F[arthing] to George C. Marshall (CofS, USA), Subj: Use of Civilian Airlines in Time of War, Sep. 12, 1939, Gen. Collection, File 145.93-184, AFHRA. Marshall, who had been the Army's acting CofS since Jul. 1, 1939, became CofS in his own right on Sep. 1. He met with Gorrell on Sep. 12, 1936, but no records indicate the substance of their conversation on that date.

68. Rpt, Committee No. 8, Subj: Transportation in Peace and War, Dec. 9, 1939, Army War College Course 1939-1940, MHI.

69. Conn and Fairchild, p. 33. There was no intention of putting POT OF GOLD into effect (in whole or in part) except in an extreme emergency and then only after consultation with the government of Brazil.

70. Ltr, Smith to Johnson, May 16, 1940, Gen. Collection, File 145.91-446, AFHRA. Smith indicated in his letter that, in addition to any patriotic motive, American Airlines had a corporate reason for asking. The firm was soon be involved in an air mail rate case in which one of the factors in determining the rate was the potential contribution of the airline to national defense.

71. Ltr, Johnson to Smith, Jun. 10, 1940, Gen. Collection, File 145.91-446, AFHRA.

72. Ltr, T. B. Wilson (Pres, TWA) to Gen. George R.[sic] Marshall (CofS, USA), Jun. 15, 1940, Gen. Collection, File 145.91-446, AFHRA; Memo, Maj. Clayton Bissell, Subj: Coordination of Military Aviation Programs with The Civil Aeronautics Authority, [c. Jun. 13, 1940], RG 169, File 3993-5, Box 168, NA.

73. Ltr, Johnson to Robert H. Hinckley, Jun. 3, 1940, RG 169, File 3993-2, Box 168, NA.

74. Memo, Bissell, Subj: Coordination of Military Aviation Programs with The Civil Aeronautics Authority, [c. Jun. 13, 1940], RG 169, File 3993-5, Box 168, NA; Ltr, Johnson to Hinckley, Jun. 3, 1940, RG 169, File 3993-2, Box 168, NA; Memo, [CAA staff], Subj: Topics

for Discussion between War Department and Civil Aeronautics Authority, May 25, 1940, RG 169, File 3993, Box 168, NA; Memo, [CAA staff], Subj: Additional Notes for Discussion with Representatives of War and Navy Departments, [late May 1940], RG 169, File 3993, Box 168, NA.

75. Memo, [committee of airline executives], Subj: On the Relation of the Air Transport Industry to the National Defense, [ca. Jun. 19, 1940], RG 169, File 3993, Box 168, NA. This memorandum was drafted by a committee of airline executives chaired by T. B. Wilson, Chairman of the Board, TWA.

76. Expansion remained uppermost on the minds of the airline executives for some time and they continued in vain to press this issue. In Nov. 1940, the Secretaries of War and Navy wrote a joint letter to the Administrator of the Priorities Board. "While production of sufficient air transports for maintenance of the service now provided by the commercial companies may be justified, the urgent needs of national defense require that for the time being no part of the country's productive capacity be devoted to manufacture of planes for *expansion* of the commercial service at present provided." In particular they asked that "no manufacture of new designs be permitted." Sec of War and Sec of the Navy to Donald M. Nelson, Administrator, Priorities Board, Nov. 25, 1940, RG 169, File 3993-10, Box 168, NA. Nonetheless, the airlines continued into 1941 to insist that they should not be "stifled or curtailed." Speech, T. B. Wilson, "The Air Transport Industry in the National Defense," Jan. 30, 1941, reprinted in *The Military Engineer* 38 (May-Jun 1941): 207. The services, however, did not budge.

77. Memo, Thomas T. Handy, Subj: Notes of Meeting between Army, Navy, CAA, Airlines for Coordination of Aviation Problems, [c. Jun. 19, 1940], RG 169, File 3993-6, Box 168, NA. Others attending the meeting were Lt. Col. Thomas T. Handy of war plans Div.; Maj. Gen. H. H. Arnold and Brig. Gen. Jacob E. Fickel of the Air Corps; Cmdr. Sherman (and other officers not named) of the Navy; Robert H. Hinckley, Harlee Branch, and Edward P. Warner of CAA; E. V. Rickenbacker (Eastern), Ralph Damon (American), Juan Trippe (PAA), and several other airlines representatives not identified. It is surprising that Gorrell (or another ATA official) was not present, but the small ATA staff may have been fully involved with the gala that surrounded the opening of scheduled passenger service from Washington's National Airport that same day.

78. Memo, Handy to Brig. Gen. Strong, Subj: Memorandum from Airline Operators, Jun. 27, 1940, RG 169, File 3993, Box 168, NA. Some historians have indicated that the ATA and the War Department worked closely from 1936 or 1937 onward to keep the mobilization plans current. Air transport historian Reginald M. Cleveland claimed that "every two weeks or so the office staff of the ATA, through Colonel Gorrell and others, checked with the War Department in order to keep the plans up to date." Cleveland, p. 20. Oliver La Farge, Air Transport Cmdr historian, also wrote that "they kept in touch with the War Department, working and reworking their plans." Oliver La Farge, *The Eagle in the Egg* (Boston: Houghton Mifflin Co., 1949), p. 8. These assertions are overstated. Gorrell himself said only that these were "written plans upon which we have worked with the War Department from time to time over the last six years." Telegram, Gorrell to H. H. Arnold, Dec. 11, 1941, Arnold Papers, Box 13, LC. In fact, after the writing of the mobilization test plan in 1937, little or no mobilization planning occurred thereafter until another much more detailed mobilization test plan was developed in the early months of 1941. Gorrell, however, over the years unquestionably had frequent contact with numerous officers in the War Department, including Gens. Arnold and Marshall, and that may have given rise to this misunderstanding.

79. The George C. Marshall Papers, at the George C. Marshall Research Foundation

(Virginia Military Institute, Lexington, Ky.), contain regular exchanges of correspondence between Gorrell and Marshall throughout 1940 and 1941. Numerous meetings between the two are also noted in that correspondence.

80. Ltr, Smith to Budd, Aug. 24, 1940, RG 196, File 3993, Box 168, NA. In May 1940, President Roosevelt created the Advisory Commission to the Council of National Defense to grapple with the mobilization effort. To this commission he appointed Edward Stettinius, Jr., Sidney Hillman, William Knudsen, Leon Henderson, Chester Davis, Harriet Elliott, and Ralph Budd. Budd was the Transportation Commissioner. Bernard M. Baruch, *Baruch: The Public Years* (New York: Holt, Rinehart and Winston, 1960), p. 282.

81. Ltr, Henry L. Stimson (Sec of War) and James Forrestal (Actg Sec of Navy) to Sec of Commerce, Sep. 13, 1940, RG 169, File 3993, Box 168, NA.

82. Ltr, Gorrell (Pres, ATA) to Maj. Gen. H. H. Arnold (Dep CofS, USA), Dec. 5, 1940, Gen. Collection, File 145.91-446, AFHRA.

83. Memo, Air Plans Div. to Quartermaster Gen., Subj: Commercial Airline Study, Apr. 21, 1941, Gen. Collection, Box 145.01-446 to 145.01-454, File 360—Commercial Aviation, Beginning Mar. 15, 1941, AFHRA.

84. T. B. Wilson (Pres, TWA) had estimated that the airlines could move 5,000 men per day. Speech, T. B. Wilson, "The Air Transport Industry in the National Defense," Jan. 30, 1941, reprinted in *The Military Engineer* 38 (May-Jun 1941): 208. The estimate of 6,700 was made by William A. Patterson of United Air Lines. Thomas H. Handy, "Notes on Meeting," Jun. 19, 1940, RG 169, File 3993-6, Box 168, NA.

85. Rpt, ATA, "Gen. Airline Troop Movement Problem (Florida Airport Survey)," [Mar. 1941], ATA Microfilm Archives, Misc Items IV, ATA "War Plans," ATA Library; Memo, Air Plans Div. to Quartermaster Gen., Subj: Commercial Airline Study, Gen. Collection, Box 145.01-446 to 145.01-454, File 360—Commercial Aviation, Beginning Mar. 15, 1941, AFHRA; Cleveland, pp. 57-58.

86. Memo, Air Plans Div. to Quartermaster Gen., Subj: Commercial Airline Study, Gen. Collection, Box 145.01-446 to 145.01-454, File 360—Commercial Aviation, Beginning Mar. 15, 1941, AFHRA.

87. Telegram, Gorrell to Arnold, Dec. 11, 1941, Arnold Papers, Box 13, LC.

88. Ltr, Arnold to Gorrell, Dec. 13, 1941, Arnold Papers, Box 13, LC; Ltr, Marshall to Gorrell, Dec. 17, 1941, George C. Marshall Papers, Pentagon Office, Selected Correspondence, George C. Marshall Foundation.

89. Memo, [unidentified office, War Department staff] to Chief of Air Staff, Subj: Movement of air and ground troops to Northeast Brazil, [Dec. 12, 1941], Gen. Collection, File 145.96-121, AFHRA. The Brazilian government agreed to receive three, fifty-man Marine companies under the guise of technicians for servicing aircraft, although the real purpose in sending them was to get at least a token military force in place to guard the airfields being used to shuttle aircraft and supplies to the British. Conn and Fairchild, p. 305.

90. Cleveland, p. 7.

91. Barker, "Airline Association President," (Jul. 1944): 67; Mimeograph, American Airlines, "American Airlines' Experience in International Operation for the Air Transport Cmd and Special Projects Undertaken for the Armed Forces," [1944], Gen. Collection, File 303.309-2, AFHRA; Conn and Fairchild, p. 305; Cleveland, p. 7.

92. Conn and Fairchild, pp. 304-5.

93. Executive Order, Roosevelt, Subj: Control of Civil Aviation [EO No. 8974], Dec. 13, 1942, in *Federal Register*, Dec. 17, 1941.

94. Ltr, Gorrell to Marshall, Dec. 23, 1941, George C. Marshall Papers, Pentagon Office,

Selected Correspondence, George C. Marshall Research Foundation.

CHAPTER II

THE AIR TRANSPORT INDUSTRY IN WORLD WAR II

Just as Edgar S. Gorrell of the Air Transport Association had led the U.S. air transport industry toward mobilization planning in the prewar years, Juan Trippe and his Pan American Airways proved the best prepared to show the way as the nation moved from mobilization to war fighting. In the summer of 1941, Trippe agreed to ferry aircraft across the South Atlantic and Africa for the British and to run a parallel transport service in support of the ferrying operation. This was the beginning of what, in just over a year, would be a wartime worldwide network of air routes operated by the U.S. airlines for the Army and Navy.

When the United States itself entered the war in December 1941, the other U.S. airlines followed Pan American and flew to the flag. At first, the tasks assigned to these domestic lines were as visualized in the prewar planning—domestic flying in support of mobilization. By mid-1942, however, the role of the airlines had begun to change, and many airlines were asked to provide air transport services worldwide. Some followed Pan Am across the South Atlantic. Others opened new ferrying routes through Greenland and Iceland to the British Isles, and yet others moved into the Pacific—north and south. The ferrying operations soon dictated the formation of shuttle services to retrieve ferry pilots, and that led directly to a sustained transport service that soon reached virtually every corner of the globe.

In this process there were times when airline folk became exasperated with the military, and times when the military thought the airlines self-serving. Still, in the early months of the war, the mission of the Ferrying Command, and subsequently Air Transport Command, could not have been accomplished without the airlines—their planes, pilots, mechanics, and their organizational structure.

But leaders, such as General Henry "Hap" Arnold, Army Air Forces commander, Harold L. George, Air Transport Command commander, and C. R. Smith, former president of American Airlines and wartime deputy of ATC, recognized not only the vital role the airlines were playing but the need to capture the valuable experience they were gaining in the process. Only the U.S. transport fleets—contract and military—ranged around the world. It was a happy coincidence of geography, industrial might, and the two-front war, and it would make the record of the U.S. air transport industry in the war a unique one.

Pan Am and the British: Showing the Way

In Europe, World War II began in September 1939 with the German attack on Poland. Germany followed with attacks on Denmark and Norway in April 1940, and on the Low Countries and France in May. Each fell in succession, in only days or weeks, ending with the capitulation of France on June 25, 1940. England, which had escaped Dunkerque with the men of its Army, but little more, now stood alone against the Germans. It was the effort to support the British, particularly in 1941, that drew Pan American Airways into war service, and that defined new wartime roles for the air transport industry.

Although the United States was technically a neutral nation, Roosevelt was determined to support the British. On June 3, 1940, the War Department began to release surplus or outdated stocks of arms, munitions, and aircraft to Great Britain. In September, the United States transferred fifty overage destroyers to the British and, in exchange, acquired the right to 99-year leases on naval and air bases in Newfoundland, Bermuda, the

Bahamas, Jamaica, St. Lucia, Trinidad, Antigua, and British Guiana. In March 1941, Congress passed and the President signed the Lend-Lease Act, which enabled any country whose defense the President deemed vital to that of the United States to receive arms and other equipment and supplies by sale, transfer, exchange, or lease. The Lend-Lease Act effectively opened America's industrial arsenal to the British, and later to the Russians.¹

Although the British had beaten off the German air war against the home islands in the summer and fall of 1940—and in doing so forestalled an invasion of England—fortunes had taken a different turn in North Africa, where their forces defended the Suez Canal and the oil fields of the Middle East. In late March 1941, Field Marshall Erwin Rommel's Africa Corps sliced through the British lines in Libya and invested Tobruk, a port city on the Mediterranean that could support their further advance. Only the holdouts in Tobruk prevented Rommel from striking deep into Egypt. Britain now poured every resource available into the North African theater. Aiding the resupply of those forces became a priority issue for the U.S. War Department.²

In 1941, heavy shipping losses to U-boats in the North Atlantic had made ferrying aircraft across those waters all but essential, for more than a third of all the planes that had been sent by ship now lay at the bottom of the Atlantic. Although American civilian pilots hired by the aircraft manufacturers flew the planes to Canada, it was British pilots of their own Atlantic Ferrying Operation (ATFERO) who had flown them on to Britain. Now these pilots were desperately needed in Egypt. On April 21, 1941, in London, General Arnold proposed that the United States Army Air Corps lend a hand in moving the aircraft from the west coast to the east, and that the British hire a civilian corporation to take over the transoceanic ferrying operation—a phase of the operation that U.S. forces were still forbidden to conduct.³ The British agreed, and as soon as Arnold returned to the United States he reported what he had suggested to President Roosevelt. The President approved, and on May 28 ordered the Air Corps to take over the domestic legs of the ferrying operation. "I am convinced that we can speed up the process of getting these bombers to England," the President wrote, "and I am anxious to cut through all of the formalities that are not legally prohibitive and help the British get this job done with dispatch."⁴

Coincident with Rommel's March 1941 offensive, an increased tempo of German air operations from Sicily threatened the British air and water routes to Egypt through the Mediterranean. The British critically needed a more secure line of communication. In the immediate prewar years, British civilian airmen had pioneered an air route across the waist of Africa and by the outbreak of the war were operating a limited air service between Khartoum, Sudan, and Lagos, Nigeria. Britain's Imperial Airways (and then the British Overseas Airways Corporation—BOAC) had constructed bases along the coast at Bathurst [now Banjul] in Gambia, Freetown in Sierra Leone, at Takoradi and Accra in Ghana [then Gold Coast], and south to Cape Town. They had cut primitive airfields from the jungle or laid them out on the desert: at Kano and Maiduguri in Nigeria, at Fort Lamy in Chad [then French Equatorial Africa], and at El Geneina, El Fasher, and El Obeid in Sudan.⁵ As the threat in North Africa increased, the strategic importance of this route across the continent increased. British pilots had been ferrying Hurricanes and Blenheims along this route since the latter months of 1940, but now that airway became even more vital.⁶

At this juncture, however, the British could spare neither planes nor the pilots to operate an air supply line over the route. In April, they asked the United States for transport aircraft for use in Africa. Although they requested fifty, only twenty were available, and those had to be requisitioned from the U.S. commercial airlines. The British then approached Juan Trippe—asking if Pan American would ferry the aircraft to Africa. Pan American agreed, and

on May 29, 1941, Atlantic Airways, Ltd. (established by Trippe for just this purpose) signed an agreement by which the British government agreed to pay all expenses, including the cost of incorporation and dissolution in connection with the contract. The first ten planes departed from Miami on the night of June 21, 1941. Their route took them through Port of Spain, Trinidad; Belem, Brazil; and finally Natal, Brazil. From there they turned east and headed across the Atlantic to Bathurst and then Lagos, on the Nigerian coast. There the planes were turned over to the British, and the Pan Am crews then returned to the United States. Seven of the remaining ten transports left Miami in late July and were handed over in Lagos on the thirtieth of that month. The last three were ferried across in September.⁷

Even before Atlantic Airways' delivery of the transports had begun, the British requested that the Americans help establish and operate a regular ferry route to Africa. Planners immediately considered Pan American. "Information received," wrote one staff officer, "indicate the probable immediate necessity of ferrying bombers to Egypt via Natal-Liberia-Monrovia-Lake Chad-Cairo.... Request information at the earliest moment of the best available air route to Cairo if the above-mentioned route is not the best way. What is the condition of fields? What are the distances involved? Has Air France established anything in this area that we can use? Can Pan American Airlines [sic] do this job?"⁸

The British also had additional plans for Pan American. On June 17, 1941, just prior to Pan Am's delivery of the first transports, Trippe was in London to give the annual Wilber Wright Memorial lecture before the Royal Aeronautical Society—a prestigious event in aviation circles. His topic was "Ocean Air Transport."⁹ Transoceanic flying, particularly scheduled service, was still something of a novelty. Although Pan American Airways had initiated service across the Pacific in 1935 and was essentially ready to cross the Atlantic the next year, it was precluded from doing so because of an agreement it had made with Britain's Imperial Airways, in which each pledged not to begin service until the other was ready. And, Imperial was not yet ready. In 1939 Pan Am was finally allowed to go ahead on its own to establish its first scheduled transatlantic passenger service—via both northerly and southerly routes.¹⁰ "In these past two years," Trippe said in his 1941 Wright Memorial lecture, "Transatlantic passenger service has become a fact. It is no longer an adventure. It has become a vital link between the New World and the Old."¹¹

In wartime London, Trippe's lecture had to be delivered in an underground room at the Air Ministry. The muffled thud of bombs could be heard from the outside, but to most of those listening to the lecture, the greater concern was the threat of Rommel's tanks in North Africa. Trippe's subject of long-distance flight held a particular significance for those concerned with establishing a secure line of communications to the embattled command in Egypt. When he had finished, several of the senior RAF officers in the audience approached him, seeking his views on a transafrica air route.¹²

Later that evening Trippe was summoned to 10 Downing Street. There, Trippe and Prime Minister Churchill talked for two hours. They discussed the potential for long-distance flight, but the Prime Minister had something more specific in mind. Churchill wanted to hear more of Trippe's ideas concerning a secure air route to Egypt and the development and operation of an air resupply line for the British forces there. Trippe repeated for Churchill the informal thoughts he had expressed to the Air Ministry officers earlier that day. He described the existing air routes and what would be required to establish an effective transport operation. This was the information the host had been looking for. Such a route needed to be set up as soon as possible, but the British did not have resources to devote to such an operation; they needed the help of the United States—and of Pan American. Churchill said that he would cable Roosevelt, and that Trippe should expect a call from the

President.¹³

Trippe was not surprised, then, to be summoned to the White House immediately upon his return. "What did you tell the Prime Minister?" Roosevelt inquired. Trippe related the details of his discussion with Churchill. The President listened and then asked for Pan Am's cooperation. Would the company ferry the badly needed lend-lease aircraft across to the British in Africa, and establish, for the British, a transafrica transport service? Trippe said yes. How could he refuse? He was being invited to take Pan Am into Africa.¹⁴ On June 26, Trippe met with Arnold and British Air Marshall Sir Arthur Harris. "It would be O.K. with them [the British]," said Harris, "for PAA to take over the entire service, pilots, mechanics, installations, radio and everything else."¹⁵ Trippe agreed. He incorporated Pan American Airways-Africa, Ltd. (July 15) to operate the airway across the continent and Pan American Air Ferries (July 24) to take over the delivery of aircraft from Atlantic Airways.¹⁶

The ferrying contract was signed August 14, 1941.¹⁷ "The Government has turned to an expert in ocean flying and airport pioneering," editorialized the *New York Times* approvingly. "From a technical point of view the outlook for the ferry service is propitious."¹⁸ The contract with the British to operate an air transport service between the west African coast and the Sudan was signed in late September.¹⁹ To head Pan American Airways-Africa, Trippe named Franklin Gledhill, his chief purchasing agent and an ace haggler. In Africa, Gledhill spent thirty days crisscrossing the continent, surveying the routes and making necessary arrangements. He hired 400 Americans and countless local laborers to extend or build runways, erect direction-finding Adcock masts, and construct the necessary operating, maintenance and supply facilities.

Pan American Air Ferries (PAAF) began operation on September 25, 1941, when it took over the final delivery of transports from Atlantic Airways.²⁰ In Africa, under Gledhill's guidance, PAA-Africa began its operations in mid-October.²¹ By December 1941, PAAF had delivered thirty aircraft to the British in Khartoum under the new contract, and the pace was quickening.²² By the fall of 1942, it had delivered a total of over 400 planes—including more than 200 for the British in Africa and 100 which were moved through Africa to the Middle-East where they were picked up by the Russians.²³

Organizing Air Transport for War

In response to the President's May 28, 1941, directive, which instructed the Army Air Corps to take over domestic ferrying operations, the Air Corps Ferrying Command (ACFC) was hurriedly organized. It was with ACFC and its successor, Air Transport Command, that the Air Transport Association and the airlines would work so closely throughout the months ahead. The ACFC's mission was "to move aircraft by air from factories to such terminals as may be designated by the Chief of the Air Corps," and "to maintain such special air ferry service as may be required to meet specific situations."²⁴ Colonel Robert Olds was selected to head the new command.²⁵

By June 8, 1941, Olds and his tiny staff were "shoehorned" into a small basement office in the Munitions Building in Washington. Within a month, the new organization was in full operation, relying on Air Corps pilots detailed for thirty- to ninety-day temporary assignments. The pilots, who had been engaged by the factories for this purpose were encouraged to join either the British ATFERO or the Army Air Corps. The ACFC was also assigned responsibility for military courier service overseas. A North Atlantic shuttle, to carry diplomatic mail and the growing number of liaison officers passing between Great Britain and the United States, had been contemplated since late spring. ACFC initiated that service

on July 1, when a B-24 took off from Bolling Field outside Washington bound for Ary, Scotland by way of Montreal and Gander Lake, Newfoundland. The B-24s flew an average of six round trips a month until the service was terminated in mid-October with the onset of winter's bad weather.²⁶

Almost as soon as the North Atlantic courier shuttle was launched, ACFC began to investigate a more southerly route into the British Isles that could be operated during the winter months. A route through the Azores was the best candidate, but the use of the Azores required the consent of Portugal—which feared that granting permission might jeopardize its neutrality.

Blocked for the time being in that effort, ACFC turned its attention to opening a service to Cairo, Egypt, and beyond over the South Atlantic route being flown by Pan American. Two survey flights were made in B-24s in September and early October 1941—flights that proceeded as far as Basra, Iraq. The decision to open a regular transport service to Cairo began on November 14, when the first regularly scheduled B-24 flight left Bolling Field for Cairo. Four other flights were made on that route prior to December 7, 1941.

The Army Air Corps opened a "Clipper" service, carrying passengers and cargo to West Africa, after purchasing one of Pan Am's famous four-engine Boeing 314As. It was then leased back to Pan American for the nominal fee of one dollar as a part of the contract to establish this service. The purchase/lease-back arrangement had advantages for Pan Am and the Army. It relieved Pan Am (which was self-insured) of concerns in that area, and gave the military control over the equipment. Only one regularly scheduled trip over the route, a survey flight, was made before Pearl Harbor.²⁷

Through October and November 1941, President Roosevelt progressively extended the limits to which ACFC could deliver planes.²⁸ Finally, on November 24, he issued a "blank check" directive authorizing extensive deliveries to any place necessary to carry out the Lend-Lease program. The first military ferrying outside the hemisphere was to be sixteen B-24 Liberators for delivery to the British in Cairo. The first of these, a flight of five, departed Bolling Field on November 20. One crashed en route, at El Obeid in Sudan, but the other four were delivered safely.²⁹

With the Japanese attack on Pearl Harbor on December 7, 1941, and America's subsequent entry into World War II, the airlines immediately placed their equipment and manpower at the disposal of the government as the Air Transport Association and the Army Air Corps had arranged. Within minutes of the news, Western Airlines was called on to fly ammunition to jittery and virtually unarmed U.S. forces on the west coast. Within hours the airlines were hauling blueprints, communications equipment, bombsights, serums, plasma, general medical supplies, bomb casings, parts for tanks, tires, propellers, and engine mounts. Air Corps Ferrying Command was in no position to rapidly expand a good number of its own military transport services. Not only did it lose the pilots and crews which had been on temporary duty from combat units, but it had only a handful of transports it could call its own. The civil airlines, in addition to having the available flying personnel and physical equipment, had another equally valuable though less tangible asset. They had a wealth of practical knowledge in conducting scheduled air transport operations—an administrative competence and a mastery of technique that came only from long experience. And, they had a management structure in place.³⁰

As a first step in mobilizing the resources of the airlines, ACFC was charged with controlling the execution of all air transport contracts between the War Department and the civil air carriers.³¹ On December 13, 1941, the President authorized the Secretary of War to take possession and assume control of all or any part of the nation's civil aviation system

necessary to the successful prosecution of the war.³² Edgar Gorrell, president of the Air Transport Association, had been working for years to avoid an outright takeover in case of war. His telegram to General Arnold just two days earlier, advised that the airlines were "quietly, efficiently and safely carrying out, without bothering you or your associates, the wartime functions assigned to [us] for a moment such as this," was designed, in part at least, to head off such a consequence.³³

The next day, December 14, 1941 representatives of the Air Corps staff, ACFC, the Navy, the Office of Production Management (OPM), CAB, CAA, ATA, Pan Am, and TWA, met to work out a policy that, for the time being at least, would preclude a direct takeover of the airlines.³⁴ Most, if not all, of those at the meeting knew that earlier that day the War Department had asked ATA to provide twelve aircraft for a secret mission which would move three small companies of Marines to Brazil. Gorrell, who had handled the order for ATA, could point out to those cleared for the information, that even before the meeting was ended, American Airlines had put the required planes in place at the Marine base at Quantico, Virginia, some thirty miles south of the Capital.³⁵

This demonstration of the airlines' ability to respond to emergency requests could not have come at a better time. The policy that emerged from this meeting was all that Gorrell could ask for. They agreed that, to the extent possible, normal commercial activities of the lines should be maintained, but that a system of priorities would be put in place to enable the government to maximize the wartime utility of the in-place air transportation system. Rather than take over these going concerns, the airlines would be called upon to fly war missions under contract and with aircraft supplied by the government. At the same time, the War Department agreed to route the calls for support through the Air Transport Association, which would assign the mission to one of its airlines. All of this flowed from the mobilization plans Gorrell had made some time back with the War Department.³⁶

Pan American and TWA had been invited to the December 14 meeting because they operated the only four-engine transport aircraft in operation in the United States—Pan Am's "Clippers" and TWA's new Boeing 312 "Stratoliners." The Army and the Navy now needed them. In fact, Pan Am's "Clippers" had been signed over to the government the day before; at this meeting Pan Am merely advised the services on how the aircraft should be used. The details of the transfer of the TWA aircraft were worked out a few days later. As was often to be the case, these aircraft, once in government hands, were turned back to the airline to be operated under contract.³⁷

Gorrell immediately began to organize the Air Transport Association for its new wartime role. One of the first orders of business was to relocate the association's office from La Salle Street, in Chicago, to Massachusetts Avenue, in Washington—only blocks from the seat of power. In early January 1942, in the midst of that move, Gorrell called the airlines together to present his plan. He would create a small organization in Washington to determine priorities for war-related passengers and cargo, and to assign war missions to the various airlines. In addition, he proposed to establish teams at six ACFC field offices—Long Beach, Detroit, Dallas, Nashville, Baltimore, and Seattle—to handle reservations for pilots returning from ferry missions. The membership agreed. Then they articulated three guidelines that Gorrell and his teams should follow in directing wartime air transport missions:

1. Personnel engaged in arranging for war mission transportation shall be considered representatives of the Air Transport Industry and not of individual airlines. The primary function of such personnel shall be to provide the most efficient and

expeditious service to persons on war missions.

2. War mission transportation shall be distributed as equitably as possible among the members of the Air Transport Industry. The routing of such transportation shall be reported to the members of the Conference by industry representatives engaged in handling such transportation.

3. All requests for priority of passage in air transportation shall be handled through the established Air Transport Industry priority organization and not by individual airlines.³⁸

All the while, Gorrell was trying to work out just how his organization should mesh with the mobilization machinery that was being fabricated in Washington. On the civilian side, Gorrell had worked with Ralph Budd, the Transportation Commissioner of the Advisory Commission to the Council of National Defense. However, on December 24, 1941, the duties of that office were assigned to the new Office of Defense Transportation headed by Joseph B. Eastman. Eastman had little time for the airlines at the moment; his first concern was the railroads over which the bulk of war materials had to move.³⁹

Gorrell's problem was solved on January 14, 1942, when General Arnold established, in his own office, a Military Director of Civil Aviation (MDCA) who was to coordinate War Department relations with civil aviation and to establish liaison with other government agencies responsible for civil aviation activities. Named to the post was Brig. Gen. Donald H. Connolly, who, until his recent recall to active duty, had been Administrator of the Civil Aeronautics Administration. Connolly immediately wrote to the Air Transport Association: "We wish...to give every opportunity to the air transport industry on its own initiative to take steps necessary to meet the emergencies ahead." Transport aircraft should be made available for charter to the government "on terms fair to both parties, for transportation anywhere at any time," he told them. "While it is expected that when necessary or desirable the full resources of the air carrier industry will be available to the successful prosecution of the war effort, nevertheless there exists no desire to interfere any more than is absolutely necessary with the commercial life of the country most of which is also engaged in the war effort."⁴⁰

On January 17, the War Department ordered Connolly to bring into his organization the small staff that Gorrell had created at ATA to establish air transportation priorities and to assign war missions. This ATA liaison group immediately moved into General Connolly's Commerce Building offices in Washington.⁴¹ Gorrell wrote the airlines: "The ATA is a part of the MDCA's office by War Dept. orders. Consequently, this ATA field organization when it speaks and acts on priorities, speaks for the War Dept."⁴² Gorrell then issued detailed instructions to ATA or airline personnel in the field for checking the validity of air transport priority requests. "A priority," he said, "means assurance of positive transportation between two points for the completing of a mission." He advised them that after a priority was granted, "the local industry priority representative should determine at what time the person or shipment" must reach the specified point, "and then use his best judgment in arranging the transportation on any airline or via any routing to reach the destination by this time, with the least inconvenience to other passengers or cargo." The order of preference for priority movement was: (1) White House personnel, (2) ferry pilots, (3) other military personnel whose orders directed air travel, (4) essential military shipments ordered for air movement, and (5) all other government personnel whose orders specified priority travel by air.⁴³

Throughout January, 1942, the wartime role of most airlines was limited to the movement of just this sort of priority passengers and cargo, and an occasional special mission that required one or more dedicated aircraft. Although cabins and cargo holds of their planes were increasingly filled with military personnel and materials, only two airlines, Pan American and TWA, were flying regularly scheduled routes for the military. Pan Am was operating the eleven "Clippers" it had sold the U.S. government over routes in both the Atlantic and Pacific under existing contracts between the airline and the War Department.⁴⁴ Likewise, TWA began service between Washington and Cairo via South America on January 12, 1942, using the "Stratoliners" it had sold the government the month before.⁴⁵ In February and March, two additional routes were opened: one from Boston through Presque Isle, Maine, and Newfoundland to Goose Bay, Labrador (and later to Greenland, Iceland, and Scotland), by Northeast Airlines; and another from Fargo, North Dakota, through Great Falls, Montana, and points in Canada to Fairbanks, Alaska, by Northwest.⁴⁶

On January 20, 1942, from the Air Transport Association's new Massachusetts Avenue office in Washington, Gorrell advised the member companies of the progress that had been made and reassured them that the War Department did not intend "to exercise direct control of the airlines except when other means have broken down." The industry, he told them, had been urged to come forward with its own ideas and proposals "looking toward greater coordination and utilization of the industry's facilities."⁴⁷ In February, he reported in detail on the operation of the liaison staff to the MDCA's office, and on the procedures being followed by the air transport industry staff that served ACFC—in Washington and at its field offices.⁴⁸

Shortly thereafter, General Connolly ordered the Air Transport Association to develop a plan to handle mass troop movements (within the hemisphere and to Hawaii). Gorrell immediately appointed a War Plans Committee and again asked C. R. Smith of American for the loan of Maurice Stallter, who had worked with him in early 1941 formulating the prewar plans.⁴⁹ The committee proposed creating an ATA operating structure, immediately subordinate to the Military Director of Civil Aviation, that could harness the full capabilities of the airlines—their aircraft, crews, and ground facilities and personnel. That organization would have an ATA commanding officer (Gorrell) in Washington and, in the field, five chiefs of operations drawn from the airline whose route structure dominated the geographic sector each represented:

Sector #1—the northern tier of states from Lake Michigan westward, Northwest Airlines.

Sector #2—the southwest, Braniff Airways.

Sector #3—the southern and south Atlantic states, Eastern Air Lines.

Sector #4—the northeast and the Ohio river valley, American Airlines.

Sector #5—the far west and the plains states, United Air Lines.

ATA's war plan also assigned each sector responsibilities for onward movements related to hemispheric defense:

Sector #1—(Northwest), Alaska.

Sector #2—(Braniff), Panama and South America.

Sector #3—(Eastern), Caribbean and South America.

Sector #4—(American), Greenland and Iceland.

Sector #5—(United), Alaska and Hawaii.

According to the ATA Plan, whenever the War Department required air transport services to move troops, supplies, and equipment it would come to Gorrell or his assistant at the office of Military Director of Civil Aviation. If the movement could be handled by priority seating on a scheduled aircraft it would be turned over to the ATA representative in the appropriate ACFC field office. If the mission required dedicated aircraft, it was turned over to the ATA sector chief of operations best located to execute and control it. The sector chief of operations would then acquire the aircraft and crews (specified in the war plan), determine the route, arrange support along the way, coordinate with the responsible military and diplomatic (for foreign war missions) agencies, and dispatch and recover the flights. The ATA plan made available as many as 140 aircraft (mostly DC-3s) for any given war mission but anticipated that at mission's end the aircraft would be returned to their parent airline for routine commercial service.⁵⁰

Stallter and the war plans committee worked steadily on the plans for several weeks and produced detailed operations manuals for ATA and its sector Chiefs of Operations. To complement these plans the U.S. Weather Bureau prepared detailed pilot's manuals on meteorology for the various unfamiliar foreign routes that might be flown.⁵¹

The ATA war plan, however, proved ill-fitted to the actual requirements. The plan was conceived to provide episodic emergency airlifts (albeit sizeable, if necessary), but that was not adequate to the requirements of any increasingly far-flung network of bases on the periphery of the hemisphere and beyond. What was needed, it soon became clear, was continuing, day-to-day transport services, augmented as necessary with special missions. Even as the ATA war planners were at work, the Air Corps was eyeing a different solution—a wholly military operation. On February 12, 1942, General Arnold wrote to Olds, in ACFC, advising him to "take such steps as are necessary to provide complete military control over all parts of your operation" and to "be prepared to absorb the maximum number of cargo planes into your operations in the shortest possible time to improve the service for carrying both passengers and materiel."⁵² As an apparent first step, on February 18, the War Department ordered the closing out of all overseas contracts and the militarization of all air transport activities outside the hemisphere.⁵³

In the near-term, however, the militarization solution proved no better than the ATA plan. In early 1942, the military simply did not have, nor could it produce, the pilots, crews, or organization structure to meet all of the immediate requirements. In the end, only Pan Am's operations in Africa were militarized, and, by the time that was fully accomplished (December 1942), a more workable arrangement between the airlines and the military had been found.⁵⁴

In early March 1942, C. R. Smith, president of American Airlines, sent General Arnold a memorandum suggesting a number of ways in which his airline could better contribute to the immediate needs of the war effort. He made a strong pitch for exploiting the existing organizational and managerial structure of the airline through contractual arrangements. Smith's proposal seems to have been just the solution the general was searching for.⁵⁵ "The

airlines of the United States," Arnold replied, "represent almost our total resources of experience in the organization and operation of air transport systems. This experience is common to all well-established airlines and is a feature which I believe can be used to the greatest mutual advantage of the Air Forces and the airlines." Air transport requirements were increasing in size and importance, he told Smith. "For this reason, I propose to solicit the aid and advice of the Air Transport Association in arriving at the method by which the facilities of the entire airline industry may be employed most effectively to meet our war requirements."⁵⁶ At the same time, Arnold ordered both Air Service Command and Ferrying Command to prepare briefs of their air transport requirements for ATA's use in this assessment.⁵⁷

Correll immediately arranged with Maj. Gen. Henry J. F. Miller, Commanding General of Air Service Command, to have Stallter survey the command's requirements. Taking off from Washington, Stallter visited ASC's depots at Middletown, Pennsylvania; Patterson Field, Ohio; Mobile, Alabama; San Antonio, Texas; Sacramento, California; and Salt Lake City, Utah. Five days later he was back in Washington having completed the survey.⁵⁸

On March 21, 1942, the Air Service Command and the Air Corps Ferrying Command met to discuss how the effort of the airlines should be divided. Although their requirements were not yet certain (Stallter was just completing his survey for ASC, and Ferrying Command had only begun to consider its needs) the commands agreed in principle that ASC would contract for air transport services to be conducted within the western hemisphere—including Iceland, Greenland, Trinidad, and the Caribbean, in the east, and Alaska, in the west. ACFC, in addition to conducting all ferrying operations (both within and outside the continental United States), would control all contract air transport flying beyond the western hemisphere.⁵⁹

Based on Stallter's survey, and on conversations with General Connolly and L. Welch Pogue (of the CAA), the Air Service Command reported to Arnold that it had identified nine routes to be established and had issued letters of intent to American, Pennsylvania Central, Eastern, Braniff and United Air Lines to fly them. Formal contracts were in the works. More such arrangements would follow, the report indicated, with other airlines such as Delta, Chicago and Southern, and TWA. The first of these routes was opened on April 1, 1942, when Pennsylvania Central began service between the depots at Middletown, Pennsylvania, Fairfield, Ohio, and Mobile, Alabama.⁶⁰ Although early contracts varied somewhat from one to another, all essentially called for the airline to:

Do all things incident to and necessary for the operation of such air transport services, including acquisition of equipment and facilities, obtaining and training of qualified personnel, maintenance and repair of airplanes, engines, etc. and ground facilities, and the operation of communications, navigational and meteorological facilities, landing areas, shops, hangars, storage facilities and loading equipment.⁶¹

To insure the availability of transport aircraft necessary for these contract operations, Secretary of War Henry Stimson, on April 1, 1942, directed that "approximately eighty airplanes shall be devoted by the air carriers to the execution of missions under the direction of the Army Air Forces; to be operated and maintained by the air carriers as organizations under plans to be worked out with the Army Air Forces." In some cases this meant the outright purchase of aircraft by the government, in others the lease of aircraft to the government—the latter becoming more common as time went on. Of some 329 air transports

in airline inventories, Stimson directed that the airlines be left with 250 with which to provide the commercial service essential to the wartime economy.⁶² However, when General Connolly called the airlines together, on April 15, they concluded that they needed only 180 planes, not 250, for commercial operations.⁶³ Acting on that information and considering the military requirements, the administration concluded that the domestic air carriers should retain 200 DC-3 type transports. Not only would these aircraft maintain adequate commercial air service, but they would constitute a reserve available for emergency military missions.⁶⁴

To manage its expanded contract operations, ASC organized a Contract Air Cargo Division in early May, staffed largely by officers who had been called to military duty from executive positions with the airlines. Stallter was one of the first.⁶⁵ Soon, the airlines were operating a daily average of forty twin-engine transports for the command.⁶⁶

Meanwhile, on April 1, 1942, General Arnold had been forced to replace an ailing ACFC commander, Brig. Gen. Robert Olds, with the Air Staff's plans chief, Col. Harold L. George. George, a heavy bombardment specialist and an innovative strategist, protested that he had no experience in air transports, but to no avail. "You're not leaving the strategic air business," Arnold told him, "you're entering it. This is an opportunity to establish the world's greatest air transport system, reaching literally everywhere in the free world. This is strategic air movement and supply as it has never been dreamed of."⁶⁷ George was promoted to brigadier general a month after taking the helm of Ferrying Command (as ACFC now came to be called). He was correct, however, in his assertion that nothing in his background prepared him for this assignment. Born in Massachusetts in 1893, he had attended George Washington University, where he earned a law degree. He joined the Army in 1917 as a cavalry second lieutenant, but immediately requested a transfer to the Air Service. After earning his wings, he flew with the 163d Bomb Squadron in France in World War I. For the next twenty years he held various operational, command and instructor assignments. In 1940 he was given command of the 2d Bomb Group, and in 1941 he was called to Washington to be chief of Air War Plans. As disappointed as he might have been at the new assignment, he soon learned that Arnold had been correct in his assessment of the job; George stayed with the command throughout the war, ultimately being promoted to lieutenant general.⁶⁸

On April 14, 1942, two weeks after sending Harold George to the organization, General Arnold, assigned C. R. Smith—recently president of American Airlines and now an Army colonel—as second-in-command. Smith brought much needed air transport experience to the senior ranks of the command. Moreover, he brought his own ideas about how the civilian airlines should be utilized. Smith almost at once became the focal point for that planning, and soon eclipsed Gorrell's influence in military air transport circles.⁶⁹ As the organization rapidly grew, more airline executives followed Smith into uniform, and most were assigned to air transport jobs.⁷⁰

Smith immediately began working on a long-range program for the utilization of the airlines—a program that would bring the airlines into a much closer and more continuous relationship with the military than Gorrell had ever envisioned. That study, completed on June 19, 1942, laid out roles for Northeast Airlines, TWA, and American in the North Atlantic; for Northwest on the Alaskan routes; for United in the Pacific; for Braniff in Panama; and for Eastern and Pan American in the South Atlantic. The balance of the airlines would be used in domestic service only.⁷¹ That study was followed immediately by a second which examined in detail the capabilities and experience of each airline. Based on the latter, aircraft were allocated to the carriers according to the roles they had been assigned.⁷²

As Smith continued to examine the relationship between the airlines and the military users, it became clear that the split in contracting responsibilities between Air Services Command and Ferrying Command was bound to produce conflicts. In April 1942, ASC signed a contract with American for service over a route from New York to Reykjavik, Iceland, via Newfoundland and Labrador. This was territory already served to some extent by an ACFC contract with Northeast Airlines. At the same time, ASC contracted with United for flights to Alaska, duplicating a service Northwest was operating for ACFC.⁷³ Therefore, on June 20, 1942, General Arnold assigned to Ferrying Command the responsibility for all aircraft ferrying and all strategic air transport of personnel, material and mail. Ferrying Command was then redesignated the Air Transport Command (ATC). At that, the functions and personnel of the Contract Air Cargo Division of the Air Service Command, and the contracts with civil carriers which they had negotiated, were transferred to ATC.⁷⁴

The chief executives of the airlines which were already operating over routes outside the United States—Pan American, TWA, Northeast, Northwest, American, United, Braniff (serving Panama), and Eastern (serving Trinidad)—met in Washington with General George on July 20, 1942. The new command structure and contractual relationships were explained, and the executives were briefed on Air Transport Command's new long range plans for the utilization of the airlines. In the months ahead, these airlines were told that they would be expected to dramatically expanded their overseas flight services.⁷⁵

In August, representatives of the airlines flying only domestic routes were also invited to a meeting with General George.⁷⁶ These included All-American, Chicago and Southern, Colonial, Continental, Delta, Inland, Mid-Continent, National, Pennsylvania Central, Southwest, and Western.⁷⁷ These domestic carriers—and United, TWA, American, Eastern, and Northeast, each of which flew both overseas and domestic routes—were vital in moving parts, assemblies, critical supplies, and personnel between U.S. depots, military bases, defense plants, and other installations, or to ports of embarkation. The domestics' contracts covered the continental United States, totaling some 29,000 route miles and ninety terminals. In the main, the domestic system was operated by the contract carriers identified above with some fifty-five aircraft—mostly C-47s and C-53s, two military variants of the DC-3.⁷⁸

From June 1942 until the end of 1943, these airlines flew virtually all of the military passengers and freight that went by air within the United States. In the spring of 1944, however, as military planes and crews became available, ATC began to phase out the domestic contract flights. Some airlines were released from their domestic contract flying; others simply reduced their contract services.⁷⁹ (See Table 2.1.)

Table 2.1
Air Transport Command
Contract Airline Operations

Mode/Year	1942*	1943	1944	1945
Transport Miles (000,000)				
Total Worldwide**	31.3	128.6	340.7	561.2
Contract Worldwide	28.2	83.9	104.2	105.6
% Contract	90%	65%	31%	19%
Total International	21.6	104.0	295.1	505.0
Contract International	18.5	59.4	85.9	98.1
% Contract	86%	57%	29%	19%
Total Domestic	9.7	24.6	45.6	56.2
Contract Domestic	9.7	24.5	18.3	7.4
% Contract	100%	99%	40%	13%
Passenger Miles (000,000)				
Total Worldwide	157.7	883.5	2439.7	5048.4
Contract Worldwide	134.0	658.2	1082.6	1482.0
% Contract	85%	74%	44%	29%
Total International	148.0	847.6	2185.9	4343.9
Contract International	124.3	622.2	1023.4	1261.0
% Contract	84%	73%	47%	29%
Total Domestic	9.7	35.9	253.8	704.5
Contract Domestic	9.7	35.9	59.1	221.0
% Contract	100%	100%	23%	31%

Source: Rpt, ATC, "Statistical History of the Air Transport Command, 29 May 1941 - 31 May 1948," [no date], AMC/HO.

Notes:

- * June-December 1942
- ** All totals include military and contract operations. Worldwide includes International and Domestic.

Passenger Miles. The number of passengers x the number of statute miles they were flown. One passenger moved one mile=one passenger mile.

Transport Miles. Total statute miles flown on transport flights.

Across the Oceans

In March 1942, General Hap Arnold gave Harold George and the newly formed Air Transport Command the daunting task of establishing a worldwide air transportation system. While the domestic flights covered the familiar terrain over which the airlines had been operating for years, that was not the case with either the transatlantic or transpacific routes, or routes across Africa, the Middle-East, or Asia. Prior to the start of war in Europe in 1939, the only scheduled transoceanic flights were those conducted by seabased aircraft—and even those were of recent vintage.⁸⁰ No landbased aircraft had yet flown scheduled service across either ocean. Beginning in 1941, however, U.S. military and airline pilots pioneered routes for landbased warplanes across virtually all the oceans and continents of the world. Then, after the U.S. entry into the war, when the military pilots gravitated to bombers and fighters, the commercial aviators under contract to the military, made flying those worldwide routes a commonplace.

The initial development of a North Atlantic route had been undertaken first by Britain and Canada in 1940 in the process of ferrying aircraft to England. After passage of the Lend-Lease Act, in March 1941, the United States assumed an increasingly active role in establishing a route across the steppingstones of Newfoundland, Labrador, Greenland, and Iceland. This route would make possible the ferrying of short-range fighters from North America to Great Britain and would make operations with twin-engine transport more practicable. In April, in return for a pledge to defend Greenland against invasion, the United States obtained the right to construct, maintain, and operate air, naval, radio and other defense installations there. In July, the United States sent engineers to build air bases there. At the same time U.S. forces were sent to Iceland to take over its defense and prevent its occupation by Germany. They occupied and improved the bases previously used by the RAF and began, in the spring of 1942, to build new ones.⁸¹

The first regular military service across the North Atlantic was the shuttle the Air Corps began in the summer of 1941 and continued until weather halted the operation in October. Using four-engine B-24s, these flights took a route directly from Gander Lake, Newfoundland to Prestwick, Scotland. It was not practical, however, for twin-engine aircraft to follow that route. The first survey flight along the more northerly steppingstone route to the British Isles was ordered in late December 1941 and was made by Northeast Airlines on January 11, 1942.⁸² This flight—from Presque Isle, Maine, to Goose Bay, Labrador, and to Gander Lake, Newfoundland, via Moncton, New Brunswick—was made to test the feasibility of regular transport flights to Labrador and Newfoundland.⁸³

The Air Corps furnished Northeast with two C-53s for regularly scheduled runs between Boston and Goose Bay and Gander Lake. The first flight was made on February 13, 1942, and a second late that same month—hauling personnel and equipment necessary to establish this airway. On April 24, a survey flight was made to Greenland; Northeast pushed on to Iceland in May, and finally, in July, to Prestwick, Scotland.⁸⁴

TWA and American joined Northeast over the North Atlantic steppingstones in the spring of 1942, even as the latter was conducting the route surveys. On April 13, 1942, TWA initiated service to Prestwick, Scotland, via Montreal and Gander Lake, with three of the four-engine Stratoliners it had sold to the government a few months before. That route was extended to London in May. Also in May, American began C-47 and C-53 service along the North Atlantic route.⁸⁵

By mid-1943, as the four-engine C-54s (DC-4) became available, both American from New York and TWA from Washington were flying into Great Britain—averaging three round-

trip flights daily.⁸⁶ Paris was liberated in late August 1944, and by December, both airlines provided contract service to and from that city. By the end of 1944, each was operating some 20 aircraft over the North Atlantic, and each was flying 300-400 transatlantic crossings monthly.⁸⁷

In the South Atlantic it was Pan American that led the way in the summer of 1941, but other airlines were not far behind.⁸⁸ Even before the United States entered into the war, ACFC leaders had contemplated using TWA and its four-engine Boeing 312 Stratoliners for a contract shuttle to Cairo through Lisbon, Portugal. TWA finally initiated a Washington to Cairo shuttle, but not until February 1942, when it was routed across the southeastern route that Pan American was operating. In April, that route was extended to Bangalore, in the south of India, through Aden and Karachi, Pakistan [then India].⁸⁹ This contract with TWA—Transcontinental and Western Air—was the first with a hitherto wholly domestic airline. In this process, TWA began to shed its "transcontinental" nature, and to become a truly "trans-world" airline. To Pan American's chagrin, TWA was but the first of a number of "domestic" airlines to follow the path to international operations as a result of their wartime contracts.⁹⁰

Eastern and American joined TWA and Pan Am on the South Atlantic route later in 1942. In October 1943, as the tide of the war turned, the Portuguese relented and allowed access to the airfield on the island of Terceira in the Azores. By mid-1944, and from then until the end of the war, American, TWA, and Pan Am flew this mid-Atlantic route to North Africa and beyond, and service across the South Atlantic was essentially halted.

Pan American had led the way in the Pacific, even before it challenged the Atlantic, with "Clipper" service beginning in 1935 connecting San Francisco and Hong Kong, via Hawaii, Midway, Guam, and Manila. However, it was Consolidated Aviation, in early 1941, that pioneered the routes across the Pacific for landbased aircraft with their ferrying of the company's B-24s to the Philippines and to Java.⁹¹ After the attack on Pearl Harbor, however, the Japanese cut the central Pacific air routes that ran from Hawaii through Midway, Wake, and New Guinea, to Australia that Consolidated had used. Although work had begun a few months earlier on the construction of bases along a more southerly route from Hawaii to Australia—through Canton Island, the Fijis, and New Caledonia—this route was not ready until mid-January 1942.⁹² For a time, then, the safest route to Australia was a southeastern route—by way of the South Atlantic, Africa and southern Asia. Until February 1942, that route served as the principal line of air communications between the United States and the Southwest Pacific.⁹³

In March 1942, ACFC began ferry operations across the new route to Australia, for in the Pacific it was the ferrying, and not transport services, that was the initial focus. During the spring of 1942, ferrying operations there grew gradually—increasing from thirty-three departures in March, to thirty-six in April, forty-three in May, and sixty-four in June. Some of these were flown by combat crews, and some by civilian employees of Consolidated Aircraft Corporation, but most were flown by military ferrying crews.

It was the problems encountered returning these ferrying crews, in fact, that forced Ferrying Command into a shuttle service and ultimately to a full transport operation. The scarcity of pilots who could fly aircraft across the long over-water Pacific route, made it essential to use the fastest possible means of getting those who were qualified back to the point where they might start another delivery. Shortly after resuming ferrying operations in March 1942, General Arnold ordered ACFC to establish a shuttle that would return its pilots from their delivery points to the mainland.⁹⁴

That shuttle service was initiated with two LB-30s flown by Consairways—a subsidiary of Consolidated Aircraft Corporation, whose crews had for some time been ferrying the company's B-24 Liberators across the Pacific.⁹⁵ A survey round-trip flight was made in early April 1942, and regular service was opened later that month. Four additional LB-30s were pressed into service in May. Although the original purpose of the shuttle had been the rapid return of ferrying crews, the westward transport of critical freight, mail, and key personnel soon came to equal, and then surpass, the relative importance of the crew shuttle mission.⁹⁶ The route flown by Consairways's LB-30s was the same used for Pacific ferrying operations—some 7,500 miles to Australia via Hickam Field, Christmas Island, Canton Island, Fiji, and New Caledonia Island—although facilities along the route were still far from complete. By mid-August of 1942, at the time of allied landings on Guadalcanal, Pacific-bound air transport operations had already developed a very considerable volume, and these operations were expanding rapidly.

In September 1942, United Air Lines joined Consairways on the transpacific route to Australia. By the end of that year, contract-carrier transport operations, by Consairways and United, between Hamilton Field, California and Amberley Field, Australia had developed into a full-scale operation and had already taken on the general outlines that the Pacific contract services would retain throughout the war.⁹⁷

The Air Transport Command's Pacific northwest route—to Alaska—was opened in March 1942 by Northwest Airlines, with regularly scheduled service beginning the next month. Western and Pan Am also served Alaska. The northwest and western route ultimately extended some 2,210 statute miles from Great Falls, Montana, to Anchorage, Alaska, through bases in Canada, and at Fairbanks. From the beginning, this served as an essential route to supply and reinforce the U.S. garrison in Alaska and the Aleutians. Moreover, from September 1942 to September 1945, it also served as an airway for the delivery of nearly 8,000 lend-lease aircraft to aircrews of the Soviet Union, waiting at Ladd Field in Fairbanks. Pan American, under a contract with the Navy, flew a route from Seattle, through Juneau or Whitehorse, Yukon Territory, to Fairbanks.⁹⁸

One early emergency in this theater tested the ability of the U.S. air transport industry to surge in time of crisis. In June 1942, when Japanese forces attacked Dutch Harbor, in the Aleutians, and occupied the westwardmost islands of Attu and Kiska, the call went out for airlines to furnish all available aircraft and crews to move supplies to the threatened area. In response, Northwest, aided by planes and men from Western and five other airlines, opened an emergency airlift to Dutch Harbor for the Eleventh Air Force and the Alaskan Defense Command.⁹⁹ Vast quantities of guns, small-arms ammunition and bombs were ferried over that route. Airline crews sometimes remained on the job for as long as sixty consecutive hours—ignoring, in the emergency, some of the usual flight rules—sleeping an hour or two while planes were being loaded or serviced. Then they pressed on—arriving at the Aleutian bases in the night and leaving again before dawn.¹⁰⁰

In 1942, the airlines logged 90 percent of the air transport miles flown worldwide, and 85 percent of the total passenger miles. (See Table 2.1.) It was not until the early months of 1944 that military crews began to carry more freight and passengers than the contract airlines. In 1945 the military hauled over 80 percent of the freight and over 70 percent of the passengers, yet that was a function of the growth of the military capability, not a diminished effort on the part of the airlines. In fact, in virtually every category, the airlines' contribution continued to grow from year to year—hauling more freight and passengers in 1945 than in any previous year.¹⁰¹

The growth of the military airlift capability, relative to that of the airlines, was no

mere coincidence. In fact, almost from the beginning, the impact of wartime decisions on the postwar situation of the airlines was a prime concern. This was true both of route decisions, and of decisions concerning how much to ask of the airlines—in effect, how large they should grow. "It is necessary, in all of our air transport operation, that we consider the effect of our current and projected activities on U.S. air transport operations, both military and civil, after the war," wrote General H. H. "Hap" Arnold to Brig. Gen. Harold L. George, barely ten months after Pearl Harbor. "Whenever practicable, consistent with our war effort, we should take action to insure that our military air transport routes and facilities are establishing and furthering our postwar position in the air transport field," he added. Arnold directed that a "continuing study" be undertaken to recommend policies and actions to that end. "The existence of this committee and its activities must, for obvious reasons, be given no publicity," he cautioned, and then noted that "it may be desirable to include airline executives as members."¹⁰²

To conduct that study General George appointed a three-man committee: Col. Harold R. Harris, the chief of the ATC plans division and until recently a vice president of Panagra; Lt. Col. G. Grant Mason, Jr., the plans division executive officer who had previously served with the Civil Aeronautics Authority; and Maj. Samuel E. Gates, a lawyer. In a preliminary report on November 30, 1942, they noted some of the "fundamental issues of national policy" central to the study: "whether the War Department will operate all or any airline services after the war; whether some civil agency of the Federal Government will operate them; whether private business enterprises will participate in or take over the services; whether there will be any governmental or private monopolies of airline services as compared with governmental or private competition either in the same areas or through spheres of influence; and whether American international air transport services should undertake cabotage (local business within the other countries served)."¹⁰³

A few months later, in March 1943, the group reported that although there would likely be thousands of transport aircraft, tens of thousands of trained pilots available at war's end, and United States constructed bases worldwide, the nation had obtained no postwar rights for air operations over any of the ATC routes or for the peacetime use of these bases. "Without adequate post war operating rights," they concluded, "the number of transport planes and trained personnel and the production capacity for transport planes...will be of little importance."¹⁰⁴ In a summary of the report, G. Grant Mason assured Arnold that "the problem of rights is under study by various branches of government and by an Interdepartmental Committee composed of representatives of the State, War, Navy, and Commerce Departments, the Bureau of the Budget, and the Civil Aeronautics Board."¹⁰⁵

War Department officials were candid concerning their support for the expansion of the civil airlines into key foreign markets. In September 1944, as the Army gained footholds on the European continent, Under Secretary of War Robert P. Patterson encouraged Arnold to extend the operations of the Air Transport Command to the important cities there, where the service "should be so organized as to demonstrate the efficiency of this country in the air transportation field." In doing this the civil airlines should be used to the greatest extent possible, he said. ATC should not carry traffic that could "be reasonably handled by a United States civil air carrier. ATC service, he suggested, "should be regarded as an interim or emergency matter until such times as the civil airlines are qualified and are operating over the various routes involved."¹⁰⁶ Given this policy it is not surprising that many believed that the Army planned "to keep the ATC flying after V-E Day to maintain the U.S. flag over its routes until American companies are prepared to take over."¹⁰⁷

Summary and Analysis

In the first months after Pearl Harbor, few, if any, foresaw the network of long-range transport routes that began to emerge the next spring, and that, by 1945, were supporting the daily movement of hundreds of tons of supplies and thousands of passengers, with daily flights to such remote areas as Africa, the Middle-East, India, China, and Australia, as well as Europe. The beginnings of this dramatic expansion lay in the British and Pan American Airways contract ferrying operations in 1940 and 1941, and in the air routes that were created to and across the South Atlantic and Africa.

In the opening months of 1942, few yet understood the implications of fighting and supporting a modern offensive war (two wars, in fact) half a world away. Only slowly did the idea of air transport as a major logistical instrument begin to take shape. General Hap Arnold seems to have come to this understanding by the spring of 1942, but even he did not realize the extent it would ultimately assume. It was not until later in the year, when large backlogs of supplies awaiting air shipment to the front began to build, that the almost unlimited nature of the demand for the rapid air movement of urgently needed materials and personnel gave a hint as to what was to come. But even then, the notion of a worldwide network of air routes, and of regular service over it, matured slowly.

When war came, Roosevelt and, likely, many in the War Department seemed to assume that a takeover of the airlines—planes, pilots and crews alike—was the proper, even inevitable course. To prevent such a happenstance, Edgar Gorrell, at the Air Transport Association, had been working since 1936 with Generals Marshall and Arnold, and with their war planning staffs to define the mission of the airlines in case of a mobilization and war. In truth, when war came that planning had only marginal utility, but through it, Gorrell had developed a working relationship with the Air Staff and with the Army's senior leadership that proved useful to both sides. Moreover, in the few cases where the airlines' emergency response was tested, they performed remarkably well.

The utility and potential of air transport began to be revealed by the ferrying and shuttle operations of 1940 and 1941; but, when America was finally thrust into the war, ATC had no management structure available to organize or operate the far-flung enterprises required. The airlines, however, did, and contracting was a way of harnessing that management know-how to the planes and crews that would fly the missions. Later, with the expansion of ATC management capabilities (much of it drawn from the airlines) and the growing number of military aircraft and crews, some routes were taken over by the military. But, by the time ATC had developed the capability to fully militarize operations, other forces were at work to insure that the airlines would largely continue to operate under military contracts. As early as 1942, consideration was being given to the postwar posture of the airlines on the international routes. As the war progressed, the Army was encouraged to place the airlines on routes that they might continue to operate in the postwar world. Moreover, though the future role of the airlines in support of the military air transport community was wholly uncertain, it was reasonable to assume (if only indirectly) that the services would benefit in the postwar world from a strong civil air transport industry.

The years of World War II were a period of rapid development for both the Air Transport Command and the civil airlines that had worked with the command. ATC grew from the Air Corps Ferrying Command's two officers, four men, and no assigned aircraft in 1941, to an enormous establishment in 1945 with over 200,000 officers and men, over 100,000 civilians, 166,000 miles of air routes, and over 3,000 transport aircraft in its inventory. Prior to the war, only Pan American had ventured across the oceans, and its scheduled weekly

crossings were thought bold. By 1945, ATC planes—contract and military—were taking off for Europe every nineteen minutes. Every ninety minutes another ATC plane started across the Pacific.¹⁰⁸

For the airlines, too, it had been a period of growth and development. Despite truncated commercial routes and shortages of equipment, the airlines were carrying more domestic passengers than ever before. Moreover, in just three years, they had opened routes all across the world. United Air Lines alone had flown 1,700 trips across the Pacific. TWA had handled 5,000 transatlantic flights carrying 112,000 passengers and ten thousand tons of cargo. American had flown even more, but, Pan American was unmatched with 15,000 ocean crossings.¹⁰⁹ There were, of course, casualties, and among these was Edgar Gorrell, who died of a heart attack in Washington on March 5, 1945. "We shall feel his loss keenly," said General Marshall as he noted Gorrell's contribution and pondered the postwar era that lay just ahead.¹¹⁰

Endnotes

1. Edward R. Stettinius, Jr., *Lend-Lease, Weapon for Victory* (New York: The Macmillan Co., 1944), pp. 33-98. Cited hereafter as Stettinius.
2. *Ibid.*, pp. 92-93.
3. La Farge, p. 11. Memo, Maj. Gen. George H. Brett to Lt. Gen. Delos Emmons, May 7, 1941, quoted in Ruth W. May, "Contracts," Historical Section, Intelligence and Security, Air Transport Command, May 1, 1944, pp. 3-4. Cited hereafter as May. [A copy of May's report was found in ATC Papers, Civil Airlines Files, Box 168, Folder Contracts (History: 1 May 1944), AMC/HO.] ATC Chronology, AMC/HO.

For a time that proposal seemed to founder due to "the inability of high representatives of the British Government in Canada, the United States and London to speak the same language." [Brett Memo.]
4. Ltr, Roosevelt to Henry L. Stimson, Secretary of War, May 28, 1941, copy in Hist, ATC, "The Origins of the Ferrying Division," Vol I [Microfilm 01002], p. 297, AMC/HO.
5. Imperial Airways, a private enterprise, was established in 1924. Subsidized by the British government, it was charged with carrying its overseas air mail. Imperial failed in 1939. It was succeeded by BOAC, a public corporation, which progressively took over management of Imperial's routes from Aug 1939 to Apr 1940. [Henry Ladd Smith, *Airways Abroad, The Story of American World Air Routes* (Madison: University of Wisconsin Press, 1950) pp. 97-101. Cited hereafter as Smith.]
6. Wesley Frank Craven and James Lea Cate, eds., *The Army Air Forces in World War II*, 7 Vols, (Chicago: University of Chicago Press, 1948-1958), I: 320. Cited hereafter as Craven and Cate.
7. May, p. 8; Memo, H. Bixby (VP, Pan Am), [Subj: reimbursement of legal costs], May 6, 1943, quoted in May, p. 9; Craven and Cate, I: 321-22.
8. Memo, Col. Robert Olds (Plans Division, OCAC) to Chief of Intelligence, Jun 12, 1941, quoted in May, p. 8.
9. Robert Daley, *An American Saga, Juan Trippe and His Pan Am Empire* (New York: Random House, 1980), pp. 310, 507.
10. Davies, pp. 259-63. Linee Aeree Transcontinentali Italiane (LATI) also opened a trans-Atlantic line in 1939—between Europe and South America. [William A. M. Burden, *The Struggle for Airways in Latin America* (New York: Council on Foreign Relations, 1943) p. 17.]
11. *The New York Times*, Jun. 18, 1941.
12. Daley, p. 310.
13. Daley, p. 310-11. In his account of the meeting with Churchill, Daley suggests that it was Trippe's speech that planted the idea of a transafrica route. He also suggests that this was the origin of Pan Am's ferrying service for the British. Of course, Pan Am was already committed to ferrying twenty transport aircraft to Africa from Miami. The first of these left just three days after the Jun 17th lecture and meeting with Churchill. Moreover, Trippe and Churchill were both well aware that the British had earlier opened an air route across Africa. That suggests that the conversation with Churchill was an effort to secure Pan Am's further assistance in establishing this supply route and in ferrying aircraft.
14. Daley, p. 311. Roosevelt's appointment calendar does not show Trippe's meeting with the President, but such informal meetings were not always listed. [Author's phone conversation with Mark Renovitch, Roosevelt Library, Hyde Park, Apr. 5, 1991.]

British Air Marshal Arthur Tedder later termed Pan Am's action a naked grab for postwar air routes. [Daley, p. 312.]

15. Transcribed Minutes [of Jun. 26, 1941, meeting between Arnold, Harris, and others], quoted in May, p. 10.

16. Daley, p. 311.

17. The ferry contract was signed on Aug. 14, 1941, and announced by the White House four days later. [Memo, Maj. E. F. Gillespie to Maj. Gen. George H. Brett, Subj: South Atlantic and African Ferry Service, Aug. 22, 1941, Gen. Collection, Folder: 145.91-145, AFHRA; The *New York Times*, Aug. 18, 1941.]

Pan Am signed four other contracts at the same time: (1) Pan Am-Africa with the British to operate the air route across Africa, (2) Pan Am with the U.S. to operate a South Atlantic route to Africa, (3) Pan Am/Pan Am-Africa with the U.S. to operate a route across Africa, and (4) Pan Am/Pan Am Air Ferries with the U.S. to operate ferry service across the South Atlantic and Africa.

18. The *New York Times*, Aug. 21, 1941.

19. The *New York Times*, Oct. 2, 1941. Actually PAAF and PAA-Africa had contracts with both the United States and British governments for these operations.

20. Hist, ATC, "The Origins of the Ferrying Division," Vol I [Microfilm 01002], pp. 262 n. 24 & 268, AMC/HO.

21. Daley, pp. 311-12. Daley indicates that the operation began on Oct. 18. Other sources identify the date as Oct. 21. [Hist, ATC, "The Origins of the Ferrying Division," Vol. I [Microfilm 01002], pp. 263, 270.] On the militarization of PAA-Africa, see Hist, ATC, "History of the ATC in Central Africa and the Middle East," Part II, Vol. I [Microfilm 03003], pp. 22-24, AMC/HO.

22. Hist, ATC, "The Origins of the Ferrying Division," Vol. I [Microfilm 01002], p. 269, AMC/HO. It appears that the thirty aircraft PAAF delivered did not include the transports that Atlantic Airways had ferried earlier.

23. Hist, ATC, "The Origins of the Ferrying Division," Vol. I [Microfilm 01002], p. 269, AMC/HO.

24. Craven and Cate, I: 316 and 700 n. 12.

25. Olds was promoted to Brig. Gen. in Jan 1942, but retired on Mar 30, 1942 due to ill-health, and died in 1943.

The Air Corps Ferrying Command (ACFC) was created on May 29, 1941 under the Army Air Corps. When the Army Air Forces (AAF) was created in Jun. 1941, ACFC continued under the Air Corps which was now one of two subordinate commands of AAF. (The second subordinate command was Air Force Combat Command—essentially the old GHQ Air Force.) On Mar 9, 1942, when the Office of the Chief of the Air Corps was eliminated, ACFC was made directly subordinated to AAF. After Lt. Gen. Harold L. George took command of ACFC, on Apr 1, 1942 the organization became commonly known simply as "Ferrying Command" (although it was still officially ACFC). At various times, and by various persons, it was also referred to as Army Air Forces Ferrying Command, Air Force Ferrying Command, Ferry Command, and other variants. Ferrying Command became Air Transport Command on Jun. 20, 1942. [Betty R. Kennedy, ed., *Anything, Anywhere, Anytime: An Illustrated History of Military Airlift Command, 1941-1991* (Scott AFB, Ill.: HQ MAC, 1991), pp. 12, 18 and 205 (fn 40). Cited hereafter as *Illustrated Hist of MAC*.]

26. Memo, George E. Stratemeyer to Assistant Secretary of War for Air, Subj: Airplane Ferry Service for the British, May 30, 1941, copy in Hist, ATC, "The Origins of the Ferrying Division," Vol I [Microfilm 01002], pp. 298-99, AMC/HO.

During the six months from Jun. 6, 1941 (when Ferrying Command assumed nominal control over the delivery of aircraft to the British) to Dec. 7, 1941, approximately 1,350

aircraft were ferried to points of transfer, nearly all by pilots of the Air Corps. [Craven and Cate, I: 316.]

27. Craven and Cate, I: 324.

28. On Oct. 3, 1941, the President had authorized the command to make deliveries to territories subject to the jurisdiction of the United States, to any territory within the Western Hemisphere, to the Netherlands East Indies, and to Australia. That authority was extended on Oct. 29, when he authorized the delivery of aircraft to any point within the African continent. [Craven and Cate, I: 327-28.]

29. Four more B-24's departed Bolling just prior to Dec. 7, but were called back upon America's entry into the War and were soon shipped to the Pacific. [Craven and Cate, I: 328; Stettinius, pp. 151-52.]

30. Cleveland, pp. 8-9; Craven and Cate, I: 350.

On Dec. 7, 1941, ACFC appears to have had only eleven aircraft it could call its own: three B-24s, one C-39 (a DC-2 variant), and seven DC-3s (C-47s and C-53s). By year's end it had added a few more by purchasing aircraft from Pan Am and TWA (discussed below). [*Illustrated Hist of MAC*, pp. 277-78.]

31. Hist, ATC, "Administrative History of the Ferrying Command," [Microfilm 01010], pp. 89-90.

32. EO, "Control of Civil Aviation," Dec. 13, 1941, copy in ATC Papers, Civil Airlines Files, Box 168, Folder: General Civil Airlines 1941-1943, AMC/HO.

33. Telegram, Edgar S. Gorrell to H. H. Arnold, Dec. 11, 1941, Arnold Papers, Box 13, LC.

34. La Farge, p. 1.

The Naval Air Transport Service—NATS—had been created on Dec. 12, 1941, just two days before. It performed much the same function for the Navy that ACFC and later ATC did for the Army. It flew primarily R4D (DC-3) and R5D (DC-4) transport aircraft, but also had a number of flying boats—PB2Y-3 patrol bombers, the Martin PBM-3 Mariner, and the Martin Mars. By V-J Day, NATS had a staff of 26,600 and was operating a fleet of 429 aircraft. [Cleveland, pp. 29-36.]

For a discussion of the function of the Civil Aeronautics Administration (CAA) and the Civil Aeronautics Board (CAB) see Chapter 1.

The Office of Production Management was created by President Roosevelt on Dec. 20, 1940 under William S. Knudsen as director. Knudsen, a production genius from General Motors, had served on the Advisory Commission to the Council of National Defense (NDAC) since its creation in May 1940. OPM, which replaced NDAC, was set up to coordinate defense production and to speed aid to Great Britain and other anti-Axis nations. On paper, at least, OPM had wider and clearer powers than NDAC. [James MacGregor Burns, *Roosevelt: The Soldier of Freedom* (New York: Harcourt Brace Jovanovich, 1970), pp. 50-56. Cited hereafter as Burns.]

35. The secret mission to Brazil, in Dec. 1941, is described in some detail in Chapter 1.

36. La Farge, pp. 1, 31; Memo, Col. Robert Olds (CO, ACFC) to Lt. Cmdr C. R. Schildhauer (USN LNO, ACFC), Subj: Civil Aircraft Allocations, Dec. 22, 1941, ATC Papers, Civil Airlines Files, Box 167, Folder: Aircraft Allocations, AMC/HO; "[War Department will call on airlines through ATA]," *Southern Flight* (Jan 1942): 42.

Reginald M. Cleveland, in his *Air Transport At War*, recounts a story of Gorrell and Arnold rushing to the White House in early 1943 to convince Roosevelt to tear up an executive order empowering the armed services to take over the airlines. [p. 1.] This story would seem unlikely even if such an order had not been signed over a year before. Gorrell, however, later observed that if the airlines had not responded effectively to the troop

movement ordered the day before (story in Chapter 1), the airlines would have been taken over. [Fowler Barker, "Airline Association President," Part IV, *Air Transport*, Jul. 1944, p. 67.]

37. There were only fourteen "Clippers" in existence in Dec. 1941—twelve Boeing 314s and 314As, and two Martin flying boats. Of these, four of the Boeings had already been sold: three to the British and one to the War Department. [Craven and Cate, I: 352.] On Dec. 13, 1941 Pan Am agreed to sell the remaining ten to the U.S. government, and the next day ACFC, the Air Corps and the Navy agreed informally to a division of these aircraft. Of the eleven then in the hands of the United States government, the Air Corps would retain four, with the balance (including the two Martins) going to the Navy. [May, p. 28; Memo, Col. Robert Olds (CO, ACFC) to Lt. Cmdr C. R. Schildhauer (USN LNO, ACFC), Dec. 22, 1941, ATC Papers, Civil Airlines Files, Box 167, Folder: Aircraft Allocations, AMC/HO.] Later, when other long-range aircraft could be substituted for them, the Air Corp's four "Clippers" were also transferred to the Navy. [Craven and Cate, I: 352.]

TWA had introduced the Boeing 307 Stratoliner on its transcontinental routes on Jul. 8, 1940. The airline had taken delivery of five of these aircraft before the U.S. entry into World War II. Discussions with TWA concerning the government's desire to acquire these aircraft began on Nov 16, 1941. A contract for the sale of the aircraft was approved on Dec. 24, 1941. [May, p. 45.]

38. Minutes, Air Traffic Conference of America [a division of ATA], Special Air Traffic Conference Meeting, Jan. 9, 1942, ATA Microfilm Archives, ATA Lib.

This meeting was held at the Blackstone Hotel in Chicago, but by Jan. 15 Gorrell had relocated the ATA office to Washington. [Memo, "CET" to Gen. Marshall, Jan. 15, 1942, George C. Marshall Papers, Pentagon Office, Selected Correspondence, GCMF.]

39. Ltr, Ralph Budd (Transportation Commissioner, NDAC) to Edgar S. Gorrell (Pres, ATA), Dec. 26, 1941, ATA Microfilm Archives, Misc Item V, ATA Lib; Burns, p. 354.

40. Ltr, Brig. Gen. Donald H. Connolly (MDCA) to ATA, Jan. 15, 1942, copy in Cleveland, pp. 81-82.

41. The ATA group seems to have maintained a "liaison" relationship with Connolly's office. They were not brought into the military, nor put on the government payroll, yet on organization charts (and in practice) they appear to be an integral part of the MDCA's office.

42. Memo, Edgar S. Gorrell (Pres, ATA) to Heads of Airlines, Jan. 19, 1942, copy in Cleveland, p. 83.

43. Memo, E. S. Gorrell (Office of MDCA), [Subj:] Memorandum of Instructions to Air Transport Industry for Compliance with Directives from Military Director of Civil Aviation [Memorandum of Instruction #1], Jan. 20, 1942, copy in Cleveland, pp. 83-86.

44. Memo, Col. Robert Olds (CO, ACFC) to Lt. Cmdr C. R. Schildhauer (USN LNO, ACFC), Subj: Civil Aircraft Allocations, Dec. 22, 1941, ATC Papers, Civil Airlines Files, Box 167, Folder: Aircraft Allocations, AMC/HO.

Three routes were operated by Pan Am for the Navy using these aircraft: San Francisco to Honolulu; New York to Lisbon, Portugal; and Belem, Brazil to Lisbon. The four "Clippers" retained by ACFC were, at the time, scheduled for use along an air line of supply between Miami and Australia, via Africa, that ACFC was attempting to establish. [Memo, Olds to Schildhauer, Dec. 22, 1941.] When the latter route proved impracticable, the four ACFC "Clippers" were used on special mission flights. "In fact," said ATC historian Ruth May, "[they were used] anyplace the Army saw fit to send them on practically a moment's notice." [May, p. 30.]

45. May, pp. 45-46.

46. Hist, ATC, "Administrative History of the Ferrying Command," [Microfilm 01010], pp. 92-93; May, pp. 47-53.

Northeast Airlines had flown a survey flight in Jan. 1942 and began scheduled service on the route on Feb. 13. This route was extended to Greenland in Apr, to Iceland in May, and to Prestwick, Scotland in July.

Northwest Airlines began service to Alaska as early as Mar. 2, 1942.

47. Memo, Edgar S. Gorrell (Pres, ATA) to Heads of Airlines, Subj: Wartime Control—Industry Coordination—Request from Military Director of Civil Aviation [ATA Bulletin No. 7], Jan. 20, 1942, copy in Cleveland, pp. 80-81.

48. Minutes, Air Traffic Conference [a division of ATA], Special Air Traffic Conference Meeting, Feb. 11, 1942, ATA Microfilm Archives, ATA Lib.

49. Ltr, M. T. Stallter (Asst to [ATA] Chiefs of Operations) to [ATA] Chiefs of Operations, Feb. 21, 1942, ATA Military Archives, ATA Lib; Memo, Edgar S. Gorrell (Pres, ATA) to Heads of Air Lines, Subj: Report of Work of War Plans Committee [ATA Memorandum No. 28], Feb. 21, 1942, ATA Microfilm Archives, ATA Lib.

50. Plan, ATA, Organization Manual ATA War Plans, Jun. 1942, ATA Microfilm Archives, Misc Items IV, ATA "War Plans," ATA Lib.

The ATA war plan was sufficiently detailed to specify the number of aircraft to be drawn from each airline, depending upon the total number of aircraft the mission required and the sector assigned the action. The ATA war plans committee also drafted a detailed guide for the sector chiefs of operations, and manuals for the mission pilots.

51. Plan, ATA, Organization Manual, ATA War Plans, Jul. 1942, ATA Microfilm Archives, Misc Items IV, ATA "War Plans," ATA Lib; Plan, ATA, Operations Manual for Emergency Military Missions, [c. Jul. 1942], ATA Microfilm Archives, Misc Items IV, ATA "War Plans," ATA Lib. In this same collection are two of the Weather Bureau meteorology manuals: (1) the southwest and southeast routes—from Brownsville, Texas and Miami to Natal, Brazil; and (2) the northeast routes—from New York to Iceland. Both are dated Jun. 15, 1942.

The published manuals were not available until Jun. or Jul. 1942, by which time the ATA plan had largely been discarded—simply having been overtaken by events.

52. Memo, Lt. Gen. H. H. Arnold (DCS Air, USA) to Brig. Gen. Robert Olds (CG, ACFC), Subj: Ferry Service Operations, Feb. 12, 1942, Gen. Collection, Folder: 145.96-113 1941, AFHRA.

53. Ltr, TAG to CGs Field Forces *et al.*, Subject "Closing out of overseas contracts and militarization of contract activities," Feb. 18, 1942, cited in Hist, ATC, "Administrative History of the Ferrying Command," [Microfilm 01010], p. 97.

The letter specifically exempted from militarization the contract operations in the Atlantic, Greenland, South America, Hawaii, Panama and Alaska—in effect, exempting all operations (then under contract) except those in Africa.

54. Hist, ATC, "History of the Air Transport Command, Ferrying Command Operations, Dec. 7, 1941-Jun. 30, 1942," pp. 198-200, AMC/HO.

55. Reference to this memorandum is found in Ltr, H. H. Arnold to C. R. Smith, Mar. 14, 1942, H. H. Arnold Papers, Box 38, LC.

Although Smith's memorandum has never come to light and the details of what he proposed are not certain, collateral evidence suggests that he proposed contractual arrangements by which American Airlines—and by inference, U.S. airlines in general—would furnish, manage and maintain the air transport services needed so immediately by the Army. Smith's memo likely contained some of the same ideas he had raised to Asst Sec of War Louis Johnson two years earlier. He spoke then in terms of the value of an "air transport

organization"—an organization that contained not only planes and crews, but meteorological services, communication systems, mechanics and maintenance facilities, fuel and fueling capabilities, hangars, and training schools. [Ltr, C. R. Smith (Pres, AAL) to Louis Johnson (Asst Sec of War), [May 16, 1940], Gen. Collection, Folder 145.91-446, AFHRA.] Johnson rebuffed Smith in 1940. (See Chapter 1.) Gen. Arnold, in 1942, proved more receptive.

56. Ltr, Lt. Gen. Henry H. Arnold (CG, AAF) to C. R. Smith (Pres, AAL), Mar. 14, 1942, H. H. Arnold Papers, Box 38, LC.

57. Memo, Lt. Col. C. P. Cabell and Lt. Col. Lauris Norstad (Office of Chief of Air Staff) to Lt. Gen. H. H. Arnold (CG, AAF), Subj: "Utilization of the Air Lines," Mar. 14, 1942, H. H. Arnold Papers, Box 38, LC.

58. Cleveland, p. 59.

59. May, p. 18.

60. Memo, Maj. Gen. Henry J. F. Miller (CG, ASC) to Gen. Arnold, Mar. 31, 1942, H. H. Arnold Papers, Box 38, LC.

In his memo Miller indicated that when he had discussed this with Pogue, the latter had indicated "that he [Pogue] was delighted to know that we were making use of the airline organizations and facilities in such a manner, which were along the same lines that he had contemplated recommending to you." "In effect," Miller wrote, "he [Pogue] said that he was indeed glad to know that we had beaten them to the idea."

61. This is paragraph 2a of Service Order No. 1, which was issued with each Uniform Airline Contract written, beginning in Feb. 1943. The 1943 uniform contract was more general than the individual contracts written earlier, still, the gist of the quoted paragraph was contained in all of the air transport contracts written in 1942. [Memo, Col. James H. Douglas, Jr. (ACS/Admin, ATC) to [ATC Divisions and Wings], Subj: Uniform Contracts with Civil Airlines, Apr. 15, 1943, with Exhibit A (Outline of Uniform Airline Contract) and Exhibit B (Outline of Service Order No. 1), ATC Papers, Civil Airlines Files, Box 168, Folder: Contracts (History: 1 May 1944), AMC/HO.]

62. Memo, Henry L. Stimson (Secretary of War) to Gen. H. H. Arnold (CG, AAF), Subj: Policy reference the utilization of commercial airlines by the Army, Apr. 1, 1942, ATC Papers, Civil Airlines Files, Box 168, Folder: General Civil Airlines 1941-1943, AMC/HO. Stimson was acting under authority of EO 8974, Control of Civil Aviation, Dec. 13, 1941.

The outright purchase of aircraft relieved the airlines of the risk incurred in wartime operations. When aircraft were leased to the government, war risk insurance was specifically noted as a reimbursable expense in the execution of the contracts. The first contracts written (PAA, TWA, Northeast, for example) called for the sale of aircraft to the government. Later contracts tended to require the lease of aircraft to the government. [May, Appendix: Resume of American Airlines Contract No. W535 ac-29830; Ltr, Col. James H. Douglas, Jr. (ACS/Admin, ATC) to [ATC Divisions and Wings], Subj: Uniform Contracts with Civil Airlines, Apr. 15, 1943, Exhibit A (Outline of Uniform Airline Contract), ATC:CA4, AMC/HO.]

63. Unk, "History of the Organization of the Air Transport Command," p. 4, ATC Papers, Civil Airlines Files, Box 168, Folder: Contracts (History: 1943), AMC/HO.

64. Memo, President Franklin D. Roosevelt to Secretary of War, May 6, 1942, ATC Papers, Civil Airlines Files, Box 168, Folder: General Civil Airlines 1944-1945, AMC/HO. With over 125 airline transports now being made available for military use, the 50th Transport Wing, the only purely military air transport organization, was reassigned to Troop Carrier Command when the latter was activated on Apr. 30, 1942. This would free its equipment for training and tactical operations with parachute troops and airborne infantry. The 50th Transport Wing of the Air Service Command had been the only organic transport service

available in the AAF. It had provided air express service between Army Air Corps bases and depots—much as had the Air Service's "model airways" and 1st Air Transport Group of a decade and more earlier. Troop Carrier Command was actually activated (Apr. 30, 1942) as "Air Transport Command", but lost that appellation two months later (Jun. 30, 1942) when, at Arnold's instruction, Ferrying Command assumed that name. The *old* "Air Transport Command" was renamed Troop Carrier Command. Troop Carrier Command's mission was to organize, train, and command units for "tactical" airlift operations. [*Illustrated Hist of MAC*, pp. 19, 21; Craven and Cate, I: 360.]

65. Ltr, Maj. M. T. Stallter to Capt C. R. Shoemaker, May 7, 1942, cited in May, p. 18.

66. Cleveland, p. 77.

67. Haywood S. Hansell, Jr., "Harold L. George: Apostle of Air Power," in John L. Frisbee, *Makers of the United States Air Force* (Washington, D.C.: Office of Air Force History, 1987), p. 95.

68. *Illustrated Hist of MAC*, p. 228.

69. Smith seems never to have been particularly impressed with Gorrell's efforts at mobilization planning, but on this issue, Smith's was rather a lonely voice in the ATA crowd. In May 1940, after four years of contact between Gorrell and the War Department, Smith wrote Asst Sec of War Louis Johnson saying, "We should be diligently studying the problem of where we fit in the problem of national defense." In Aug. 1940, he wrote Ralph Budd (Transportation Commissioner, NDCA) complaining of the need to establish "an organization which will...make effective the facilities of air transportation to the military forces in the event that the commercial facilities should have to be used by the military without much notice." (Gorrell would probably have insisted that this was exactly what he had been doing.) Smith's Mar. 1942 memo, which went to Gen. Arnold, likewise, contained implied criticism of work that Gorrell's ATA war planners were doing. Later, in 1947, Smith again minimized Gorrell's work, testifying before the Finletter Commission that "valuable time was lost in the recent war by lack of a formal, prewar program for the orderly mobilization of national air transportation capacity." [Ltr, C. R. Smith (Pres, AAL) to Louis Johnson, [May 16, 1940], Gen. Collection, Folder 145.91-446, AFHRA; Ltr, C. R. Smith to Ralph Budd, Aug. 24, 1940, RG 196 (War Dept Gen. & Special Staff), Entry 3993, Box 168, NA; Smith's Mar. 1942 memo is cited in Ltr, Lt. Gen. Henry H. Arnold (CG, AAF) to C. R. Smith, Mar. 14, 1942, H. H. Arnold Papers, Box 38, LC; Testimony, C. R. Smith, Statement of C. R. Smith, Chairman of the Board, AAL, Before the President's Air Policy Commission, ATA Lib.]

70. Memo, [ATC], [Subj:] A Representative List of Civil Airlines Executives who served with the Air Transport Command During World War II, [1945], CRAF Papers, Box 1, Folder: Charter Airlines 1945, AMC/HO.

71. Memo, ATC, Subj: Long range program for the utilization of...the civil air carriers..., Jun. 19, 1942, ATC Papers, Civil Airlines Files, Box 168, Folder: General Civil Airlines 1941-1943, AMC/HO.

72. This second study was completed early in Jul. 1942 and was aided by replies to questionnaires that had been directed to each airline in late Jun. [Memo, Brig. Gen. C. R. Smith (DCO, ATC) to Air Inspector, AAF, Subj: Basis of Allocation of Aircraft to Civil Air Carriers, Aug. 13, 1943, ATC Papers, Civil Airlines Files, Box 168, Folder: Contracts (History: 1943), AMC/HO.]

73. May, pp. 59-60.

74. Gen. Orders No. 8, Jun. 20, 1942. The only exceptions to ATC's new transport responsibilities were spelled out in the order—the new Troop Transport Command was made responsible for providing transportation for parachute troops, airborne infantry and glider

units, and for conducting local air transport services within the theaters of operations. [Craven and Cate, I: 362.]

On Jul. 5, 1942 the old Domestic and Foreign Wings of Ferrying Command were replaced by the ATC Ferrying Division under the command of Col. William H. Tunner. A new Transportation Division, under the command of Col. Robert J. Smith, was charged with providing "swift dependable world-wide transportation by air for the movement of vital passengers, cargo, and mail wherever and whenever needed." The 23d through 27th AAF Ferrying Wings were redesignated the North Atlantic, Caribbean, South Atlantic, Africa-Middle East, and South Pacific Wings (respectively) and were placed under the Transportation Division. Added to these were an Alaska Wing (in Oct.) and an India-China Wing (in Dec.). Later the wings were redesignated as divisions. [ATC Chronology, AMC/HO] 75. Memo, Brig. Gen. C. R. Smith (DCO, ATC) to Air Inspector, AAF, Subj: Basis of Allocation of Aircraft to Civil Air Carriers, Aug. 13, 1943, ATC Papers, Civil Airlines Files, Box 168, Folder: Contracts (History: 1943), AMC/HO.

Although the lines invited to the Jul. 20 meeting flew most of ATC's overseas routes, several other concerns flew international routes for ATC at one time or another. Consairways Division of Consolidated Aircraft Corporation was also under contract to operate its C-87s across the Pacific and, in fact, was the first to do so, beginning in Apr. 1942. Consairways, however, was not an airline and brought only pilots and ferrying experience to the business. Western was also an early entry—flying for a time with Northwest to Alaska—but it soon turned exclusively to domestic contracts. Panagra soon began a route on the west coast of South America, terminating at the Canal Zone. American Export, which flew primarily for NATS, joined ATC in 1945. In addition, Canadian Pacific Airlines was under contract for a short period from late-1942 to mid-1943 to supply weather stations established in the Hudson Bay region. [May, *passim*.]

76. Memo, Brig. Gen. C. R. Smith (DCO, ATC) to Air Inspector, AAF, Subj: Basis of Allocation of Aircraft to Civil Air Carriers, Aug. 13, 1943, ATC Papers, Civil Airlines Files, Box 168, Folder: Contracts (History: 1943), AMC/HO.

77. United, TWA, American, Northeast, and Eastern (which had already been briefed as overseas carriers) also logged considerable domestic mileage under contract. Two other airlines also logged some domestic mileage: Northwest did so in conjunction with its flights across Canada to Alaska and the Aleutians, and Braniff performed a bit of domestic service, although nearly 99 percent of its mileage was on foreign routes.

78. Memo, Maj. Gen. H. L. George (CG, ATC) to Gen. Arnold (CG, AAF), Sep. 23, 1944, Subj: Utilization of the Transport Facilities of the Airlines, ATC Papers, Civil Airlines Files, Box 168, Folder: General Civil Airlines 1944-1945, AMC/HO.

Two firms, All American and Southwest Airways, flying single-engine aircraft, provided only contract feeder services.

79. Memo, Col. James H. Douglas, Jr. (DCS, ATC) to CG, Domestic Transportation Division, ATC, May 20, 1944, Subj: Initial Procedures to Establish Military Domestic Transportation Routes, copy in Hist, ATC, "Military Air Transport (M-A-T)," [Microfilm 01015], pp. 244-48; Draft Ltr [may not have been sent], Gen. H. H. Arnold (CG, AAF) to Edgar S. Gorrell (Pres, ATA), [c. Aug. 15, 1944], CRAF Papers, Box 1, Folder: Contract Airlines 1944, AMC/HO.

80. These prewar transoceanic services are discussed in Chapter 1.

81. Craven and Cate, VII: 92-93.

82. Milton Anderson, "Northeast Airlines Early History," copy in Hist, ATC, "History of the North Atlantic Division," Vol. I, Part 2 [Microfilm 02006], p. 623, AMC/HO. Cited hereafter

as "Northeast's Early History."

83. "Northeast's Early History," p. 625.

84. May, p. 47; "Northeast's Early History," p. 926.

85. Hist, ATC, "History of the North Atlantic Division," Vol. I, Part I [Microfilm 02002], pp. 311-16, ATC/HO.

86. May, pp. 45, 59-60; Craven and Cate, VII: 98.

87. Hist, ATC, "History of the North Atlantic Division," Vol. IV, Part 2 [Microfilm 02020], pp. 236-7, 259, AMC/HO; Hist, ATC, "History of the North Atlantic Division," Vol IV, Part 5 [Microfilm 02022], p. 56, AMC/HO.

88. In Sep. and Oct, 1941, ACFC conducted survey flights along the South Atlantic and transafrican route Pan Am had laid out, and then on into the mid-east. In Nov., ACFC initiated a military shuttle to Cairo via the South Atlantic. [May, pp. 11-12.]

89. Craven and Cate, VII: 47.

90. May, p. 47.

Transcontinental & Western Air became Trans World Airlines in May 1950, retaining the initials TWA. [Davies, p. 382.]

91. Davies, pp. 240-56; Hist, ATC, "The Origins of the Ferrying Division," Vol. I [Microfilm 01002], p. 260, AMC/HO.

92. Craven and Cate, VII: 173-74.

93. Craven and Cate, I: 331.

In Feb. 1942, the Japanese also cut this route by capturing Singapore and overrunning the East Indies. By that time, however, the new route from Hawaii to Australia, via Canton Island, the Fijis, and New Caledonia, was ready for operation.

94. Craven and Cate, VII: 177.

The Navy had been expected to provide a shuttle service to return ferry pilots, but that immediately proved unsatisfactory.

95. The LB-30 was a modified Consolidated B-24 Liberator, built to meet British specifications. This same basic aircraft, later built specifically as a transport, was designated the C-87.

Consolidated had been ferrying planes to the Philippines and to Java for almost a year before the attack on Pearl Harbor. It continued, afterwards, to ferry planes to Java using the southern route—using Palmyra until Christmas Island was ready for use. [Hist, ATC, "The Origins of the Ferrying Division," Vol. I [Microfilm 01002], p. 260, AMC/HO.]

96. Craven and Cate, VII: 177.

97. Hist, ATC, "The Air Transport Command in the Pacific," [Microfilm 04001], pp. 179-82, 196-200, AMC/HO.

98. Craven and Cate, VII: 152-53.

99. The other airlines contributing men and equipment to this emergency were: American, United, Chicago and Southern, Pennsylvania Central, and Eastern. [Cleveland, pp. 165-67, 207-8.]

100. Cleveland, pp. 127-28.

101. Rpt, ATC, "Statistical History of the Air Transport Command, 29 May 1941 - 31 May 1948," [no date], pp. 30, 34, and 85, AMC/HO.

The only category in which contract airline operations did not increase annually was in domestic freight operations which declined from 1944 to 1945 because they were suspended early in the latter year.

102. Memo, Gen. H. H. Arnold to Maj. Gen. H. L. George], Subj: Study of Future Air Transport Possibilities, Oct. 10, 1942, H. H. Arnold Papers, Box 38, LC.

103. Rpt, Special Committee of the AAF, "Preliminary Report on 'Future Air Transport Possibilities'," Nov. 30, 1942, H. H. Arnold Papers, Box 38, LC.
104. Rpt, ATC, "United States Post War Air Transportation, Appraisal of Potentialities," Mar. 1, 1943, H. H. Arnold Papers, Box 38, LC.
105. Memo, Lt. Col. G. Grant Mason, Jr. (ACS/Plans, ATC) to Lt. Col. A. H. Alexander (Ch, Intel Div, Air Staff), Subj: Special Report on Air Transportation for Gen. Arnold, Mar. 4, 1943, with enclosure, H. H. Arnold Papers, Box 38, LC.
106. Ltr, Robert P. Patterson (Under Secretary of War) to Gen. H. H. Arnold, Sep. 11, 1944, quoted in Craven and Cate, VII: 107.
107. *Newsweek*, Sep. 25, 1944.
108. Smith, p. 219.
109. Davies, pp. 271-75; Smith, p. 80.
110. The *Washington Post*, Mar. 6, 1945; Ltr, Gen. G. C. Marshall to Edgar S. [Peter] Gorrell, Jr., Mar. 8, 1945, George C. Marshall Papers, Pentagon Office, Selected Correspondence, GCMF.

By early 1946, America's airlines were poised to take advantage of what they had learned in the war years. They had the equipment, the men, and the experience necessary to assume immediate leadership in the air. The Army Air Forces, in the meantime, was trapped in the quagmire of demobilization. In the immediate aftermath of the war, without an Edgar Gorrell to focused them on the subject, neither the airlines nor the military gave more than passing thought to the relationships that had been forged in the war and the lessons that had been learned about harnessing the nation's air transport industry to the war effort.

CHAPTER III

BIRTH OF THE CIVIL RESERVE AIR FLEET, 1947-1951

The United States emerged from World War II as the world's leading power, but the nation longed to retire to the familiar pattern of its prewar international relationships. The aggressive actions of the Soviet Union in Europe and Asia, and the lessons the nation had learned about preparedness in World War II, however, soon forced American leaders to reevaluate national strategy and military policies. Faced with projecting power across the Atlantic and Pacific Oceans, the nation's leaders assessed its strategic airlift assets. After demobilization, even a newly created Military Air Transport Service was inadequate to the task.

As it had done in World War II, the nation turned to its air transport industry to furnish any required airlift augmentation, and the airlines were better prepared than ever before to serve. Not only did they possess a reservoir of war-tested personnel and experience, but there existed better equipment—most of the airlines were now using four-engine aircraft operating over expanded domestic and international route systems.

With these postwar advantages, the development of a civil commercial airlift mobilization scheme should have been reasonably straightforward. As it turned out, the process was far from simple. The experience of the past was rejected or ignored. Consequently, the birth of a civil reserve air fleet proved more difficult than any would have imagined when the process began in early 1948.

The Airlines and Strategic Military Airlift

At the end of the war the Air Transport Command (ATC) operated nine divisions—eight foreign and one domestic. A year later these had been cut back and merged into only three—the Atlantic, Pacific, and European Divisions.¹ By July 1946, ATC troop strength dropped from over 209,000 to 80,000, and route mileage shrunk from 180,000 to 80,000 miles.² By December, despite the addition of the technical services—airways communication, air weather, flying safety, flight service, air search and rescue, and aeronautical chart making—ATC's troop strength declined precipitously, to roughly 42,080.³ Personnel shortages were so acute that some bases operated on a part-time basis.⁴

Still, ATC was expected to provide and operate military air transport and other technical services "on a global scale." Although, in theory, ATC was only to supplement the services provided by the nation's civil air carriers (where available), the distinction was problematic in practice.⁵ "Today we are assumed to be in the airline business by practically every individual within and without the Armed Services," lamented ATC commander Maj. Gen. Robert Webster in January 1947. "The general effect of such an idea is proving very harmful to the ATC," he added, "and will continue to prove harmful unless we do something about it." Webster, who had assumed command of ATC on September 20, 1946 from Lt. Gen. Harold L. George, campaigned to change that view. "The Air Transport Command is not an airline," he insisted. ATC nevertheless engaged in scheduled operations, Webster conceded, but only because "that is our job in war and we must practice it in peace."⁶

Webster had spent the early months of World War II in the Operations Division of the War Department General Staff, then commanded the First Air Support Command at Mitchel Field, New York, and later the 42d Bombardment Wing in the Mediterranean theater. He subsequently served as deputy commander of the Twelfth Air Force and commander of the

First Tactical Air Force, which included French as well as American fighter and bomber units. In late 1945 he assumed command of the ATC's European Division and in July 1946 became the ATC Deputy Commander.⁷

Maj. Gen. Robert Harper, who took command from Webster in July 1947, possessed even less experience in transport aviation and chose to ignore the distinction Webster made between the airlines and ATC. "We are indulging in an activity which, to all intents and purposes, is exactly the same type of business as our civil airlines are engaged in," he said. Harper had served on the Air Staff in Washington from 1942 until September 1944, when he went overseas to represent the Army Air Forces on the Allied Control Commission that would administer a defeated Germany. Later, he became Director of the Armed Forces Division of the Office of Military Government in Germany. Returning to the United States in 1947, he spent a month at the War Department and at Air Force headquarters before assuming command of the ATC.⁸

Harper, however, warned against "organizing our military air transport on the basis of efficiency, economy, and convenience suited to the peacetime situation." In wartime, he observed, military requirements dictated maximum effort regardless of economy or efficiency. The Strategic Air Command (SAC) would be of little use, he explained, if the ATC could not move SAC's ground personnel, ordnance, and equipment, and "establish them quickly as offensive spearheads in advanced zones from which they can operate effectively against enemy bases."⁹

By the time Harper assumed command of ATC, in 1947, however, Soviet truculence and increasingly aggressive demands had caused the United States to reconsider its course of demobilization and withdrawal of forces from Europe. The catalyst for this change came in late February 1947, when the British government notified the United States that it could not support Greece—financially or militarily—in its efforts to resist Communist insurgency. Three weeks later, President Harry S. Truman informed a joint session of Congress that the United States would support Greece, Turkey, and other nations resisting Soviet threats to their free institutions. Soon known as the Truman Doctrine, the foreign policy sought not to destroy Soviet Communism, but contain it. In June, believing that the economic recovery of the war-torn nations of Europe was essential in stemming Communist advances, the administration announced a massive program of foreign aid and loans that became known as the Marshall Plan after its chief architect, General George Marshall.¹⁰

With the new strategy of containment came reorganization and a redefinition of the missions of the nation's strategic forces, including strategic airlift. It helped shape the National Security Act of July 26, 1947, which among other things created a separate, independent United States Air Force. The new Air Force counted among its missions the responsibility for providing air transport services to all the armed forces, except for certain airlift services conducted by the Navy. The airlift emphasis began to shift from scheduled transport services (although they continued) to the strategic movement and support of air and land forces as required by the new strategy.¹¹

To assess the nation's aviation policies and resources needed for his foreign policy, President Truman, in July 1947, appointed an Air Policy Commission—known generally as the Finletter Commission, after its chairman Thomas K. Finletter.¹² The duplicative military air transport service was one of the central issues considered by the commission. After examining the roles of the Air Transport Command and Naval Air Transport Service (NATS), the commission recommended that the two organizations be consolidated into one Military Air Transport Service to handle all scheduled military transport services and missions for the Army, Navy and Air Force.¹³

Secretary of Defense James V. Forrestal reacted quickly and positively. Even before the Finletter Commission's recommendation was formally presented in late 1947, he directed the Secretaries of the Navy and Air Force to begin discussions concerning the consolidation of the two organizations. On January 15, 1948, he directed that the air transport assets of the Navy and Air Force be consolidated.¹⁴

Air Force and Navy working groups began meeting immediately to plan the consolidation and on May 3, 1948, Forrestal signed a memorandum formally establishing the Military Air Transport Service (MATS). The new command began operating June 1, 1948 with ATC assets. The NATS contingent, three Navy squadrons of C-47s and C-54s, joined MATS a month later.¹⁵

The new command had a firm foundation in the existing Air Force and Navy strategic air transport agencies. A major Air Force command, as well as a Department of Defense agency, MATS assumed ATC's global air transport system. With an Air Force general as commander and a Navy admiral as his deputy, and incorporating Air Force and Navy elements into a single command, MATS represented the new defense department's first attempt at a joint command.

From the beginning, MATS routes virtually circled the earth, extending south into the Caribbean and South America, and across the continental United States to Europe and the Far East. Route mileage, which had shrunk to 80,000 miles in 1946, increased to 115,000 miles by 1957. The number of personnel increased from some 49,000 in 1947 to more than 59,000 by the end of 1948, and to over 127,000 by 1958. The number of aircraft, which had declined to 676 in 1948, grew to 899 by the end of 1949 and to 1,375 by 1957.¹⁶

MATS's growth laid the foundation for the employment of strategic air transport as an effective element to project national power. In fact, even as MATS was organizing itself, military airlift proved its strategic value in the 1948-1949 Berlin Airlift—ultimately forcing the Soviets to accept the continued division of Germany's former capital. Still, the new organization possessed insufficient assets to meet all of the military requirements that a war emergency would levy. The nation would have to depend on its civil air transport industry to make up the difference.

The nation's commercial air carriers emerged from World War II stronger and more robust than ever. This was particularly true for those firms that had become international carriers. Moreover, the U.S. airlines were better equipped than ever before. Four-engine aircraft were soon introduced on domestic routes and new generations of even larger and faster aircraft were integrated into the transatlantic and transpacific fleets. By 1948, when the nation once again began to assume a more active role in foreign affairs, the nation's airlines were better prepared than ever before in case of a war emergency.¹⁷

In the early postwar years, in the United States, at least, the gracefully-shaped Lockheed Constellation set the standard for large, fast transport aircraft. Douglas, for example, soon abandoned the DC-4 in favor of the improved DC-6. Douglas did so by matching the Lockheed aircraft in almost every performance respect—speed, range, and airfield landing and takeoff capability. Douglas, however, was also pushed toward the improved model for other reasons. New DC-4s were priced at \$385,000 each, but the government dumped a flood of surplus C-54s on the market for just \$90,000. Donald Douglas complained bitterly to AAF commander Gen. Hap Arnold: "Your policy of selling surplus C-54 airplanes and spares if carried out in present careless and [inconsiderate] manner will make it impossible for us to execute existing and expected civil orders."¹⁸ His plea, however, went unheeded; the government would not scrap them. In October 1945, when the surplus aircraft began to be released, United Airlines canceled its order for DC-4s. When Douglas shifted to

DC-6 production, however, new orders eventually made up for the lost DC-4 sales.¹⁹

The larger, faster Douglas DC-6s and DC-6Bs, and the Lockheed Constellations carried many more passengers and cargo and carried them much faster than the workhorse DC-4. Compared to the DC-4s payload of forty passengers, 14,200 pounds of cargo, and a speed of 205 mph, the newer aircraft carried sixty to sixty-six passengers, up to 24,500 pounds of cargo, and cruised at about 310 mph. These new aircraft further enhanced the United States' strategic airlift capacity.²⁰ "In terms of transoceanic airline equipment," wrote historian Richard K. Smith, "the United States held all the aces in 1945—a condition that prevailed for the next 40 years."²¹

During the war, the domestic airlines had made prodigious efforts on their routes. Equipped almost exclusively with twin-engine DC-3s, they had achieved utilization rates of more than ten hours of revenue flying per day. Moreover, a war-stimulated growth in passenger traffic resulted in an average load factor of almost 90 percent.²² Except for a brief period in 1946 and 1947, when some of the domestic airlines suffered losses, that growth continued into the next decade, although at a more modest pace.²³

Although four-engine aircraft would soon dominate the trunk-line routes, the workhorse DC-3 continued for a time to be the mainstay of the airlines. United, for example, had seventy-seven DC-3s in service in January 1946, comprising its total domestic fleet. It was not until March that TWA, United, and American Airlines began transcontinental service with the Constellation (TWA) and DC-4 (United and American).²⁴ The most lucrative way to exploit the larger and faster aircraft was over the coast-to-coast routes from the cities of the northeast—Boston, New York, Philadelphia, and Washington—to San Francisco and Los Angeles. American, TWA and United held rights along the old transcontinental routes originally awarded by Postmaster General Walter F. Brown in 1930 and had expanded these as a result of route awards made in 1943-1944. Although four-engine service on these routes was begun with Constellations and DC-4s, United opened a DC-6 coast-to-coast schedule in April 1947, and American did the same the next month. The DC-6s and the Constellations continued for a decade to be the first-line aircraft of the air transport industry.²⁵

The introduction of four-engine aircraft into the domestic market meant a larger number of aircraft capable of transoceanic operations—though often that would require the installation of additional fuel tanks, radios, and navigation equipment. Each year the pool of domestic airline aircraft capable of strategic, intercontinental airlift grew. But it was aircraft of the nation's international carriers that were the primary source of immediately available strategic airlift reserves.

Pan American Airways, which held a monopoly over all U.S. international air routes throughout the 1930s, had made the United States the undisputed leader in long-distance international air transport. Its pioneering techniques in aerial navigation, weather reporting, radio communications, ground handling and maintenance were models for the industry.²⁶ Challenges to Pan Am's position were certain after World War II, because a number of former domestic airlines now held international routes. In fact, when Japan attacked Pearl Harbor, the War Department was contracting with TWA for transatlantic service. By war's end, eight formerly domestic airlines had joined Pan Am on international routes: TWA, American, United, Eastern, Northeast, Northwest, Western, and Braniff.²⁷

The postwar role of these airlines had begun to take shape even before the war was over. In June, 1944, the Civil Aeronautics Board announced that it would accept applications for world routes and designated five specific areas for U.S. exploitation: North and South Atlantic, and North, Central, and South Pacific.²⁸ On June 1, 1945, the first of those awards was announced. The routes across the North Atlantic went to American Export Airlines,

TWA, and Pan Am. American Export was authorized to serve Great Britain and northern Europe, and in September, when six C-54 (DC-4s) were delivered from the Surplus Property Board, the first survey flights were made. On October 24, American Export made the first commercial scheduled transatlantic flight by landplane from New York to London. At the same time these new routes were awarded, the CAB approved the merger of American Export Airlines with American Airline's Transatlantic Division forming American Overseas Airlines (AOA). By December, AOA was making daily transatlantic flights.²⁹ At the same time, Pan American received the right to fly to London, and TWA to Paris. The two divided the southern half of Europe, although TWA obtained a somewhat larger share. Pan Am initiated service to London in January 1946, and TWA opened its route to Paris the next month.³⁰

Later awards in other areas followed a similar pattern. Pan American was forced to share its South and Central American market with Braniff, and its access to the Caribbean and Mexico with seven companies—Braniff, American, United, Eastern, Western, Colonial, and Chicago, and Southern. Pan American did receive sole rights to the Atlantic crossings to Africa—a Central Atlantic route from New York via the Azores, and the route through San Juan, Natal, and Ascension Island. In the Pacific, Pan American also found its former preserve invaded. In June 1946, the CAB awarded a great circle route to Northwest Airlines giving it access to Tokyo, Shanghai and Manila; shortly afterwards, United Air Lines was awarded the route from San Francisco to Honolulu. Pan Am's prewar island-hopping route via Hawaii to Manila was confirmed and extended to reach Shanghai and Tokyo.³¹

The allocation of most desirable international air routes by the end of 1946, and the defeat of Pan American's last effort to regain its former preeminence, cleared the way for dramatic expansion and growth for the new international airlines. In addition, at the war's end, a legion of ex-pilots founded their own non-scheduled airlines or "nonskeds"—possibly as many as 3,600. Most were doomed to failure from the start, but, so long as aircraft were available at bargain prices, they continued to proliferate. Some attempted to attract passenger charter business; others specialized in heavy freight or cargo. Among the more important were Slick Airways, Flying Tiger Airlines, Seaboard and Western Airlines, Transocean Air Line, Trans Caribbean Airline and Alaska Airline. All of these, at one time or another, were a part of the Civil Reserve Air Fleet.³²

"There is no military organization known to me that has, as a civil counterpart, an industry so closely parallel in organization, management and operations as the Air Transport Command has in the United States Civil Air Transport Industry," wrote ATC commander Maj. Gen. Robert W. Harper in 1947. "This similarity is of great significance when considering the role which the United States Civil Air Transport Industry will play in the ultimate maintenance of our National Security."³³ The close relationship that Harper had in mind was utilizing the commercial airlines in war emergencies.

In the spring of 1947, as the nation moved toward a national strategy of containing Communism, the need for a formal reserve civil air fleet became increasingly apparent.³⁴ The Air Coordinating Committee (ACC), in the early months of the year, had formed an ad hoc committee to examine the issue of an air transport reserve.³⁵ Still, fundamental differences between military and airline leaders about how such a reserve should be structured made the path to a practicable policy a difficult one. And, without a mechanism to incorporate the air transport industry's aircraft and personnel into the defense establishment, each new international crisis would require its own special solution.

At the end of the war, ATC continued to operate routes both in the Atlantic and Pacific with contract carriers. Within a year, however, all of these postwar contracts expired. Only one new contract was awarded, and that was a Pacific route that went to the Flying

Tiger Line—the first awarded to a "nonsked" or supplemental airline. By the end of 1947, even the Flying Tiger contract was allowed to lapse.³⁶ But the urgent need for the airlines' assistance during the Berlin blockade in 1948 and the Korean War in 1950 once again drew attention to a "transport reserve" that could be drawn upon when needed.

When a defeated Germany was divided into four occupation zones after World War II, it was to have been a temporary expedient. But Soviet intransigence over free elections and other issues made postwar movement toward a permanent solution impracticable. In frustration, Americans, British, and French leaders began considering an independent West German state. Among the first steps toward that end was the inauguration of currency reform—a reform that also applied to the sectors of Berlin controlled by the western allies. But Berlin, buried deep within the Soviet sector, was peculiarly vulnerable, and on June 24, 1948, the Soviets retaliated. They cut off electricity to the western sectors of the city and clamped a total blockade on all land traffic between Berlin and West Germany, hoping to force the western powers out.³⁷

The British and Americans responded on June 26, with an airlift designed to overcome the blockade. Under orders from Gen. Lucius D. Clay, the American commander in Germany, the Air Force in Europe organized its fleet of C-47s into a make-shift airlift to resupply the American troops stationed in the city. When it became clear that the operation would have to be expanded to include necessary food, medicine, fuel, and clothing for all 2,250,000 West Berliners, Maj. Gen. William H. Tunner, an airlift expert, was sent from Washington, where he had been deputy commander of MATS, to head the multinational Combined Airlift Task Force called "Operation Vittles." Tunner, who had earlier commanded the airlift from India across the Himalayas into China during World War II—a route often called simply "The Hump"—replaced the C-47s with the larger C-54s and was soon delivering into Berlin a daily average of around 8,000 tons. By the end of the operation in October 1949, the task force had flown 279,114 sorties and had carried 2,324,257 tons of cargo to the beleaguered city.³⁸

On the American side, Operation Vittles was almost wholly a military operation. There were several reasons for this. First, given the relatively short haul required, the transport aircraft from MATS and other Air Force commands were sufficient to conduct the operation. Second, tight control over aircraft and crews was essential. In that respect, Tunner was much more comfortable with the military than with airline planes and crews.³⁹ Also, in the beginning it was assumed that the operation would be of short duration. Finally, the airlines themselves did not clamor to participate directly—in part because the crisis began in the midst of their busy summer season. The British, however, had fewer military transports and used their civilian airlines from the start.⁴⁰

Still the U.S. civilian air transport industry did play a role in supporting the airlift. Just three days after the airlift had begun, civilian carriers were called upon to lift spare engines and parts from the United States to Frankfurt, Germany, where they were needed to keep the military airlift aircraft flying. In all, Pan American, American Overseas Airlines, TWA, Seaboard and Western, Alaska Airlines, Transocean Air Line, and Trans-Caribbean Air Cargo flew 610 such transatlantic missions.⁴¹

At least three U.S. airlines also made flights along the American air corridor into Berlin. Transocean Air Line made several trips early in the operation, delivering the ground control approach radar that made possible the later precision operation, despite persistent fog and rain that characterizes the German winter. American Overseas Airlines, which was then operating several scheduled flights daily to Berlin, actually increased the pace of its operations, flying a total of 2,186 missions to Berlin from June 1948 through May 1949, and

carrying over 7,250 tons of cargo and more than 29,000 passengers. Also, in September and October 1948, Seaboard and Western made a number of flights into Berlin—a hundred or more it would seem—under contract to American Overseas Airlines. In all, the airline flights into Berlin may have numbered close to 2,500. The scheduled AOA and Seaboard and Western flights were intermingled with the military airlift, utilizing the same altitudes, intervals, control and letdown procedures as the Vittles aircraft, but were not counted as a part of the airlift and apparently were not included in the Air Force figures.⁴²

A few months after the Berlin airlift concluded, when the North Korean forces attacked South Korea in June 1950, MATS immediately asked the airlines to provide forty, four-engine planes to augment the military transport fleet.⁴³ Distance alone seemed to dictate the use of the civilian air carriers. The Berlin airlift had spanned just 250 miles, and yet that operation had tied-up most of the MATS air fleet. The air routes to Korea from the west coast of the United States covered some 6,000 miles or more. MATS alone could not do the job. Moreover, the MATS fleet had taken a beating during Operation Vittles and had not yet recovered.⁴⁴

The first carriers to respond in the Korean crisis were Transocean and Flying Tiger, whose aircraft were already configured to handle cargo. Both had flights in the air, bound for Japan, in less than twenty-four hours.⁴⁵ Just as quickly, other airlines began the conversion of their aircraft for military service. These too, were soon on their way. Within days, eight airlines had agreed to fly high-priority passengers and cargo between the west coast and Japan—Pan Am, Northwest, United, Seaboard and Western, Overseas National Airways, Alaska Airlines, Transocean, and Flying Tiger.⁴⁶ By mid-July, after MATS increased its request for aircraft, a total of some sixty-five commercial transports were committed to the Pacific airlift, although many of these were undergoing modifications to prepare them for that service.⁴⁷ A total of 161 transpacific contract flights had been made by the end of July. By September 1950, the monthly total reached 345.⁴⁸

In October and November 1950 a shortage of funds forced reductions in the contract airlift. In December, however, the tempo increased—utilizing a fleet of sixty-six civilian aircraft.⁴⁹ As early as mid-August 1950, after the United Nations' offensive had begun, MATS planners had begun to consider a phase-out of at least a part of the civilian fleet. A meeting was held in September with ATA to determine the best method of handling this; inquiries were made as to whether or not any of the carriers might like to volunteer for withdrawal.⁵⁰ But the MATS staff was taking a sanguine view of the war's outcome.

In Washington, the Korean adventure came to be seen as one major aspect of a broader scheme of Communist aggression world-wide. The Soviet detonation of an atomic device in 1949 caused a reevaluation of U.S. strategic posture. A National Security Council study in early 1950 (NSC-68) painted a disturbing picture of America's position in the world vis-a-vis the Soviet Union and called for the systematic improvement of Western military strength and cohesion. The growth of Soviet power threatened the security of the entire free world, the NSC analysis warned. The Truman administration almost immediately committed itself to the objectives set forth by NSC-68. Now, rather than choosing to respond piece-meal to aggression, the Administration decided to implement an overall rearmament program and, in particular, to strengthen U.S. forces in Europe.⁵¹

For MATS this strategic reorientation meant an increased commitment in its forces deployed in Europe or committed in that theater and a reevaluation of the utility of the transpacific civilian airlift. In late March 1951, the number of commercial aircraft to be retained on military contract was set at sixty.⁵² The continuing requirement in the Pacific and the simultaneous requirement for airlift in support of deployments to Europe prompted the

reliance on civil airlift in the Pacific theater, although the lack of specific funding authorization precluded its use in the Atlantic theater. Throughout the balance of the war in Korea, through 1953, the number of contract aircraft remained relatively stable and the number of flights monthly amounted to 280 to 300.⁵³

Although there had been no formal mechanism in place in 1948, or even in 1950, to insure an immediate response to the emergencies in Berlin and Korea from the civil airlines, considerable thought was being devoted to the problem by military and civilian agencies of the government, and by the ATA—representing the civilian airlines. Ad hoc procedures had sufficed in these two cases, but, most could agree, they would clearly be inadequate in case of broader conflicts.

CRAF: The Conception

In the first months after World War II, ATC showed little concern about mobilizing for any new emergency. It was not until mid-1946 that the command's leaders began to consider future mobilization issues. "Present thinking of this Headquarters," wrote one staff officer in June 1946, "indicates a requirement for securing a certain percentage of our total airlift through contracts with Commercial Carriers" thus insuring a capacity to "supplement available military lift."⁵⁴ Lt. Gen. Harold L. George, ATC commander, seems to have assumed that the emergency role of the air transport industry would be quite similar to its role in the recent war. Contract operations again would furnish any needed supplement to available military airlift.⁵⁵

This thinking began to change when Maj. Gen. Robert M. Webster replaced General George in September 1946. Webster and his immediate successors had not risen through the ranks of the Ferrying Command-Air Transport Command and they had not served in the Army Air Corps when it was almost totally dependent on the airlines for strategic air transport.⁵⁶ Neither had they been closely associated with the "old gang" of airline executives who helped build and largely dominated ATC through 1945. As a result, their attitude toward the airlines was quite different from General George and his wartime colleagues.

In planning for war emergencies, the new Air Transport Command leadership rejected the concept of contract operations as a means of mobilizing the airlines. Rather, they envisioned the purchase or outright appropriation of the necessary aircraft from the airlines, and the creation of Air Force reserve units affiliated with a specific airline or company, and manned by pilots, copilots, navigators, mechanics and administrative personnel of that company.⁵⁷

Maj. Gen. Robert W. Harper, who succeeded Webster on July 1, 1947, was very explicit on this point. The affiliation plan, he said, "eliminates the necessity for reliance upon contract operation by our civil carriers." It would "bring under effective military control and direction the complete organization—maintenance, operations and management—of these carriers, the day the emergency breaks."⁵⁸ Should mobilization be required, he observed that "the flying equipment of [the airlines] will be purchased by the government and that the operating personnel will be called to active duty with the Air Transport Command under the Organized Reserve-Affiliation Program."⁵⁹ Maj. Gen. Laurence S. Kuter, who replaced Harper in 1948 when Air Transport Command and the Naval Air Transport Service (NATS) were merged into the Military Air Transport Service, was of the same mind.

The airlines, however, had a different view. They seemed to take for granted (until events proved otherwise) that any mobilization of the airlines would follow the World War II-style contract operations they had worked with only a few years before. At a meeting of

the Air Transportation Association board of directors on June 17, 1947, Emory S. Land, the association president, raised the issue of establishing "a reserve of transport aircraft for use by the military services in time of national emergency," and remarked on the ACC ad hoc committee that was looking at the issue. Land was instructed by the board to determine "the character of this necessary reserve" and "to press for a determination of this issue as soon as practicable."⁶⁰

The issue was soon the subject of debate in a broader arena, and the views of the ATA and airline officials were actively sought by all but Kuter. Two panels created in Washington—the President's Air Policy Commission (Finletter Commission) and the Congressional Aviation Policy Board (Brewster Board)—were about to begin deliberations. Although their focus was much broader, both considered the issue of a civilian airlift reserve. Admiral Land, offered the ATA view that the military services should rely upon the civilian air transport industry to provide the military air transport necessary in time of emergency. "Experience during the war," he noted, "has demonstrated that when called upon to provide military air transport in time of national emergency, the civilian air transport system can, and does, respond effectively."⁶¹ Thomas Finletter, the Air Policy Commission chairman, responded to Land's testimony by asking for more details about how such a system should be organized.⁶² "The specific question you raise is," Land responded, "of course, a difficult one—the same one we faced at the outset of the last war, and as I see it, we would have to face it along the same general lines as we did then.... At the beginning of the last war, the air transport system had a detailed war plan. Given the necessary information from the military services as to their needs, we can develop this one. In short, if the military men will tell us what they think the job will be, I think we could figure out how to do it."⁶³ After considering these views, both panels concluded that contract operations, such as had characterized the World War II experience, were the best immediate solution to the problem. "Advantage should be taken of our World War II experience," concluded the Finletter Commission, "in working out in advance the required coordination between the armed services and the commercial air lines. Contract arrangements specifying the equipment and services to be furnished to the Military Air Transport Service by the air lines should be made now with the commercial carriers."⁶⁴

The essence of the contest over militarization versus contract operations, for both the military and the airlines, was corporate survival. In one sense or another, both sides feared a sort of corporate disestablishment. On the one hand, the recent experience in World War II notwithstanding, many among the new Air Force leadership feared that under a contractual arrangement the airlines might not respond when needed—possibly leaving vital requirements unfulfilled that might lead to military disaster. They preferred the inherent discipline of military organizations. On the other hand, airline officials feared that militarization—with their personnel ultimately being assigned wherever it suited the Air Force—would destroy corporate structures that had taken years to build. Those structures might prove impossible to restore at war's end. That is not to say that those in uniform doubted the patriotism of the airlines' executives or employees, or that the military believed that airline officials would place corporate interests ahead of those of the nation. Nor is it to suggest that airline officials believe that military was intent on threatening corporate interests. Unfortunately there was no middle ground; both sides feared serious consequences if the other should prevail.

In late February 1948, Emory Land of the ATA approached Secretary of Defense James Forrestal about "planning in advance" for the facilities, services and personnel that the Air Force would require from the airlines in the event of war. Forrestal, however, had

already begun the process—ordering Maj. Gen. Laurence S. Kuter, whom he had slated to command the new Military Air Transport Service, "to take charge of the preparation of plans for the utilization of commercial airlines in the event of a national emergency." General Kuter "would confer" with ATA and the airlines when his plan was completed, Forrestal told Land. But, neither Forrestal nor Kuter made any effort to solicit any input from ATA.⁶⁵

To insure that it would get a hearing, the Air Transport Association, in April 1948, appointed its own panel to "plan for using commercial air transport facilities in the event of a national emergency." Included in that group were Milton W. Arnold, from ATA; Ray W. Ireland, a United Airlines vice-president; C. R. Smith, chairman of the board of American Airlines; and Juan Trippe of Pan American—men whose opinions counted. Of these, all but Trippe had served throughout the war with ATC, and Trippe's Pan Am, of course, had served from the beginning as a contract carrier. At the ATA's request, Forrestal named General Kuter to work with them.⁶⁶

Kuter, however, felt the need to maintain some distance from the ATA group. These men, representing the airlines and the Air Transport Association, were certain to support a contract arrangement similar to that which they had used during the war. His close association with them might provoke criticism of "the old gang getting back in control." "There is already some concern...along [that] line," Kuter had told his staff when invited to make some remarks at a dinner arranged by C. R. Smith, who during the war had been deputy commander of Air Transport Command.⁶⁷

The ATA study was completed in June 1948 and was provided to MATS where it circulated among the staff.⁶⁸ As expected, the report recommended contract operations in time of crisis by the nation's international airlines. (The four-engine aircraft owned by the domestic operators, including all the DC-6s and Constellations, would be operated by the international airlines.) Domestic routes would be reoriented to accommodate increased military requirements and the loss of four-engine equipment but would continue to be operated by the scheduled carriers.⁶⁹

The MATS plan, despite the Berlin blockade, was ready a few months later, in August 1948. "Military requirements, as compared to commercial requirements for airlift beginning with D-Day, dictate that the strategic transport aircraft of civil air carriers be acquired outright by the military rather than by the method of contracting for service," the Air Force planners insisted. "A thorough study of the overall question of military vs. contract carrier operation, considering not only military requirements but also cost and utilization factors, leads to the conclusion that military operation is preferable as providing maximum military effectiveness of air transport resources." It was essential, the study concluded, that MATS acquire all of the four-engine aircraft and effect the "militarization of all personnel operating over air routes outside the continental limits." MATS would direct and control civil airlift assets.⁷⁰ In September and October, the plan was coordinated with the Air Staff, and with the Navy and Army.⁷¹ A revised draft of the MATS plan was completed by early November and copies were forwarded to the Secretary of Commerce and the Chairman of the CAB for their comments. It was also circulated, informally, to the Army and Navy.⁷²

As a result of comments received from the other services on the revised draft, MATS softened its stand on militarization by adding the phrase "where circumstance required." The Army, for example, had objected that the cost comparisons between military and contract operations "did not appear to support the decision to militarize the air carrier industry outside the United States." The revised plan defined three classes of wartime overseas air routes. Some of these were not expected to be threatened by enemy action; operations over them, MATS now conceded, did not need to be militarized.⁷³

In submitting this the revised MATS plan to the Air Force and Department of Defense on January 6, 1949, General Kuter attempted to present his differences with the civilian aviation community in the most favorable light. Debate and compromise had eliminated all major differences except the single question of militarization, he reported. Kuter characterized the planning MATS had done on its own, outside the formal Air Coordinating Committee process, as a "parallel" effort. "The [ACC] Subcommittee has recognized the existence of two parallel channels, the national and the military, for the development of mobilization plans," he wrote. "This permits initial preparation of a plan written with an eye to essential military requirements. It is anticipated that the military plan will be modified through continued consultation and will differ little from the final plan which will reach the National Security Resources Board [NSRB] through the Air Coordinating Committee 'national' channel."⁷⁴

The MATS plan was approved by the Air Force and forwarded to the Secretary of Defense in January 1949. Forrestal, however, neither approved nor disapproved the plan, but rather left the decision to his successor, Louis A. Johnson. Before acting, the new Secretary submitted the reserve airlift mobilization plan to the Joint Chiefs of Staff (JCS), who reacted favorably. Still, Johnson withheld final approval—awaiting further consideration of the issue by the National Security Resources Board which had ordered the Air Coordinating Committee to study the matter.⁷⁵

Debate over how best to organize and direct the nation's air transport reserve would stretch on for nearly four years—from early 1948 to the end of 1951. Early in the process, in April 1948, the ACC had agreed to prepare an air mobilization plan for the NSRB. The ACC had then passed the task to its subcommittee on War Transport Mobilization, of which MATS was a member.⁷⁶ A working group was created to draft the plan and, by mid-February 1949, its report—"A Statement of General Policies for the Mobilization of the Civil Air Transport Industry"—was ready for review by the full subcommittee.⁷⁷ In the report it proposed that the civil air carriers "initially be utilized on military air routes on contract," but that MATS should "convert contractual operations into full military operations" as rapidly as it could effectively utilize the aircraft. At the same time, a new controlling agency was proposed which would be responsible for determining the routes to be militarized, allocating civil aircraft to be militarized on those routes, handling appeals from militarization, and for the administration of a priority system.⁷⁸

Milton Arnold, of ATA, strongly objected to the militarization called for by the ACC paper and urged that the "airlines should be utilized to the maximum extent possible" in any emergency. "On the basis of all experience to date," wrote Arnold to the subcommittee chairman, in opposition to militarization, "it is our belief that the airlines can provide more lift with a given amount of equipment and a given number of personnel than can a military air transport organization."⁷⁹

The "neutral" controlling agency proposed by the ACC proved unpopular with both the Air Transport Association and the Air Force, although for different reasons. The ATA complained that this agency did not have enough authority. Appealing a militarization action provided no protection to the airlines, they argued. "The contract operator could be closed down, the personnel transferred, and perhaps drafted, before an appeal could be decided." The ATA recommended that it be a civilian agency which in an emergency would have the responsibility for allocating all of the nation's air transport resources—for military and for civilian purposes.⁸⁰ The Air Force argued the opposite—that too much power had already been vested in the controlling agency—objecting particularly to the agency's role in designating which routes could be militarized, and to its ability to reverse militarization

decisions that might lead to an indefinite period of contractual operations during an emergency.⁸¹

On May 12, 1949, the Air Coordinating Committee submitted its report to the National Security Resources Board. Rather than attempt to reconcile the disparate objections of ATA and the Air Force, the ACC merely offered the report as the working group had drafted it and appended the views of the two dissenting parties.⁸²

At this juncture, Secretary of Defense Johnson returned the MATS plan (which had been submitted to the Secretary a few months earlier—in January 1949) to General Kuter and asked for a revision "with an eye to reconcile" it with the ACC report. MATS took the position that its views would prevail and revised the document accordingly. The Joint Chiefs of Staff, however, insisted that the MATS plan include a government agency with over-all control of civil transport during emergencies, and that this independent agency have the right to review decisions to militarize operations—essentially the position of the basic ACC report. Revised again to include the changes required by the JCS, the report was once more submitted to the Secretary on June 29, 1949.⁸³ The document was approved on August 24, 1949 subject to any revisions which might be necessary based on the NSRB's ultimate decision on the subject.⁸⁴

The Air Force now had a plan approved by the Department of Defense, but without concurrent approval by the Commerce Department and the CAB it remained a mere proposal. The effort to derive a mobilization plan had been under way for a year and a half; still, in mid-summer 1949, the two sides were little closer to agreement than they had been eighteen months earlier.

Meanwhile, representatives of MATS, the Air Materiel Command (AMC), and ATA had been at work for months, beginning in October 1948, on a basic contract for use of the services and facilities of the carriers in time of emergency. In April, 1949 the Air Transport Association submitted proposed contract language to MATS for its consideration.⁸⁵ In May, however, before MATS could comment on the ATA contract proposal, the ACC study was submitted to the National Security Resources Board. With that, the contract talks between ATA and the Air Force were then suspended, awaiting policy decisions by the NSRB that would give direction to the negotiations.⁸⁶

Still, some work did continue on the contract issue. The ACC Industrial Division now formed a series of working groups to develop a detailed plan based on the policy paper that had just been submitted to the NSRB. One of these working groups was charged with studying the contract issue. At the first meeting of that working group, on June 9, 1949, MATS was given the responsibility for working out the general form of the standby contract.⁸⁷ It completed that assignment in October. Interestingly, the Air Transport Association reviewed the MATS proposal and concurred. Given the distance between these two organizations on this issue previously, the ATA concurrence suggests that the MATS paper was quite general in nature—dealing, in fact, with the form of the contract (the subject that had been assigned) and not with its substance.⁸⁸ Although approved at each subordinate level within the ACC, the MATS Form of Contract paper never received final Air Coordinating Committee sanction.⁸⁹

In the early months of 1950, as final ACC approval of the MATS contract paper became increasingly doubtful, General Kuter authorized informal conversations between the MATS and ATA staffs. By late May, MATS was ready to resume the formal negotiations that had been broken off a year before.⁹⁰ When talks recommenced on July 7, 1950, MATS negotiators were instructed to "bear in mind that MATS' chief concern is to insure that it has control, through any contract written, over maintenance, pilots, security of communications,

traffic functions, [and] inspection."⁹¹

At the July 1950 meeting, the parties agreed to begin where they had left off in April 1949. The MATS representatives agreed to begin by preparing comments on the draft contract that ATA had submitted just before talks were broken off the year before. These comments were provided in late July and a second meeting was arranged. That conference began on August 8.⁹² "It is understood that the conferees have met with some success and the conference should be concluded on or about 15 Aug 1950," wrote Kuter to Lt. Gen. Benjamin W. Childlaw, Commander of Air Materiel Command.⁹³ Additional progress was made at a third meeting in mid-September, where it was agreed that AMC would tackle the problem of a contract pricing formula. By late October MATS and ATA appeared very close to an agreement on the standby contract. Only the issue of the pricing formula remained to be resolved.⁹⁴

Unfortunately, just as agreement on the standby contract seemed assured, Headquarters, U.S. Air Force learned that the National Security Resources Board was looking into the pricing formula matter and directed that contract negotiations be suspended until the results of the NSRB study were known. Despite this delay, negotiations were expected to begin again in early 1951, and agreement then on the contract issue seemed almost certain.⁹⁵

CRAF: The Gestation

After the Air Coordinating Committee plan for the mobilization of the air transport industry was submitted to the National Security Resources Board back in May 1949, and after the tentative approval of the MATS plan by Secretary of Defense Louis Johnson in August, all efforts focused on the completion of the ACC's master plan for the mobilization of the air transport industry. Various working groups representing the Navy and Air Force, the Department of Commerce, and the Civil Aeronautics Board tackled the different aspects of the problem: the domestic wartime routes essential to support a wartime economy (the so called "war service pattern"); a review of the World War II experience and projections of requirements for the next major war; procedures for the military procurement of transports; air priorities for passengers and cargo; contracts; personnel deferments; and a wartime agency to administer transport contracts.⁹⁶

Early in 1950, in its annual report to the President, the ACC reported progress toward the completion of this master plan.⁹⁷ General Kuter outlined that plan in a closed session before the Senate Interstate Commerce Committee on January 31. Committee Chairman Edwin C. Johnson (D-CO) asked Kuter pointedly if the plan meant the airlines would be incorporated into the military? The general replied that "provision for that does not exist," presumably meaning no provision existed for the militarization of the airlines as a whole. He pointed out that the plan contemplated "the use of civil transports initially on a contractual status under military control." "All of our discussions," he added, "have been framed around the requirement that the organization know-how and ability of civil operators will be retained and preserved, and used to the best national interest, military or civil." Although truthful, he dodged the real question and volunteered nothing concerning the ultimate militarization of selected overseas routes that MATS still hoped to accomplish.⁹⁸

Despite Kuter's efforts to play down, before the Senate committee, MATS's plans to militarize major portions of the wartime overseas routes, the issue did not escape attention in other circles. "How far should the military be permitted to go in taking over the airlines during a war time emergency?" asked *Aviation Week* in April 1950. "That's the knotty

problem facing national defense planners." Even though the ACC "had obtained agreement on the broad outline" for a mobilization plan "civilian and military interests are still clashing over highly important details," the journal reported.⁹⁹

This debate continued throughout 1950, as the NSRB considered the various arguments and moved toward a policy decision. William A. Patterson, president of United Airlines, in an interview with *U.S. News and World Report*, opined that in the current emergency in Korea, commercial air transport, operating under contract, had "very definitely" proved itself. "I think the military are to be highly complimented," he said, "for the manner in which they approached us on this. They did not confiscate our airplanes. They asked us to do a job for them, which we did under our own supervision, control and direction."¹⁰⁰ Juan Trippe, president of Pan American, echoed that sentiment to reporters at a meeting of the International Air Transport Association, saying that he could see no reason why airlines would be nationalized in time of war. Trippe said that in any future emergency the commercial airlines would operate under contract to the government, just as they did in World War II.¹⁰¹

Trans World Airlines president Ralph Damon was less sanguine. He charged that "there is a school of thought within our military services, which contrary to all the lessons of our history, believes that a war can best be prosecuted if the air transport system, both domestic and international, is placed under military control." Damon went on to point out that in the recent war the airlines had proven significantly more efficient than military air transport units. It was vital, he insisted, that the airlines maintain their integrity, even in the event of war, "in order to maintain the efficiency and progress which are necessary to serve both our industries and our fighting units."¹⁰²

In December 1950, the National Security Resources Board issued its long awaited "Report on Utilization of Airlines for Wartime Airlift and Proposals to Aid Expansion of the Civil Air Fleet," more commonly known as the Douglas Report—named for James H. Douglas who chaired the committee. The report wasted no time in getting to the most controversial issue—militarization versus contract operations. The lead paragraph declared: "In event of full mobilization.... it is apparent that the civil airlines must provide a very substantial part of the required lift, [and that] this can most effectively be done by the creation of stand-by reserves of four-engine aircraft to be operated under contract with airline crews and maintenance." Having opted for contract operations, the panel recommended a stand-by first-line reserve of four-engine aircraft with the carrying equivalent of 350 C-54s (DC-4s) and a supplemental second-line reserve of another 100 C-54 equivalents. The first line reserve was to be capable of conversion to extended military operation within 48 hours; the second line reserve was to be available within two weeks.¹⁰³

By the end of 1950, after three years of negotiations, agreement seemed close on a plan to mobilize the air transport industry in national emergencies. Contract talks had gone well, and the NSRB had issued its report. The Air Force, however, was still unwilling to give up completely on the issue of militarization and the debate continued off and on for yet another year.

On January 3, 1951, C. R. Smith, then a consultant to NSRB chairman W. Stuart Symington, met with Under Secretary of the Air Force John A. McCone concerning the Douglas Report. Although Mr. McCone told Smith informally that the Air Force generally accepted the recommendations of the report, General Kuter and those at MATS continued to harbor reservations. Kuter complained to his staff that a letter from Smith to McCone concerning implementation of the report contained "many objectionable items, which...represent restatement of the historic ATA position in regard to mobilization which

appears as an endeavor to secure [Air Force] agreement under NSRB cover."

MATS continued to pursue its own agenda, but it was now an uphill battle. MATS presented its plan to Secretary of the Air Force Thomas Finletter on January 8, 1951, without, apparently, altering either their position or his view on the subject.¹⁰⁴ Finletter, who had taken his post in April 1950, had earlier chaired the President's Air Policy Commission. The Air Force Undersecretary, John McCone, had also been a member of the Air Policy Commission. Both Finletter and McCone had concurred in the commission's final report as supporting World War II-like contract operations in case mobilization of the airlines should be necessary. They had not changed their minds. McCone met with airline and Civil Aeronautics Board officials on January 18 to discuss the implications of the Douglas Report and cited the use of commercial aircraft under contract on the Pacific airlift to support the Korean fighting as an "excellent example of the civil air transport industry's contribution as a true air transport reserve and auxiliary to our armed forces."¹⁰⁵

Nonetheless, Kuter's adamant opposition to a contractual arrangement raised concerns in the airline industry. "The Air Force might grab the entire U.S. four-engine civil transport fleet," worried one industry analyst. "Generals and their colonels are prone to 'take over' the equipment they need when the real pinch comes. They may feel that outright command gives them better 'control' of all equipment available, when the situation is desperate." Although the Douglas Report and its recommendation for contract operations had the approval of those in the Air Force Secretariat, there were those in the ranks who continued to hold out hope for ultimate militarization in case of mobilization. That led one writer to speculation that MATS maintained two sets of mobilization plans—"one official, the other stand-by, in case the Air Force decides on an outright command and operation of civil transport outside the U.S. or even inside it."¹⁰⁶

If MATS and others in the Air Force were dragging their feet, that was not the case with those at the National Security Resources Board. In mid-February 1951, just two months after the publication of the Douglas Report, the NSRB established its own task groups to develop the detailed plans that would "prepare the aviation industry to meet the demands which war will make upon it" and allow the system to "be made operational in a matter of hours if war should come with little or no warning." This meant that "procedures at [the] operating level" had to be worked out.¹⁰⁷ The continued recalcitrance of some in the Air Force, however, prompted the NSRB to seek and obtain an executive order from President Truman directing the Secretary of Commerce—rather than the Secretary of Defense—to formulate the plans "for the transfer or assignment of aircraft from civil air carriers to the Department of Defense, when required to meet needs of the armed forces [that were] approved by the Director of Defense Mobilization."¹⁰⁸

Toward the end of March 1951, the Air Force's continued inaction on the recommendations of the Douglas Report brought an even more direct rebuke from the administration. Kuter, now seeking a way to salvage what he could, asked that the action be assigned to MATS.¹⁰⁹ That request was approved by Air Force headquarters, and MATS became the central point of contact for the Air Force, with both the airlines and other governmental agencies, for the creation of a first- and second-line air transport reserve fleet such as the Douglas Report had recommended.¹¹⁰

General Kuter, MATS commander, now acted with dispatch. He ordered the creation of an Ad Hoc Study Group in MATS to develop "a detailed implementation for the mobilization of the civil air potential and the establishment of an airline reserve structure." He recalled to duty seven senior reserve officers—many of whom were also airline officials—to constitute that body.¹¹¹ The work began in mid-May, and Kuter pushed the

group, insisting that the study be completed quickly. It was essential, he believed, to place his own plan in the hands of the Joint Chiefs of Staff "concurrently with their receipt of the NSRB reports." In that way, he reasoned, JCS action on the NSRB proposal would "take into consideration our plan of practical implementation."¹¹²

The Ad Hoc Study Group completed its work in just over a month and issued its report on June 27, 1951. The study group, made up largely of airline executives with reserve commissions, made extensive use of the reports of the Douglas Committee and of the NSRB Task Force. Like the Douglas Report, the Ad Hoc group recommended a first and second line reserve but concluded that the composition of the Douglas Report reserves would produce unneeded capacity after the first few weeks. The Ad Hoc group recommended that the reserve fleet be composed of a first-line component of ninety-one civil aircraft (instead of the 350 called for in the Douglas Report), and a second-line component of 240 (instead of 100). The Ad Hoc group called for both components to be used during periods of heavy requirements, including particularly the early weeks of the war. After the first month, however, lift requirements were expected to drop sufficiently to allow the ninety-one aircraft of the first-line reserve to handle it alone.¹¹³

The Ad Hoc group also reopened the subject of militarization—if only reluctantly. General Kuter likely urged consideration of the issue. Still, his task force approached the idea with little enthusiasm. "The Group has assumed that militarization will occur only under unusual conditions," they noted in the main report, and recommended that "a policy should be made that militarization will be held to a minimum and that where it *is* necessary, aircraft and personnel will be militarized simultaneously."¹¹⁴ The notion of militarizing the airlines continued to lurk in the minds of many Air Force officers, particularly MATS' officers. Still, short of a wartime situation in which the airlines lost all ability to control their assets, this was a highly unlikely scenario.¹¹⁵

In early September 1951, the NSRB released its final "Civil Aviation Mobilization Plan." The NSRB plan, prepared under the immediate direction of Commerce Under Secretary Delos Rentzel, adopted the first and second line reserve concept recommended by the MATS Ad Hoc Study Group, but based it wholly on a contractual arrangement. It also called for the immediate modification of civil aircraft radio, navigation and fuel systems, and the addition of emergency equipment to allow this equipment to accomplish transoceanic flights. The report covered five basic areas: air transport; training; overhaul and maintenance; industrial, business, and agricultural flying; and airports and airways.¹¹⁶ To coordinate aviation facilities and to plan for the best use of civil aviation in the event of full mobilization, the Department of Commerce, in November 1951, created the Defense Air Transport Administration (DATA).¹¹⁷

Four years, or more, of effort to create an air transport industry reserve—initiated by ACC studies begun in early 1947 and by the reports of the Finletter Commission and the Brewster Board in early 1948—was finally rewarded in December 1951. The Joint Chiefs of Staff approved the Ad Hoc Staff Group's plan on December 7 and sent it on to Secretary of Defense Robert A. Lovett with the recommendation that it be implemented by the Secretary of the Air Force as soon as the Department of Commerce gave its concurrence.¹¹⁸ On December 15, the Secretaries of Commerce and Defense signed a Memorandum of Understanding calling for implementation of the ad hoc study group's June 27, 1951 plan—as the memorandum styled it, the "Plan for creation of a Civil Reserve Air Fleet." The administrator of DATA was named the action agent for the Department of Commerce, the Secretary of the Air Force for the Department of Defense. DATA would allocate civil aircraft as required, and the Air Force would make and administer the contracts and other

arrangements for their use. "It is contemplated," the signers indicated, "that the Secretary of the Air Force and the Administrator will take immediate steps to implement said plan."¹¹⁹

On December 20, 1951, the Air Force Vice Chief of Staff, General Nathan F. Twining, directed the air staff and to Air Materiel Command and Air Research and Development Command (ARDC) to begin the implementation of the CRAF program. On January 22, 1952, Twining turned over monitorship of the implementation of the plan to the Commander, MATS. He ordered the air staff and AMC and ARDC to "continue civil reserve fleet actions already in progress" and to "support future actions initiated by MATS in implementation of the program."¹²⁰

Aviation Week labeled the new Civil Reserve Air Fleet a "Victory for Airlines." Said the industry's most prestigious journal: "The fact that Defense had definitely agreed and planned that the airlines will themselves operate the transports for the military is a major victory for the airlines." In announcing the agreement, Defense Secretary Lovett and Commerce Secretary Charles Sawyer judged it to be "the first time in the history of the civil air industry that a completely coordinated plan for its mobilization had been attempted in advance."¹²¹ Edgar Gorrell might have taken exception to the claim that this was the first effort to plan the mobilization of the air transport industry, but it seems likely that he would have welcomed the birth of CRAF.¹²²

Summary and Analysis

The creation of the Military Air Transport Service in 1948—following the recommendations of the Finletter Commission and the Brewster Board—and the emergence of a newly matured postwar civilian air transport industry, coincided with a shift from the traditional national strategy of non-involvement in foreign affairs to one of containing an increasingly expansionistic and aggressive Soviet Union.

A reassessment of U.S. military policy and capability revealed a shortage of military transport aircraft and the need for a strategic airlift reserve with the equipment and personnel of the nation's airlines. Given the experience gained in using commercial airlift during World War II, this accomplishment should have been straight forward. The 1948 recommendations of the Finletter and Brewster panels in this area—that contracts should be entered into for the equipment and services required in case of mobilization—reflected the wartime practice.

As it turned out, however, officers with little or no experience in either Ferrying Command or the wartime Air Transport Command, commanded the peacetime ATC and MATS in the years during which a civil airlift reserve was being considered. They rejected the experience of the war, which suggested a contractual arrangement for the civil reserve, and, instead, insisted on bringing both the equipment and personnel fully under military control. Once committed to militarization, the military airlift commanders found themselves at loggerheads with the airline executives and many civilian officials in government.

The birth of a civil reserve air fleet, which might have been celebrated in late 1948 or early 1949, was deferred in this contest of wills until December 1951. But, the combined weight of the airlines, the Air Transport Association, and the civilian agencies of the government—the State and Commerce Departments, the Air Coordinating Committee, the Civil Aeronautics Board, and the National Security Resources Board—finally prevailed. MATS was forced to concede a contractual arrangement.

Endnotes

1. Craven and Cate, VII: 575.
2. *Illustrated Hist of MAC*, p. 55.
3. On Mar. 13, 1946, the AAF Weather Service was redesignated the Air Weather Service, the Army Airways Communications System the Air Communications Service (and then the Airways and Air Communications Service). On the same date the Flying Safety Service, Flight Services, Air Rescue Service, and the Aeronautical Chart Service were created. All of these activities were then assigned to ATC. The Flying Safety Service and the Aeronautical Chart Service were transferred from ATC in Nov. 1946 and May 1947 respectively. [*Illustrated Hist of MAC*, p. 62.]
4. *Illustrated Hist of MAC*, p. 63.
5. War Department Circular Number 138, "War Department Reorganization," May 1946, in R. I. Wolf, ed., *The United States Air Force Basic Documents on Roles and Missions* (Washington: Office of Air Force History, 1988), p. 51; AAF Regulation 20-44, "Air Transport Command," Oct. 18, 1946. (Drafts of this regulation were in circulation as early as Jun. 1946; this mission statement seems to have varied little from the early drafts to the final version.)
6. Memo, Maj. Gen. Robert M. Webster, Commanding General, ATC, to [Col. Morris J. Lee,] CofS ATC, Subj: Role of the Air Transport Command, Jan. 17, 1947, in "Summary of the Activities of the Headquarters Air Transport Command, 1947," AMC/HO.
7. *Illustrated Hist of MAC*, p. 229.
8. *Ibid.*
9. Briefing, Maj. Gen. Robert W. Harper, "The Air Transport Command and Its Relationship with United States Civil Aviation," [c. summer-fall 1947], ATC Papers, Civilian Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO.
10. David W. Tarr, *American Strategy in the Nuclear Age* (New York: The Macmillan Co., 1966), pp. 14-25. Cited hereafter as Tarr.
11. Alfred Goldberg, *A History of the United States Air Force, 1907-1957* (Princeton: D. Van Nostrand Co., 1957), p. 148. Cited hereafter as Goldberg.
12. Thomas Finletter, a fifty-four-year-old Philadelphia lawyer and State Department advisor, was relatively unknown at this time in the aviation community; he had been a field artillery officer in World War I. Finletter was something of an authority on business finance, and it was apparently through mutual Wall Street connections that he came to the attention of President Truman. He later became chief of the Economic Cooperation Administration's mission to Britain, and then Secretary of the Air Force (1950-53). [Wayne Biddle, *Barons of the Sky* (New York: Simon & Schuster, 1991), pp. 296-304; Charles D. Bright, ed., *Historical Dictionary of the U.S. Air Force* (Westport, Conn: Greenwood Press, 1992), p. 236. Cited hereafter as *Hist Dictionary of USAF*.]
13. [Finletter Commission], *Survival in the Air Age, A Report by the President's Air Policy Commission* (Washington: GPO, Jan. 1, 1948), p. 37. Cited hereafter as *Survival in the Air Age*. The Finletter Commission was appointed by President Harry S. Truman to inquire into national aviation problems and to formulate an integrated national aviation policy. The commission assembled on Jul. 29, 1947 and held its first meeting on Sep. 15. The commission completed its work in Dec. 1947. [Futrell, I: 224-30.]
14. Miller, p. 173. Forrestal called this organization the Armed Forces Air Transport System (AFATS). Maj. Gen. Laurence S. Kuter, who was selected in Mar. to command this organization, was able to effect an organizational name change to Military Air Transport

Service (MATS).

15. *Illustrated Hist of MAC*, p. 68.

16. Goldberg, pp. 147-49; *Illustrated Hist of MAC*, pp. 68, 276-81.

17. The outbreak of war in Europe in 1939 had assured the United States of postwar world leadership in building the powerful, longer-range, and fast successors to the twin-engine airplanes of the 1930s. The warring powers largely turned their efforts to fighter and bomber construction, or military versions of existing transport aircraft. In any case, the German aircraft industry was a heap of rubble by 1945, and its French counterpart had been completely dislocated by four years of German occupation and allied bombing. The United States, at first, free from military commitments, and then, driven on by the vast distances from its factories to the fighting fronts, accelerated its production of four-engine designs—the Douglas DC-4 and the Lockheed Constellation. Over a thousand DC-4s were built. for the military, and just under a hundred Constellations. [Davies, pp. 658-59.]

18. Telegram, Donald W. Douglas to H. H. Arnold, [Sep. 19, 1945], Arnold Papers, Box 38, LC.

19. Davies, pp. 325-26.

20. Douglas build 175 DC-6s (first introduced in 1947) and in 1951 offered the DC-6Bs, of which 362 were built. The Lockheed L-049 Constellation was first built. during the war and first flew commercially in 1946. In 1947, the company introduced a reengineed version (the L-749), and then, in 1951, followed with the L-1049 Super Constellation, of which 104 were ultimately built. The Constellations and the DC-6s were not without their problems, however. The Constellation was grounded for over two months in 1946, and the DC-6 for over four months in 1947-48—both as a result. of mechanical problems identified in accident investigations. [Davies, pp. 330, 658-659.]

21. Richard K. Smith, "Fifty Years of Transatlantic Flight, Part II, 1945-1984," *Journal of the American Aviation Historical*

Society (Fall 1990), p. 198. A total of 2,300 DC-4s were ultimately built. by Douglas. Lockheed built. a total of 233 Constellation: eighty-eight of the fifty-four passenger L-ps and 145 of the sixty-four passenger L-749s. [Davies, p. 658-59.]

22. Civil Aeronautics Board, *Handbook of Airline Statistics* (Washington: GPO, 1973), p. 26. In the midst of this growth, in 1943 and 1944, the Aeronautics Board had made a number of important domestic awards—rationalizing the nation's air routes and, in some cases promoting competition along the major airlines. These awards were aimed at improving access to the various and west coast termini for the three transcontinental carriers—TWA, American and United. Northwest also became a transcontinental operator in Dec. 1944, when it got a route extension that permitted service between Milwaukee and New York, via Detroit—thus connecting New York and the Pacific northwest. [Davies, pp. 331-32.]

23. Eight of the fifteen "domestic" lines showed losses in 1946—Braniff, Chicago & Southern, Colonial, Delta, Northeast, Pennsylvania-Central, TWA, and Western Airlines. TWA's loss (approximately \$6,000,000) was unique and was caused largely by the grounding of its *Constellations* (Jul. 12 to Sept. 20, 1946) and a pilots strike (Oct. 31 to Nov. 15, 1946). Excluding the TWA loss, the others lost a total about \$4,000,000. The balance of the domestic air carriers—American, Continental, Eastern, Mid-Continent, National, Northwest, and United Air Lines showed a combined profit of around \$8,000,000. Carleton Putnam, president of Chicago & Southern Air Lines, attributed the losses suffered by just over half the firms to changes in the way the Post Office compensated some airlines for hauling airmail. "Almost all of the losing air lines," Putnam wrote, "are lines which were on a plane-mile rate before the war but are on a pound-mile rate today and were put there only because of abnormal war

traffic.... There is your financial emergency in a nut-shell—mail rate support knocked out from under the majority of the carriers because of the special compensating circumstances of war time, followed by the return of normal conditions without restoration of that support." [Carleton Putnam, "Air Transport's Financial 'Crisis'," *U.S. Air Service*, 38(Apr. 1947): 18-21+]

24. Davies, p. 329.

25. *Ibid.*, pp. 328-31.

26. Daley, *passim*. Pan American Airways changed its name, in 1950, to Pan American World Airways.

27. Press Release [Pamphlet], ATA, "The Airlines in the War," Apr. 8, 1945. In addition to the domestic carriers, American Export and Panagra, and Consolidated Aircraft also flew international routes during the war.

28. Smith, pp. 227-240; Davies, pp. 366-78.

29. Davies, p. 367. In Sep. 1948, American Overseas Airlines agreed to merge with Pan American. That merger was approved in Sep. 1950. This reshuffle of transatlantic routes gave Pan Am and TWA roughly equal opportunity to serve the main capitals of Europe and the main traffic-generating points, including London, Paris, Frankfurt, and Rome. [Davies, p. 381.]

30. *Ibid.*, pp. 366-69.

31. Davies, pp. 371-78.

32. Davies, p. 448; Thayer, p. 92. The non-scheduled airlines were also commonly known as supplemental airlines, or just supplementals.

33. Briefing, Maj. Gen. Robert W. Harper, "The Air Transport Command and Its Relationship with United States Civil Aviation," [c. summer-fall 1947], [p. i (Introduction)], ATC Papers, ATC Civil Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO.

34. The origins of the idea of "containment" lie in Amb. George F. Kennan's "long telegram" (Feb. 22, 1946) from Moscow to the State Department in Washington. That document then appeared as the famous "Mr. X Article" in the Jul. 1946 issue of *Foreign Affairs*. The adoption of a strategy of containment was debated in the Truman administration in the early months of 1947 and explicated by the President on Mar. 12, 1947 when he went before Congress and urged support of what became known as the Truman Doctrine. [George F. Kennan, *Memoirs, 1925-1950* (Boston: Little, Brown & Co., 1967), pp. 313-24, 354-67.]

35. The Air Coordinating Committee, with members from the War, Navy and Commerce, and with Assistant Secretary of State William L. Clayton as chairman, was established by interdepartmental memoranda on Mar. 27, 1945. The CAA's Theodore P. Wright served as executive secretary. The addition of CAB Chairman L. Welch Pogue and representatives from the Bureau of the Budget (non-voting) and the Post Office Department, just a few months after the ACC was formed, increased its membership to seven. The ACC was formalized by President Truman with Executive Order No. 9781 on Sep. 19, 1946. [Berle and Jacobs, *Navigating the Rapids*, p. 509; John R. M. Wilson, *Turbulence Aloft, The Civil Aeronautics Administration Amid War and Rumors of Wars, 1938-1953* (Washington: Federal Aviation Administration, 1979), pp. 203-04; Futrell, I: 224-30.] The ACC was responsible for examining aviation problems and developments affecting more than one participating agency; for developing and recommending integrated policies to be carried out and actions to be taken by the participating agencies or by any other government agency charged with responsibility in the aviation field; and, to the extent permitted by law, for coordinating the aviation activities of such those agencies (except quasi-judicial functions.) The ACC had, since its establishment, "given extensive consideration" to the problem of "mobilizing the aviation

resources of the country," said the committee's first annual report. [Rpt, Air Coordinating Committee, Report of the Air Coordinating Committee, 1946, Jan. 31, 1947, Official File, Box 1520, Folder 657 (Oct. 46-47), Harry S. Truman Lib.] But, there is little record of activity in that regard until the spring of 1947, when an ad hoc committee was formed in the Industrial Division of the Air Coordinating Committee to examine the issue of an air transport reserve. [Minutes of Meeting, ATA Board of Directors Meeting, Jun. 17, 1947, *Minutes of Meetings, Board of Directors, ATAA*, V: 203, ATA Lib; Organization Chart, Air Coordinating Committee, Jun. 2, 1947, Federal Records, RG 220, President's Air Policy Commission Records (1947-1948), Box 33, Folder K4-2, Truman Lib.]

36. Hist, ATC, "Pacific Division, Jul-Dec. 1946," [Microfilm 04015], p. 8, AMC/HO. After World War II the Civil Aeronautics Act (1938) was amended to give the CAB regulatory authority over *supplemental air carriers*, often known as nonscheduled or "nonsked" air carriers. Originally designed to supplement the capacity provided by the trunk carriers, they soon became truly competitive carriers.

37. Richard Collier, *Bridge Across the Sky, The Berlin Blockade and Airlift: 1948-1949* (New York: McGraw-Hill Book Co., 1978), pp. 28-61; Roger D. Launius and Coy F. Cross II, *MAC and the Legacy of the Berlin Airlift* (Scott AFB, Ill: Military Airlift Command, 1989), pp. 1-6.

38. William H. Tunner, *Over the Hump* (Washington: Office of Air Force History, 1985) [first printed by Duell, Sloan, and Pearce, 1964], pp. 155-167. Cited hereafter as Tunner. *Illustrated Hist of MAC*, p. 71.

39. Tunner, p. 295.

40. "Airlines Backstop Berlin Airlift," *Aviation Week*, Sep. 20, 1948, pp. 63-64. The planes and crews of a number of British airlines (seventeen as of early Oct. 1948), under control of British European Airways (BEA), were fully integrated into the British airlift effort. See H. F. King, "B. E. A. to Berlin," *Flight*, (Part I) Sep. 30, 1948, pp. 393-95, (Part II) Oct. 7, 1948, pp. 429-33.

41. Testimony, Stuart G. Tipton (ATA president), Hearings before a Special Subcommittee of the [Senate] Committee on Interstate and Foreign Commerce, May 19, Jun. 12 & 13, 1958, 85th Cong., 2d Sess., p. 122; "Airlines Ease into Mobilization," *Aviation Week*, Jul. 17, 1950, pp. 45-46. Most of these missions were flown in the early months of the airlift. Later, airlift aircraft which had returned to the United States for 1,000 hour overhauls transported this cargo on their return flights.

42. "Airlines Backstop Berlin Airlift," *Aviation Week*, Sep. 20, 1948, pp. 63-64; Testimony, Stuart G. Tipton (ATA president), Annex B of Hearings before the Special Subcommittee on Military Airlift of the [House] Committee on Armed Services, [Oct. 6, 1965 to Jan. 27, 1966], 89th Cong., 1st & 2d Sess., p. 6939. In a 1975 article, ATA president Paul R. Ignatius claimed that more than 2,500 flights between West Berlin and West Germany were made by U.S. airlines between Jun. 1948 and May 1949. ["Let the Airlines Play an Optimum Role in Supporting National Defense," *Defense Management Journal*, (Apr. 1975): 12.] The surmise that S&W had contracted with AOA for some flights into Berlin is based on a task force memorandum in Oct. 1948 indicating that both AOA and S & W were making two flights daily to Berlin from Frankfurt. The S & W flights do not seem to have been Air Force contracts. It is likely that AOA contracted for S&W planes and crews in order to increase the frequency of its Berlin flights while it reorganized its own resources for the effort. [Memo, Lt. Col. Robert D. Forman (Director of Operations, ATF), Subj: Procedures for Aircraft other than Airlift Task Force Aircraft, Oct. 27, 1948, TF Operations Memo 7D, Berlin Airlift Collection, Box 2, Folder Commercial Carriers, AMC/HO; "Airlines Backstop Berlin Airlift," *Aviation Week*, Sep. 20, 1948, pp. 63-64.]

43. Pamphlet, ATA, "Your Scheduled Airlines . . . their place in National Defense," [1951], ATA Lib.
44. *Illustrated Hist of MAC*, p. 74.
45. Both Transocean Air Line and The Flying Tiger Line claim to have been the first to have a plane in the air in support of this operation. See Richard Thruelsen, *Transocean: The Story of an Unusual Airline* (New York: Henry Holt and Co., 1952), pp. 197-198, and Frank Cameron, *Hungry Tiger, The Story of the Flying Tiger Line* (New York: McGraw-Hill Book Co., 1964), pp. 124-126.
46. "Airlines Ease into Mobilization," *Aviation Week*, Jul. 17, 1950, p. 45. Alaska Airlines began as a subcontractor to Seaboard and Western, but initiated flights on its own under a letter contract dated Jul. 31, 1950. The other seven operated initially under letter contracts dated Jun. 30, 1950. [Hist, MATS, "MATS Participation in the Korean Emergency," Dec. 1, 1950, pp. 42, 46, AMC/HO.] Despite the cooperation of the airlines, the Defense Department appears to have made an unsuccessful effort to bring them more fully under military control. The *American Aviation Daily* reported that President Truman had refused to sign a draft executive order that would have allowed the military to take over the airlines. ["Truman said to have Refused Proposal to place Airlines under Military Control," *American Aviation Daily*, Aug. 10, 1950, typescript copy in CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950,] AMC/HO.
47. "Korean Airlift," *Aviation Week*, Jul. 24, 1950.
48. Memo, from D/OPR/TRAF, to DC/OPR, Subj: Summary of Accomplishments by Contract Carriers from Fairfield-Suisum AFB and McChord AFB as of 2400Z, 31 Jul. 1950, Aug. 7, 1950, in Hist, MATS, "MATS Participation in the Korean Emergency," Dec. 1, 1950 (Supporting Documents); Hist, MATS, "MATS Participation in the Korean Emergency," Dec. 1, 1950, p. 51, 49.
49. Hist, MATS, "MATS Participation in the Korean Emergency," Dec. 1, 1950, Historical Branch, HQ MATS, p. 52-53; History of the Air Transport Service, Jan.-Jun. 1951, Historical Branch, HQ MATS, Dec. 1, 1951. I: 10-11. Also contributing to the airlift as a part of the United Nations effort were the Royal Canadian Air Force, Canadian Pacific Airline, and SABENA (Belgium) Airlines. [History of Military Air Transport Service, Jul-Dec. 1952, I: 200-01.]
50. Ltr, Maj. Gen. Francis H. Griswold, Acting DC/S, Material, USAF, to Cmdr, MATS, Subject Airlift to Pacific Area, Aug. 22, 1950, in Hist, MATS, "MATS Participation in the Korean Emergency," 1 Dec. 1950 (Supporting Documents); Ltr, Maj. Gen. Laurence S. Kuter, COMATS, to Milton W. Arnold (ATA vice-president), Aug. 30, 1950, in Hist, MATS, "MATS Participation in the Korean Emergency," 1 Dec. 1950 (Supporting Documents); and Memo, from [Rear] Admiral [John P.] Whitney, Vice COMATS, for General Kuter, Subj: Contract Operations Cutback, Sep. 9, 1950, in Hist, MATS, "MATS Participation in the Korean Emergency," Dec. 1, 1950 (Supporting Documents).
51. Tarr, pp. 45-53.
52. Ltr, HQ USAF to MAC, Mar. 26, 1951, cited in Ltr, General Kuter to CofS USAF, Subj: Utilization of Civil Airlift to Augment MATS Transport Capability, Jun. 12, 1951, in Hist, MATS, "Military Air Transport Service, Jun-Dec. 1951," Vol II, (Supporting Documents), AMC/HO.
53. Ltr, Maj. Gen. W. E. Farthing, Director of Transport, USAF, to Cmdr MATS, Subj: Retention of Civil Aircraft in Support of Korean Operation, Jul. 31, 1951, CRAF Papers, Box 15, Emergency CRAF File; Ltr, Col. Downs E. Ingram, Acting CofS MATS, to Director of Transportation, USAF, Subj: Utilization of Civil Airlift, Oct. 11, 1951, CRAF Papers, Box 17,

Procurement of Airlift 1951-1955 File; Hist, MATS, "Military Air Transport Service, Jul-Dec. 1952," I: 202-03.

54. Memo, Office of Program Monitoring to Special Assistant to CG, Subj: ATC-Public Relations, Jun. 10, 1946, ATC Papers, Civil Airlines Files, Box 168, Folder General Civil Airlines 1946, AMC/HO.

55. Memo, Lt. Gen. H. L. George to CofS ATC, Subj: Policy on Military and Contract Operations of the ATC, Jun. 28, 1946, ATC Papers, Civil Airlines Files, Box 168, Folder General Civil Airlines 1946, AMC/HO.

56. It was not until 1958, when Lt. Gen. William H. Tunner took command of MATS, that an Ferrying Command or Air Transport Command veteran of the war rose to command the peacetime military airlift elements. [*Illustrated Hist of MAC*, pp. 229-31.]

57. Ltr, ATC to AFF, Subj: ATC Participation in WD Affiliation Plan, May 22, 1947 cited in Ltr, Brig. Gen. Harold Q. Huglin (DCG, ATC) to CG, AAF, Subj: Use of Civil Airlines by ATC under WD Affiliation Plan, Jul. 7, 1947, ATC Papers, Civil Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO. See also Ltr, Lt. Gen. Hoyt S. Vandenberg, Acting Deputy Commander, AAF to CG, ATC, Subj: Air Transport Participation in the Affiliation Program, Jul. 10, 1947, ATC Papers, Civil Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO. The affiliation plan did not originate with ATC, but rather with the ground forces. It was a more popular idea with ground transportation units, particularly rail units.

58. Briefing, Maj. Gen. Robert W. Harper, "The Air Transport Command and Its Relationship with United States Civil Aviation," [summer-fall 1947], pp. 3-4, ATC Papers, Civil Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO. Just where and when this presentation was made is not clear from the document itself.

59. Ltr, Maj. Gen. Robert W. Harper to CofS USAF (Attention: Director of Plans and Ops), Subj: ATC Comments on Proposed Amendment to Fair Labor Standards Act, Nov. 5, 1947, ATC Papers, Civil Airlines Files, Box 169, Folder General Civil Airlines 1947, AMC/HO.

60. Minutes, ATA, Board of Directors Meeting, Jun. 17, 1947, *Minutes of Meetings, Board of Directors ATA*, Book V, p. 203, ATA Lib. The ACC ad hoc committee activity, to which Land refers, seems to have been focused, at this time, on the problem of how to provide a reserve of a size sufficient to meet the military air lift requirements in time of war. They were considering government assistance both in the development of new types of transport aircraft and in financing the purchase of such aircraft. Planning concerning the organization and structure such a reserve did not begin in the ACC until the spring of 1948, when the ACC undertook work on airline mobilization for the NSRB. [Ltr, William C. Foster (Chair, ACC and Under Sec Commerce) to Arthur M. Hill (Chair, NSRB), Mar. 9, 1948, RG 341 [Records of HQ USAF], Entry 340: Civil Aviation Branch, Box 53, Folder 144, DO-8D-2A, NA.]

61. Testimony, E. S. Land (President, ATA), Testimony of Vice Admiral E. S. Land, President Air Transport Association of America before The President's Air Policy Commission, Sep. 15, 1947, ATA Lib.

62. Ltr, Thomas K. Finletter (Chairman, Air Policy Commission), to Adm. Emery S. Land (President, ATA), Sep. 18, 1947, Records of the President's Air Policy Commission, Box 3, Folder B1-1 ATA (9/15/47), Harry S. Truman Lib.

63. Ltr, E. S. Land (President, ATA), to Thomas K. Finletter (Chairman, Air Policy Commission), Oct. 1, 1947, Records of the President's Air Policy Commission, Box 3, Folder B1-1 ATA (9/15/47), Harry S. Truman Lib. The degree of planning that had occurred prior to World War II was subject to different interpretations. C. R. Smith, then president of American Airlines and formerly Deputy Commander of ATC, testified before the Air Policy

Commission that "valuable time was lost in the recent war by lack of a formal, prewar program for the orderly mobilization of national air transportation capacity." Still he agreed with Land that "this is work to be done during the years of peace—not after war is upon us. The Air Force must have an orderly mobilization plan and it must continually be kept up-to-date." [Testimony, C. R. Smith (President, American Airlines), [Testimony before the Finletter Commission], Sep. 16, 1947, in "Testimony Presented Before the U.S. President's Air Policy Commission" [a bound collection of testimony before the commission], Vol I [Sep. 15, 1947], ATA Lib.]

64. *Survival in the Air Age*, p. 37. Similar language is found in the Brewster Board report. Rpt, [Brewster Board], *National Aviation Policy* (Washington: GPO, 1948), p. 13. To avoid duplication of effort, the Brewster Board generally relied on the testimony provided to the Finletter Commission and called its own witnesses only when they wished to hear other views, or desired to get more detail from those who had already testified before the Air Policy Commission. It is not surprising, therefore, that the conclusions of the two reports ran parallel to each other.

65. Ltr, James Forrestal (Secretary of Defense) to Admiral Emory S. Land (ATA president), Mar. 11, 1948, CRAF Papers, Box 14, file IV-13, AMC/HO. Land's letter to Forrestal (Feb. 27, 1947) is cited in Forrestal's letter of Mar. 11. Forrestal's instruction to MATS concerning mobilization planning was reiterated in a May 3, 1948 memorandum concerning MATS mission and organization. [Memo, Secretary of Defense to Service Secretaries, Subj: Organization and Mission of Military Air Transport Service (MATS), May 3, 1948, cited in Hist, MATS, "Military Air Transport Service, 1948," p. 494, AMC/HO.]

66. "ATA Group to Aid Military Plan," *New York Times*, Apr. 13, 1948, p. 4.

67. Memo, [Maj. Gen. L. S. Kuter] to Col. Rust and Capt McCrea, Subj: General C. R. Smith's party on 24 May [1948], May 13, 1948, Kuter Papers, Box 9, Special Collections, U.S. Air Force Academy Lib.

68. Stf Jnl, MATS Daily Conf, Jun. 16, 1948, CRAF Papers, Box 1, Folder CRAF 1948-1949, AMC/HO.

69. Although no copy of the main report has come to light, the major recommendations of this study can be inferred from two major annexes of the study that survive: [Plan, ATA, Annex A (General Plan for Utilization of Domestic Aircraft in National Emergency) and Annex B (Domestic Passenger and Cargo Operations of Certificated Carriers During National Emergency), [Jun. 1948], CRAF Papers, Box 14, AMC/HO.]

70. Hist, MATS, "Military Air Transport Service 1948," p. 497, AMC/HO; Study, Strategy and Mobilization Branch, Directorate of Plans and Ops, MATS, "Utilization of Civil Air Carriers Upon Mobilization," [Aug. 1948], pp. 4-8, CRAF Papers, Box 14, AMC/HO.

71. Stf Jnl, MATS Plans and Ops Weekly Diary, Sep. 29, 1948, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO; Hist, MATS, "Military Air Transport Service 1948," p. 497, AMC/HO.

72. Stf Jnl, MATS Plans and Ops Weekly Diary, Nov. 3, 1948, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO. The revised study was entitled "General Policies for Mobilization of the Air Carrier Industry."

73. Ltr, Brig. Gen. Aaron Branshaw, Jr.(Chief, Service Group, Logistics Division, General Staff, USA) to Rear Admiral John P. Whitney (Vice Cmdr, MATS), Subj: General Policies for Mobilization of Civil Air Carrier Industry, Dec. 17, 1948, CRAF Papers, Box 16, Folder General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO; Hist, MATS, "Military Air Transport Service 1948," pp. 498-500, AMC/HO.

74. Ltr, Maj. Gen. Laurence S. Kuter (COMATS) thru CofS USAF to Sec of National Defense,

Subj: MATS "General Policies for Mobilization of the Civil Air Carrier Industry," Jan. 6, 1949, CRAF Papers, Box 16, Folder General Policies for Mobilization of the Civil Air Carrier Industry, AMC/HO.

75. Stf Jnl, MATS Plans and Ops Weekly Diary, Feb. 16, 1949, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO; Hist, MATS, "Military Air Transport Service 1948," pp. 502-03, AMC/HO. The National Security Resources Board was created by the National Security Act of 1947. The Chairman, NSRB, was at that time a statutory member of the National Security Council. As the name implies the NSRB was responsible for policy recommendations on all issues other than foreign policy and defense that had national security implications, for example: the adequacy of supplies of electric power, or minerals, or trained engineers, and for the development of plans for stockpiling critical raw materials and for mobilizing the nations resources (including the airlines) in case of war.

76. Rpt, ACC, "Annual Report to the President by the Air Coordinating Committee, 1948," p. 6, CAA Lib; Rpt, MATS, "Report on the United States Air Force Military Air Transport Service for the Fiscal Year 1949," [c. Jul. 1949], p. 135, AMC/HO; Rpt, ACC, "Annual Report to the President by the Air Coordinating Committee, 1949," pp. 6-7, CAA Lib.

77. Ltr, Maj. Gen. Laurence S. Kuter (COMATS) thru CofS USAF, to Secretary of National Defense, Subj: Study, MATS, "General Policies for Mobilization of the Civil Air Carrier Industry," Jan. 6, 1949, CRAF Papers, Box 16, Folder General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Feb. 16, 1949, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO; Ltr, Milton Arnold (VP ATA) to Harold A. Jones (Chair ACC Subcommittee on Air Transport Mobilization), Mar. 15, 1949, CRAF Papers, Box 16, Folder General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO.

78. Ltr, Milton W. Arnold (VP ATA) to Harold A. Jones (Chair ACC Subcommittee on Air Transport Mobilization), Mar. 15, 1949, CRAF Papers, Box 16, General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO.

79. *Ibid.*

80. Ltr, Milton W. Arnold (VP ATA) to Harold A. Jones (Chair ACC Subcommittee on Air Transport Mobilization), Mar. 15, 1949, CRAF Papers, Box 16, General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO.

81. Stf Jnl, MATS Plans and Ops Weekly Diary, Apr. 6, 1949, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.

82. Study, Lt. Col. H. H. Putnam, Jr., "Executive and Legislative Governmental Interest in Development of the Civil Reserve Air Fleet—1948-1966," MAXWPC, Jan. 1968, p. 1, CRAF Papers, Box 21, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.

83. Ltr, Maj. Gen. Laurence S. Kuter (COMATS) to CofS USAF, Subj: MATS "General Policies for Mobilization of the Civil Air Carrier Industry," Jun. 29, 1959, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.

84. Study, Lt. Col. H. H. Putnam, Jr., "Executive and Legislative Governmental Interest in Development of the Civil Reserve Air Fleet-1948-1966," MAXWPC, Jan. 1968, p. 1, CRAF Papers, Box 21, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.

85. Ltr, Laurence S. Kuter (COMATS) thru CofS USAF to Sec of National Defense, Subj: MATS "General Policies for Mobilization of the Civil Air Carrier Industry," Jan. 6, 1949, CRAF Papers, Box 16, Folder General Policies for Mobilization of the Civil Air Carrier Industry (1949), AMC/HO; "U.S. Airlines Work on Mobilization Plan," *New York Times*, Oct. 20, 1948; Stf Jnl, MATS Plans and Ops Weekly Diary, Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO.

86. Rpt, ACC, "Annual Report to the President by the Air Coordinating Committee, 1949," Feb. 13, 1950, p. 6, CAA Lib; Stf Jnl, MATS Plans and Ops Weekly Diary, Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Jun. 14, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO; Ltr, Maj. Gen. Laurence S. Kuter (COMATS) to CG, Air Material Command, May 24, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
87. Rpt, ACC, "Annual Report to the President by the Air Coordinating Committee, 1949," p. 6, CAA Lib; Rpt, MATS, "Semi-Annual Report of the Military Air Transport Service . . . for the period 1 Jan. - 30 Jun. 1950", pp. 16-17, AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Jun. 15, 1949, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-49, AMC/HO. The terms "standby contract," "service contract" and "call contract" have, at various times, been used to mean essentially the same thing—a contract by which an airline committed aircraft to CRAF. To avoid confusion, I have chosen to use the term "standby contract" throughout.
88. Stf Jnl, MATS Plans and Ops Weekly Diary, Oct. 19, 1949, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.
89. Rpt, MATS, "Semi-Annual Report of the Military Air Transport Service . . . for the period 1 Jan. - 30 Jun. 1950," p. 16, AMC/HO.
90. Ltr, Maj. Gen. Laurence S. Kuter (COMATS) to CG AMC, May 24, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
91. Stf Jnl, MATS Plans and Ops Weekly Diary, Jun. 5, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Jun. 14, 1950, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950, AMC/HO; Ltr, Laurence S. Kuter (COMATS) to Dr. Richard H. Rush (Dir Aircraft Division NSRB) Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
92. Stf Jnl, MATS Plans and Ops Weekly Diary, Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO; Stf Jnl, MATS Plans and Ops Weekly Diary, Aug. 23, 1950, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950, AMC/HO.
93. Ltr, Maj. Gen. Laurence S. Kuter (COMATS) to Lt. Gen. Benjamin W. Childlaw (Commander AMC), Subj: Resumption of Standby Contract Negotiations with the Civil Air Carriers, Aug. 14, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
94. Stf Jnl, MATS Plans and Ops Weekly Diary, Sep. 27, 1950, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950, AMC/HO; Stf Jnl, MATS Daily Conf, Aug. 23, 1950, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950, AMC/HO; Stf Jnl, MATS Daily Conf, Oct. 31, 1950, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1950, AMC/HO. While attempting to reach an agreement with ATA and the scheduled airlines, MATS had also begun negotiations with the supplemental airlines so that the resources of these companies would also be available should the need arise. [Ltr, Maj. Gen. Laurence S. Kuter (COMATS) to Richard H. Rush, Director, Aircraft Division, NSRB, Jul. 12, 1950, CRAF Papers, Box 14, Folder IV-13, AMC/HO. See also, "Independents Ready to Help," *New York Times*, Aug. 19, 1950, p. 29.]
95. Rpt, MATS, "Semi-Annual Report of the Military Air Transport Service for the period 1 Jul-31 Dec. 1950," p. 2.9, AMC/HO.
96. Memo, MATS Plans Section, [Subj: material prepared as input for MATS semiannual report], Jan. 1950, CRAF, Box 1, Folder Civil Reserve Air Fleet 1948-1949, AMC/HO.
97. Rpt, ACC, "Annual Report to the President by the Air Coordinating Committee, 1949," Feb. 13, 1950, p. 6, CAA Lib; "Civil Air Program of Crisis Slated," *New York Times*, Feb. 22,

1950, p. 49.

98. "War Plan Considered for Civil Airplanes," *New York Times*, Feb. 24, 1950, p. 45.

99. Charles L. Adams, "Airlines' Mobilization-Day Role in Dispute," *Aviation Week*, Apr. 3, 1950, p. 12-14.

100. "Air Transport--In War and Peace," *U.S. News and World Report*, Oct. 6, 1950, pp. 32-35.

101. "Role of Airlines in War in Dispute," *New York Times*, Oct. 20, 1950, p. 55.

102. Ralph Damon, "Should the Military Control Our Airlines in Wartime?," *National Defense Transportation Journal*, Nov-Dec. 1950, pp. 33-35. Transcontinental and Western Air had become Trans World Airlines in May 1950, cleverly retaining the same initials, TWA.

103. Rpt, NSRB, "Report on Utilization of Airlines for Wartime Airlift and Proposals to Aid Expansion of the Civil Air Fleet," Dec. 6, 1950, pp. 1-2, CRAF Papers, Box 21, AMC/HO.

104. Stf Jnl, MATS Daily Conf, Jan. 4, 1951, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO; *Survival in the Air Age*, pp. v, 37. C. R. Smith had been appointed a consultant to the NSRB by its chairman, W. Stuart Symington in Jul. 1950. [Ltr, W. Stuart Symington (Chairman, NSRB), to Louis Johnson (Secretary of Defense), Jul. 26, 1950, President's Secretary's Files, Box 146, Folder Agencies NSRB-misc, Harry S. Truman Lib.] Airline historian Robert J. Serling claimed that Symington asked Smith to create a plan for an airline reserve. Says Serling, "With Art Lewis as his staff assistant, Smith developed the concept of the Civil Reserve Air Fleet." [Robert J. Serling, *Eagle, The Story of American Airlines* (New York: St. Martin's/Marek, 1985), pp. 257-58.] Presumably, Serling is referring to the NSRB report of Dec. 6, 1950—"Report on Utilization of Airlines for Wartime Airlift and Proposals to Aid Expansion of the Civil Air Fleet." Smith was not a formal member of the Committee on Wartime Airlift Requirements and Capabilities, which was chaired by James H. Douglas, that was tasked to draft this report, but as a consultant he may have had a hand in it. That report is usually referred to as the "Douglas Report."

105. "Study Airline War Role, Industry and Air Force Meet on Possible Airlift Duty" *New York Times*, Jan. 19, 1951, p. 45.

106. F. Lee Moore, "Airlines Largest Factor in Airlift Potential," *Aviation Week*, Feb. 26, 1951, p. 105.

107. Ltr, Maj. Gen. Ruman H. Landon (Dir Plans USAF) to COMATS, Subj: Proposed Air Priority System for War, Feb. 13, 1951, CRAF Papers, Box 14, Folder IV-13, AMC/HO. It is likely that C. R. Smith played a key role in formulating these plans, just as he had with the Douglas committee. According to airline historian Robert Serling, Smith was recalled to active duty for three months in early Feb. 1951. [Robert J. Serling, *Eagle, the Story of American Airlines* (New York: St. Martin's/Marek, 1985), p. 264.]

108. EO 10219, "Transportation and Storage; defining certain responsibilities of Federal Agencies with respect thereto" Feb. . 28, 1951, *Federal Register*. EO 10219 was issued under authority of the Defense Production Act of [Sep. 8] 1950. That act gave the president broad powers over the entire national economy in times of national emergency. It authorized the president to require that "performance under contracts...which he deems necessary or appropriate to promote the national defense shall take priority...and..to require acceptance and performance of such contracts...by any person he finds to be capable of their performance." In Jun. 1952 a compromise one year extension of the act was passed, but the economic controls were weakened.

109. Stf Jnl, MATS Daily Conf, Mar. 29, 1951, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.

110. Rpt, MATS, "Semi-Annual Report of the Military Air Transport System . . . for the period 1 Jan.-30 Jun. 1951," p. 2, 10, AMC/HO.

111. Ltr, Lt. Gen. Laurence S. Kuter (COMATS) to Admiral Emory S. Land (pres ATA), Apr. 24, 1951, CRAF Papers, Box 9, Folder Civil Reserve Air Fleet Ad Hoc Committee (1951), AMC/HO; Order, HQ MATS, Air Force Reserve Order No. 52, May 18, 1951, CRAF Papers, Box 9, Folder Civil Reserve Air Fleet Ad Hoc Committee (1951), AMC/HO. The members of the Ad Hoc Committee were: Brig. Gen. Ray W. Ireland, United Airlines, Col. James R. Cunningham, United Airlines, Col. Weldon E. Rhoades, Col. James I. Teague, lawyer, private practice, Lt. Col. John R. Wiley, New York Port Authority, Maj. Arthur B. Norden, Seaboard & Western Airlines, Col. Raynond T. Elsmore, Transocean Airlines. There is no apparent reason why two (and possibly three) of the Ad Hoc Study Group came from United Airlines. It may be that many airlines were reluctant to allow their employees to serve. General Kuter did ask Admiral Land of ATA to furnish an officer (Col. Emery M. Ellingson) for the study but Land declined to do so, possibly fearing that ATA's interests would be compromised. [Ltr, E. S. Land to Lt. Gen. Kuter, Apr. 30, 1951, CRAF Papers, Box 9, Folder Civil Reserve Air Fleet Ad Hoc Committee (1951), AMC/HO.] In 1952, Ray Ireland became Administrator of the Defense Air Transportation Administration.

112. Ltr, Lt. Gen. Laurence S. Kuter to Admiral E. S. Land, May 14, 1951, CRAF Papers, Box 9, Folder Civil Reserve Air Fleet Ad Hoc Committee (1951), AMC/HO.

113. Rpt, Ad Hoc Study Group, "Report of the Ad Hoc Study Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, CRAF Papers, Box 14, AMC/HO.

114. Rpt, Ad Hoc Study Group, "Report of the Ad Hoc Study Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, p. 7 and Recommendation #32, CRAF Papers, Box 14, AMC/HO.

115. Although many Air Force officers continued to be skeptical of the willingness of the airlines or their pilots to hazard themselves or their planes in a war zone, militarization never played well before the Congress, or before the senior civilian officials of the Department of Defense and Department of the Air Force.

116. "Contracts Set Under Air Mobilization Plan," *Aviation Week*, Sep. 17, 1951, P. 17; "Program Drafted for Quick Mobilization of Air Transport," *U.S. Air Service*, Oct. 1951, p. 24.

117. This agency had been authorized in Feb. 1951, by Executive Order 10219 which had instructed the Secretary of Commerce to formulate plans for the use of civilian aircraft to meet defense needs. [Executive Order 10219, "Transportation and Storage; defining certain responsibilities of Federal Agencies with respect thereto . . .," Feb. 28, 1951, *Federal Register*.] In Oct. 1951, a Department of Commerce spokesman announced plans to activate the agency in the near future. ["New Agency to Chart Civil Air Mobilization," *New York Times*, Oct. 26, 1951.] Paul Butler, a Chicago business man and president of Butler Aviation, was appointed to head the new agency on Nov. 23, 1951. ["Butler Named to New Air Post," *New York Times*, Nov. 24, 1951.] DATA's predecessor at Commerce had been the Civilian Aviation Mobilization Section that was organized in early 1950 to provide war risk insurance for commercial aircraft operating on military contract, to handle loans made under the Defense Production Act of 1950, to issue tax amortization certificates for Korean War purchases, and to coordinate planning within the Commerce Department concerning the mobilization of the air transport industry. [Mimeograph, Department of Commerce, Defense Air Transportation Administration, "History of the Defense Air Transportation Administration to Jun. 30, 1953," pp. 8-9.]

118. Stf Jnl, MATS Plans Weekly Diary, Dec. 12, 1951, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1951-54, AMC/HO.

119. MOU, Robert D. Lovett (Sen Def) and Charles Sawyer (Sec Commerce), "Memorandum of Understanding between the Department of Defense and the Department of Commerce

Concerning Modification and Use of Civil Aircraft for Defense Purposes," Dec. 15, 1951, CRAF Papers, Box 4, Folder Memo of Understanding, AMC/HO. The memorandum of understanding delineated procedures for the implementation of Executive Order 10219, dated Feb. 28, 1951, directing the Secretary of Commerce to plan for the mobilization of the air transport industry.

120. Memo, Gen. Nathan F. Twining (Vice CofS USAF), to DCS, Dec. 20, 1951, cited in Ltr, Gen. Nathan F. Twining to Commander, MATS, Subj: Civil Reserve Air Fleet, Jan. 22, 1952, in Ronald K. Sable, "Civil Reserve Air Fleet (CRAF): A Primer for Defense and Industry," AWC Research Report MS025-79, Apr. 1979, Appendix A, AWC Lib.

121. "Airline M-Day Plan is Given Approval," *Aviation Week*, Dec. 24, 1951.

122. Col. Edgar S. Gorrell, the first president of ATA, died in Mar. 1945. On Gorrell's pre-World War II efforts to plan the mobilization of the airlines, see Chapters 1 & 2.

CHAPTER IV

SHAPING THE CIVIL RESERVE AIR FLEET, 1952-1954

The Memorandum of Understanding (MOU) signed by the Departments of Commerce and Defense in December 1951 provided for the establishment of the Civil Reserve Air Fleet. But the program, at that stage, was a mere scrap of paper. Not a single airline had formally agreed to join, and not a single aircraft had been pledged to the reserve fleet. As Secretary of the Air Force Thomas K. Finletter told the airline executives, when the program was briefed to them in March 1952, "a great deal of the pick and shovel work has already been done—and well done! It is now up to us who are charged with policy responsibilities by our various organizations to give this program a 'go ahead' signal."¹

Still, arriving at some agreeable operational construct of CRAF proved equally as difficult as the negotiations. Everything proved contentious—contracts, logistic support, aircraft modifications, manpower, training, CRAF's operational structure, and even items—such as the number and type of aircraft required in the fleet—which seemingly had been defined by the Ad Hoc Staff Group Report.² Still, by the end of 1954, general agreement was reached in most of these areas, and the outlines of the CRAF program were established.

Military Air Transport Service and the Airlines

MATS began operations in 1948, with a miscellaneous assortment of airplanes left over from World War II. The Berlin Airlift started only weeks after MATS was created and took its toll on these venerable machines. As late as December 1951, the MATS fleet numbered 938 aircraft, the majority of them still war vintage—that included 63 B-17s, 134 B-29s, 19 C-45s, 179 C-47s (and R4Ds), and 239 C-54s (and R5Ds). The command then possessed 130 more modern aircraft—including 62 C-97 (and R6D) Stratofreighters and a dozen C-124 Globemasters. But MATS, by this time, was replacing and modernizing its aerial fleet. By December 1954, its inventory had grown to 1,420 aircraft, of which 366 were postwar models including 173 Globemasters—soon the mainstay of the strategic airlift fleet—and 37 of the smaller, but newer Convair C-131s.³

MATS's strategic airlift role in the Korean War, which began on a modest scale on the last days of June 1950—carrying barely 2.5 tons per day—had grown to the point that 106 tons were being delivered daily by the time of the truce in July 1953. In that time, MATS airlifted a total of 214,000 passengers and 80,000 tons of cargo to Japan—for the most part using C-54s, C-97s, C-119s, and C-124s.⁴ But MATS also employed the civil air transport industry in its Korean Airlift—contracting for an average of sixty aircraft from both scheduled and non-scheduled airlines. When the war ended, MATS was actively using civil airlines to meet its commitments in Korea and elsewhere.⁵

By 1952, the scheduled domestic air fleet of the United States numbered nearly 1,400 transport aircraft, of which more than 500 were four-engine types. (Most of the remainder were large, postwar, twin-engine aircraft.) Moreover, the four-engine models of 1952 had much greater speed and up to four times the lifting power of the best prewar aircraft. This lift capacity was substantially increased by the addition of more than thirty-five four-engine and fifty twin-engine aircraft delivered to the airlines in 1951. In addition, on order as of December 1951 were 400 transports, including fifty-nine four-engine and 119 twin-engine types.⁶

Table 4.1
Airline Passenger Travel

Year	Passenger Seat-Miles (000,000)	Annual Growth
1950	10,240	16%
1951	13,209	29%
1952	15,633	18%
1953	18,246	16%
1954	20,626	13%

Source: Civil Aeronautics Board, Handbook of Airline Statistics, (Washington: GPO, 1973), pp. 22, 26.

This spate of fleet re-equipment fit nicely into the programs of the military airlift planners, and to a small degree they might claim some credit for it. Fortunately, the state of the nation's economy and the activities of the airlines in these years worked to the benefit of both the industry and the military planners. More passengers rode the airlines than ever before. A 29 percent increase in passenger miles in 1951 over 1950 poured the greatest revenue into the industry in its history—more than \$1 billion dollars. Despite high taxes and rising operating costs, the airlines were still able to pay for much of their new equipment out of profits.⁷ (See Table 4.1)

Other conditions also strengthened the civil air transport industry; improvements in navigation and in air traffic control, for example, greatly enhanced U.S. airport operations in all weather conditions. In 1947, air controllers could handle roughly fourteen aircraft landings and takeoffs each hour under instrument flight conditions. During the Berlin Airlift, in 1948-49, the Air Force achieved a sustained rate of twenty arrivals and departures per hour—one arrival and one departure every three minutes in all weather conditions. By 1954, further improvements in equipment and techniques allowed the nation's larger airports to handle up to forty arrivals and departures per hour under instrument flight conditions.⁸

Government policy changes also encouraged growth. President Truman's 1948 appointment of former airline official Delos W. Rentzel to be CAA Administrator, Rentzel's subsequent advancement to Chairman of the Civil Aeronautics Board, in 1950, and then his appointment as Under Secretary of Commerce for Transportation (1951) signaled a clear "pro-airline" policy.⁹ So did a White House Office of Management and Budget (OMB) ruling in 1951 that permitted the carriers to accelerate the depreciation of their new equipment—cutting their near-term tax burden at least. "This ruling is a keystone in the government's plan to erect a strong civil reserve for military airlift," wrote *Aviation Week*. It made orders for new equipment a better gamble. It encouraged the airlines to take the risk those orders entailed. A growing civil air transport industry enhanced the potential mobilization reserve. That prompted a National Security Resources Board task force

recommendation that "civil air transport requirements have a priority equivalent to that granted to the military under mobilization."¹⁰

Introducing the Civil Reserve Air Fleet

The Civil Reserve Air Fleet concept was formally presented to the top executives of the airline industry and made public on Mar 26, 1952, at a meeting in Washington sponsored jointly by Secretary of Commerce Charles Sawyer and Secretary of the Air Force Finletter.¹¹ The executives were presented with the concept developed by MATS's ad hoc staff group in May and June 1951, and approved in December of that year by the Secretaries of Commerce and Defense.¹² An unclassified version of that plan—entitled, "The Department of Defense Plan for the Civil Reserve Air Fleet," was issued to the executives at this meeting.¹³ "[The plan]," Sawyer told the airline executives, "is...based on the belief, which was borne out by experience in the last war, that the most efficient use of that part of your fleet which must be used in direct support of military operations can be accomplished by operation under contracts between the airlines and the Government so as to give the armed forces the use not only of your airplanes but also of your management ability, your experience, your organization, your know-how and your personnel."¹⁴

Secretary Finletter reassured the executives concerning a portion of the plan which dealt with the militarization of the airlines. "Our primary reason for feeling that the discretionary right of militarization must be retained is to provide only for overriding emergencies. Plans for possible militarization are still to be worked out. However, I can assure you that action to militarize a part or all of the Civil Reserve Fleet will be taken only by highest authority, and then only in cases of demonstrable necessity."¹⁵

MATS commander, Maj. Gen. Joseph Smith, then briefed the assemblage on the highlights of the new CRAF program. "I can assure you that all of the mobilization planning accomplished within the Air Coordinating Committee, all the thinking that was put into the NSRB Task Group Reports, and the Douglas Report, has been used extensively in writing this plan."¹⁶ Smith was in a position to know. He had been Director of Plans on the Air Staff immediately before taking command of MATS in December 1951 and, as such, had been responsible for Air Staff action on the subject. Smith had graduated from West Point in 1923, when he was commissioned a second lieutenant of Cavalry. He transferred to the Army Air Corps in 1929 and was one of the pilots in the air mail operations in 1934. During World War II, Smith served on the Joint War Plans Committee of the Joint Chiefs of Staff and later with the XX Bomber Command in India and the Eighth Air Force in Okinawa. In Germany in 1948, Smith had helped put together the Berlin Airlift. He assumed command of the Military Air Transport Service in November 1951 and remained until June 1958.¹⁷

"In a nutshell," General Smith told the airline executives, "[the plans] provide as follows: A specific number of 4-engine transport aircraft within the civil fleet will be earmarked for assignment to the reserve fleet. To the extent necessary, and at government expense, each aircraft so earmarked will, through advance modification, be made operationally capable of engaging in military support operations on 48 hours notice. [And,] modification and use of the reserve fleet will be in accordance with contractual arrangements to be entered into between the Air Force and you civil operators."¹⁸

"The Commerce and Defense Departments have done a prudent bit of planning in setting up an orderly plan now for the uses of civilian aircraft in time of national emergency,"

reported the *Washington Post*. "The virtue of the air reserve fleet plan, in which the airlines are cooperating, is that it will enable both the military and the carriers to know where they stand."¹⁹

The object of the March meeting of airline executives was to prepare the way for the Military Air Transport Service, working closely with Commerce's Defense Air Transportation Administration (DATA) and the airlines, to begin the process of bringing the Civil Reserve Air Fleet into being.²⁰ To get the plan under way target dates were established by DATA for key events in the process: airlines to nominate aircraft by "N" numbers for CRAF modifications (April 15, 1952); negotiate contracts with the Air Force for modification of aircraft (May 1, 1952); negotiate an overall standby contract with the Air Force to cover the services needed for implementing the plan—such as operating airlift, training, maintenance, and stockpiling of equipment (August 1, 1952); and survey manpower situation (May 1, 1952).²¹ Almost immediately, however, it became obvious that these target dates were overly optimistic. Shortly after the formal presentation of the CRAF plan, it became apparent that even the composition of the reserve fleet would need to be revised. This was due not only to some inequities in allocations but also to substantial changes in the airline fleets in the year since the Ad Hoc Staff Group had been made its report.

In July 1952, a group of airline representatives, organized by DATA, working in conjunction with MATS completely revised the Civil Reserve Air Fleet. They did away with the concept of first and second line reserve fleets which had been the heart of both the NSRB's Douglas Report (December 1950) and the report of the Ad Hoc Staff Group (June 1951). Instead, they called for a single reserve fleet—all of which would be called up in a mobilization.²²

In October 1952, eleven months after the signing of the memorandum of understanding and seven months after the airline executive conference, *Aviation Week* reported that "airline mobilization planning" still had not moved beyond "the debate stage."²³ MATS reported "splendid cooperation from the airlines industry in implementing the CRAF plan," but, in fact, little had been accomplished.²⁴ At year-end, General Smith noted that: "Throughout our monitorship of the program, I have held as an objective the development of mutually acceptable resolutions of all problems, and, although some of our overly ambitious target dates have suffered from time to time, I have the satisfaction of knowing that we are achieving thorough coordination each step of the way.... We are receiving the wholehearted cooperation of the airlines' industry even though, at times, we have encountered some very sensitive problems. In this respect I think that we can all be justifiably proud that there has been no real industry opposition to the plan itself." But still there was little progress to report toward the organization of CRAF and no apparent sense of urgency. "In general, I feel that our progress in all departments has been very satisfactory," wrote Smith, "in spite of the many unforeseen developments which always crop up in a program of this magnitude."²⁵

The CRAF plan originally presented to the top officials of the airlines at the March 1952 conference included a list of aircraft, by type, allocated to the first and second line reserve fleets by the Defense Air Transportation Administration, and a list of the airlines that might furnish these aircraft. The initial plan called for a first line reserve fleet to have 91 aircraft which would be expected to operate throughout a period of emergency, and a second line reserve fleet of an additional 240 aircraft which would be utilized in the early days of a conflict and then released to the airlines. Both fleets, a total of 331 aircraft from twenty-five air carriers and the CAA, were to be available on 24 hours notice.²⁶ (See Table 4.2)

Table 4.2

Initial CRAF Aircraft Allocation Plan

Airline/Agency	No. Reserve Aircraft		
	First Line	Second Line	Total
Alaska Airlines	1	2	3
American Airlines	4	57	61
Aviation Capital	1	-	1
Braniff Airways	-	6	6
California Central	1	-	1
California Eastern	4	-	4
Capital Airlines	-	5	5
Chicago & Southern	-	4	4
Delta Airlines	-	3	3
Eastern Airlines	3	23	26
Flying Tiger Line	3	-	3
Frontier Airlines	1	-	1
National Airlines	-	10	10
Northwest Airlines	-	18	18
Ocean Air Tradeways	4	-	4
Pan American World Airways	20	20	40
Pan American-Grace	-	6	6
Pacific Northern	1	-	1
Seaboard & Western	4	-	4
Slick Airways	-	3	3
Transocean Airlines	10	-	10
Trans World Airlines	25	26	51
United Air Lines	7	52	59
U.S. Overseas	1	-	1
Western Airlines	-	5	5
Civil Aeronautics Admin.	<u>1</u>	<u>-</u>	<u>1</u>
Total	91	240	331

Source: Plan, MATS, The Department of Defense Plan for the Civil Reserve Air Fleet, March 20, 1952, CRAF Papers, Box 14, MAC/HO.

When DATA officials met with representatives of the airlines in April 1952, however, to identify by "N" number the specific aircraft which would comprise CRAF, it was already apparent that the composition of the reserve fleet would have to be revised.²⁷ In July, a special working group of airline representatives, organized by DATA and operating in conjunction with MATS, rejected the concept of "a First Line Reserve Fleet...to engage in military support operations continuously throughout a period of emergency, and a Second Line Reserve Fleet consisting of... aircraft which will be needed, in addition to MATS fleet and the First Line Reserve, to meet airlift requirements during peak-load periods." They proposed, instead, a single reserve fleet, all of which would be ready for mobilization on forty-eight hours notice, and the Air Force accepted.²⁸

By late July 1952, however, the airlines and MATS had still not been able to decide just who would contribute how many of what type of plane. "Aside from delays in deciding what type of planes are needed," reported *Aviation Week*, "there have been knotty negotiations as to which airlines shall contribute them." "The result is," the industry journal noted, "that even now there are only about 78 planes definitely earmarked for [the] modification" necessary to operate with the military on short notice.²⁹

In January 1953, MATS once again asked DATA to call a meeting to reexamine the composition of the fleet. The new Fleet Recomposition Committee met in April, but the action was delayed when MATS expressed the desire to include as many cargo aircraft as possible.³⁰ MATS then conducted a survey to determine to what degree the civil operators had altered the cabin sub-floor structure and fuselage cargo doors on those war-time DC-4s which had been built to handle cargo. There turned out to be forty-eight of these aircraft still in airline inventories and all but two retained the original cargo floor and wide cargo doors, although in most cases the cargo doors had been sealed shut. All such DC-4s were subsequently included in the CRAF since they could easily be reconverted from passenger service to cargo aircraft.³¹

Table 4.3

CRAF Fleet Composition

	1st Line	Mar 1952 2nd Line (init)(perm)	Jul 1952	Sep* 1953	Dec 1954
B-377	12	23 23	24	26 (3)	19
DC-4	44	96 138	117	124 (8)	125
DC-6	11	88 77	87	85 (6)	107
Constell.	<u>24</u>	<u>33</u> <u>33</u>	<u>69</u>	<u>73</u> (7)	<u>66</u>
Total	91	240 271	297	308 (22)	317

*Contingency Reserve in () is not included in total, but the 308 total does include nine DC-4's added for CRAF route support.

Sources: (March 1952) "Department of Defense Plan for the Civil Reserve Air Fleet," March 20, 1952, p. 10, CRAF Papers, Box 14, MAC/HO; (Jul 1952, Sep 1953) MATS, "Civil Reserve Air Fleet Plan, Second Annual Report, Summary of Implementing Actions," January 1954, pp. 4-5, CRAF Papers, Box 14, MAC/HO; (Dec 1954 [Jan 1, 1955]) History of Military Air Transport Service, July - December 1954, p. 158, MAC/HO.

On September 15, 1953, representatives of DATA, MATS, and the participating operators approved a reserve fleet which now consisted of 308 aircraft—299 for CRAF operational requirements and nine to provide route support for the CRAF operators. In addition, the recomposition committee suggested a designated "contingency reserve" to provide a readily-available source of replacements for future losses of aircraft that had been designated for CRAF. Twenty-two aircraft were allocated to it. All the planes in the basic fleet and the new Contingency Reserve were then reported to Air Materiel Command (AMC) and identified by specific "N" number for inclusion in the aircraft modification program.³² (See Table 4.3)

Although the prospect for the successful negotiation of a standby contract between the air transport industry and the Air Force had looked promising in the fall of 1950, that effort had been suspended while the National Security Resource Board formulated its position on airline mobilization.³³ When the Department of Commerce accepted the CRAF plan drafted by the MATS Ad Hoc Staff Group, with its explicit provision for militarization (in extraordinary circumstances), MATS dropped any further consideration of the standby contract which had seemed so promising in October of 1950, but which had consciously rejected militarization.³⁴

AMC began work on a new standby contract in June 1952, when it constituted a panel of representatives of Headquarters USAF, MATS, AMC, DATA and the CAB. The

recommendations of this group became the basis for later negotiations.³⁵ The standby contract was originally intended to cover services to be furnished by the CRAF operators both before and after D-Day and to commit the contractors to military support operations under the provisions of the CRAF plan. AMC drafted such a contract and submitted it to the airlines in May 1953, but it was uniformly rejected. AMC then drew up a standby agreement which was much less detailed, but only four, comparatively small, non-scheduled operators had signed this contract by the end of 1953.³⁶

In the meantime, the Air Transport Association pressed for a standby contract along the lines it had defined in 1950—a position that was characterized by Air Force staff officers as being "virtually 180 degrees from the AMC draft." In September 1953, after proving unable to narrow the difference between its position and that of ATA, AMC referred the matter to Headquarters USAF.³⁷

In December 1953, Assistant Secretary of the Air Force (Materiel) Roger Lewis ordered AMC to drop efforts to draft a general contract and to negotiate separately with each operator. These separate agreements were to be in two parts: pre-D-Day services—custody of strategic reserves, training, and logistics planning—and post-D-Day operations. A meeting between AMC and the airlines was held in early 1954 to explain this concept and to get negotiations underway; still, the year passed without additional signings. Only the "nonskeds" who had signed the year before had committed themselves to standby contracts. Until mutually agreeable standby contracts between the airlines and the Air Force could be established, only a moral obligation existed for the carriers to furnish aircraft and to support MATS as planned.³⁸

The purpose of the modifications was to configure all CRAF aircraft so as to permit, with forty-eight hours notice, their utilization in military over-ocean operations. In an effort to ensure the use of standard equipment, particularly of navigation and communications equipment, the MATS Ad Hoc Staff Group had recommended a list of components that should be installed in all CRAF aircraft. To make maximum use of existing commercial equipment, however, a list of acceptable equivalents or substitutes was prepared at a joint meeting of MATS, AMC, DATA and the airlines in August 1952.³⁹

Meanwhile, as soon as the memorandum of understanding had been signed by Commerce and Defense in December 1951, AMC had contracted with four different airlines for a prototype modification of each of the four types of aircraft included in CRAF. United Airlines was chosen to do the prototype modifications on the Douglas DC-6—Northwest Airlines the Boeing 377 Stratocruiser, Pan American the DC-4s, and Trans World Airway the Lockheed Constellations.⁴⁰

United completed its work on the DC-6 in January 1952, the others finished their work the next month.⁴¹ On March 24, representatives from MATS, AMC, DATA and the Air Transport Association met to study the original AMC specifications for the CRAF modifications and the experience of the prototype modification program. When they had finalized the modification specifications, the detailed engineering and technical data was submitted to AMC. It was then distributed to the CRAF participants who would use it in modifying their own aircraft and in negotiating modification contracts with the Air Force to cover those costs.⁴²

In late July 1952, when the first CRAF fleet composition was reported by type and tail-number, AMC began the negotiation of modification contracts with each operator. In deciding on these modifications, the airlines and AMC agreed that the installation of the communication, navigation, and survival equipment was not required during peacetime commercial operations because they added weight and imposed a continuing fuel penalty. To

accomplish this AMC and the airlines agreed to the concept of Group A and Group B modifications. The Group A modifications consisted of the necessary wiring, fittings, and brackets to allow the quick installation of the required standard equipment. For the most part, this could be accomplished during routine maintenance. In general, these modifications added less than fifty pounds of weight to the aircraft, weight which the airlines agreed to accept without compensation. The target date for the completion of these modifications was June 1953.

The Group B modifications were to be accomplished during the 48 hours immediately following a CRAF call-up, and consisted of installing the operating equipment—radio and radar equipment, periscope sextant assemblies, over-ocean survival equipment, and, in some cases, complete navigator stations—using the Group A wiring, fittings, and brackets. The Air Force supplied these items to the operators as soon as contracts were negotiated for the maintenance, inspection, storage, and rotation of the equipment. The entire cost of the modification of aircraft and stockpiling was assumed by the military.⁴³

Although the Group A modification specifications had been provided to the CRAF operators in the spring 1952, no immediate progress was made in negotiating the contracts for those modifications. In August, the airlines selected to participate in CRAF were invited to a meeting in Chicago to discuss the technical details of the modifications. Each of the four different types of four-engine aircraft utilized in CRAF was discussed. Still, the airlines were slow to act. "It was with considerable surprise that we learned that no actual modification has as yet been undertaken," reported MATS in February 1953, and that prompted senior Air Force delegations to visit the top management of the companies participating in the CRAF program. With that, the tempo of contract negotiations picked up.⁴⁴

In May 1953, General Smith reported the modifications program to be "progressing satisfactorily even though our previously established target date of 1 July 1953 for completion of the program will not be met." Among other things, Smith blamed the delays on difficulties in negotiating contracts, and problems in obtaining the modification materials.⁴⁵ By mid-summer, however, modification contracts had been executed with the majority of the operators, but as late as October, *Aviation Week* reported: "They are still planning and so far no modification has started."⁴⁶

The target date for the completion of the Group A modifications was revised from July 1953 to April 1954, but it soon became obvious that if the modifications were to be accomplished, within this new schedule, it would be necessary to take some of the aircraft out of service for the modifications rather than wait for their next regularly scheduled service. That would require a reimbursement to the airline for the out-of-service time. Carriers were told that in making their bid proposals for the modifications they should "attempt to reduce the time out of service to the minimum," but still keep in mind "that it is desired to have these modifications completed as quickly as possible."⁴⁷ After further consideration, the decision was made that the high cost of reimbursement for out-of-service time could not be justified and that the modifications were to be done during periods of scheduled maintenance which, of course, meant further delays.⁴⁸

Although efforts to negotiate the Group A modification contract began in the late spring 1952, the terms were still in dispute in October—especially the question of which items should be fixed price and which should be reimbursable.⁴⁹ In May 1953, General Smith reported that in some instances, difficulties had arisen in negotiating modification contracts. "This has been due in part," he wrote, "to unreasonable demands made by some operators but, principally, it has been due to the very complexity of the program itself."⁵⁰ By the end of 1953, however, AMC had executed these contracts with seventeen of the twenty-two

operators—of the 330 aircraft designated for CRAF (including the new contingency reserve), the modification of 215 (65%) were now covered by contracts. Still, at the end of 1954, nearly one-third of the fleet had yet to undergo Group A modifications. Progress towards the Group A modifications proved painfully slow.⁵¹

The Group B phase of the CRAF modification program included the procurement, stockpiling, and routine periodic inspection by the CRAF operators of the items of equipment to be installed in case the aircraft were called into military service—radios, navigation equipment, emergency equipment, etc. By March 1953, AMC had received lists of Group B items required by each of the CRAF operators. Because of the lead time needed to procure Group B items, AMC earmarked existing excess stocks for CRAF and started procurement action for the balance. By the end of 1953, approximately seventy percent of the dollar value of Group B equipment was available and ready for issue, pending the completion of contract negotiations. This figure remained essentially throughout 1954.⁵² Although MATS had been identifying and collecting material for the Group B modifications in early 1953, contract negotiations between AMC and the airlines for these mods did not begin until 1954, and they continued through 1955 without resolution.⁵³

The CRAF aircraft modification program also entailed a third category, the conversion of DC-4s and DC-6s to a cargo configuration. From the very inception of planning, MATS officials had wanted to increase the cargo lift capability of the Civil Reserve Air Fleet, but the civil fleet was overwhelmingly configured for passenger traffic.⁵⁴ The original Ad Hoc Study Group report projected a requirement for the D-Day conversion of 27 DC-4 and 66 DC-6 passenger type aircraft to a light cargo configuration.⁵⁵ Planning to execute this recommendation (implementation would not occur until after D-Day) stalled pending a restudy of expected wartime traffic requirements. Despite the inefficiency of using narrow-door aircraft as cargo carriers, the study revealed such a light-cargo configuration was practicable and would be necessary if they were to achieve the anticipated workload. It was also found that all CRAF passenger aircraft could be used initially as passenger carriers, with the cargo conversion made at some later time. Also, by deferring this modification beyond the first twenty-four hours after call-up, the requirement for stockpiling plywood and other items readily available could be avoided, thereby substantially reducing the pre-D-Day cost of CRAF preparations.⁵⁶

Moreover, the C-54 cargo aircraft identified in the industry-wide survey were instant candidates for conversion to a heavy-cargo, large-door configuration, and the time and cost to complete the work would be negligible. Consequently, the reworking of these doors was added to the cargo conversion program.⁵⁷

Organizing the Civil Reserve Air Fleet

One of the basic assumptions in the CRAF Plan held the airlines responsible for procuring, positioning, and supervising all personnel necessary to man and support CRAF in contractual operations. Still, MATS found itself supporting the efforts of the civil operators in these matters in two ways. First, it supported the airlines in the procurement and peacetime training of standby navigators. Second, it attempted to provide post-D-Day protection for the civilian personnel who were needed in the CRAF program but were also military reservists who might otherwise be indiscriminately recalled to active duty.⁵⁸

Because domestic flights did not employ navigators, too few of them were available to meet the requirements of CRAF. In 1952, various means of alleviating this shortage were

explored, with little success. Consideration was given to using inactive Air Force Reserve navigators and to training new navigators. And MATS did collaborate with the Civil Aeronautics Board in promulgating a Civil Air Regulation designed to facilitate certification of standby navigators.⁵⁹

A survey of military reservists employed by the civil airlines showed that they made up a significant proportion of most carrier's aircrews. The indiscriminate recall of the reservists employed by the airlines would not only jeopardize CRAF but disrupt commercial air transportation—an essential element in the nation's wartime economy. In fact, increased wartime airlift requirements (both CRAF and commercial) would place even greater demands on airline personnel.⁶⁰

To examine the problem in more detail, in late 1952, MATS General Smith asked DATA to create a Manpower Working Group composed of representatives of the air transport industry, the Air Force, and DATA. This group held its first meeting in February 1953, in Chicago. After reviewing the scope of the over-all problem, it concluded that it could do little until actual manpower requirements (ordered by skills and specialty numbers) were determined—a task for the Logistics Working Group. In September, when that information was furnished, the manpower group established study policies and ground rules and then turned the detailed determination of manpower requirements, for each airline, over to the two regional committees—one for the Pacific area and one for the Atlantic.⁶¹

In the meantime, MATS explored various ways of insuring the contractors of the services of their reservists after the declaration of an emergency. One possible solution was for the airlines to indicate which reservists would be assigned to the wartime operation of CRAF. That would have reduced the problem to just those individuals. As the airlines pointed out, however, they were bound by union contracts to follow certain established procedures in selecting personnel for duty assignments. It would be impossible for them to designate personnel prior to D-Day without entering into labor union negotiations, a step which all sides considered inadvisable.⁶²

A more workable solution, as it turned out, was simply to transfer the necessary USAF reservists into the "MATS Reserve Holding Units." There, MATS could monitor and control their recall. Fourteen such reserve holding units were created, to which all CRAF airline personnel with an Air Force reserve status were assigned. Although this solved much of the problem, it did nothing for airline personnel in the Army and Navy reserves.⁶³

In October 1952, General Smith proposed to DATA that a CRAF Logistics Working Group be organized. Smith realized that the most important single factor which would influence the effectiveness of the reserve fleet would be the quality of the logistic support program. The Logistics Working Group was composed predominantly of airline supply and operations personnel, and representatives of Headquarters USAF, MATS, and AMC. It was made up of several constituent committees and groups: a Top Committee, Atlantic and Pacific Committees, and Technical Advisory Groups. The Top Committee which would lay the ground rules upon which more detailed planning could be based. It would pass upon the work of the subordinate committees and groups and would forward to MATS its recommendations for the organization and operations of CRAF. Membership on the committee usually included the airlines' top administrative personnel, but it was chaired by a DATA representative.

The Atlantic and Pacific Committees were made up of the airlines' top operational personnel and representatives from MATS and AMC; each was chaired by DATA. The committees were responsible for developing detailed plans for CRAF within their area. Finally, there were the Technical Advisory Groups which assisted the Atlantic and Pacific Committees by providing advice in technical areas—operations, communications, traffic,

engineering and maintenance, stores and purchasing, and manpower. These groups were made up of airline technical personnel and similarly qualified representatives from MATS and AMC and were chaired by MATS.⁶⁴

To avoid any possible antitrust violation which might be involved in the functioning of the Logistics Working Group, MATS and DATA representatives met with Justice Department officials and worked out a set of ground rules for the group's operation: the meetings had to be chaired by a government representative, the agenda had to be prepared by a government agency, and minutes had to be taken by a government stenographer.⁶⁵ The Logistics Working Group held its first meeting on December 3, 1952, with the objective of detailing the requirements for fuel, oil, spare parts, ground handling equipment, physical facilities, and personnel at each CRAF base; making recommendations regarding procurement, transportation, storage, inspection and maintenance of this equipment; and estimating the cost of the logistic materials required. In addition, the group was to recommend the actual method of operating the reserve fleet.⁶⁶

These tasks were assigned to the two area committees and deadlines established—January 15, 1953 for some items, and February 15, for others. Because the committees' efforts were based on very general operating plans, the lists were somewhat tentative and subject to revision after more detailed operation plans were formulated. Both committees met the initial deadlines. MATS, in transmitting the lists to AMC in February, recommended that they be used only as a basis for immediate fund obligation and procurement directives. Actual procurement, MATS advised, should be deferred until revised lists were available.⁶⁷ Still, this was not to be allowed to delay the procurement process. General Smith shared with his counterpart at AMC, Lt. Gen. Edward W. Rawlings, the view of the Air Force Chief of Staff, General Nathan F. Twining: "General Twining has sent me a note stressing the extreme importance attached to the need for getting procurement action under way immediately. I heartily endorse this viewpoint. Certainly, the degree to which stockpiling has been accomplished will ultimately be the determining factor in the effectiveness of civil reserve operations."⁶⁸

The Logistics Working Group next turned to the preparation of a detailed operational plan for all CRAF operations. This plan, commonly known as the "Yellow Book," was adopted in 1953. The next year, the Logistics Working Group joined with MATS in drawing up a paper intended as a transition from the civilian drafted "Yellow Book" to a more standard military format. This became MATS CRAF Plan 182-54, and later MATS Operations Plan 182-55. These plans provided a framework for long-range CRAF planning and resource allocation.⁶⁹

The Logistics Working Group solved another important operational problem by the creation of the "Senior Lodger" program, whereby one airline was designated "senior lodger" at each CRAF base and made responsible for all en route services for CRAF aircraft transitting the base. Members of the working group made on-site surveys of each base in March and April 1954 to study the peculiarities of the various bases and determine which services would have to be provided at each base by the senior lodger.⁷⁰

Prior to D-Day, the senior lodgers would receive, store, inspect, and maintain in a state of readiness the parts, spares and equipment stockpiled for the support of CRAF. After D-Day, the senior lodgers were to be responsible for the operational handling of all CRAF aircraft through their respective stations. This included the complete traffic function at civil airports and all en route and turn-around maintenance at both civil and military stations. Also the senior lodgers were to maintain appropriate accountability and consumption records for parts, spares, and equipment stockpiled for the support of CRAF operations.

The 1953 addition of aircraft for route support of the CRAF operation somewhat simplified the logistics problem. With these aircraft dedicated to supporting CRAF operations, it was possible to plan on repositioning commercial stocks held at bases in the United States to overseas bases as needed, greatly reducing the number and quantity of items that had to be stockpiled at overseas locations prior to D-Day.⁷¹

Insofar as petroleum, oil and lubricant (POL) supplies were concerned, Headquarters USAF agreed to arrange for them. Clearly, CRAF's requirements, if added to the Air Force's worldwide POL program, could be procured and stored more economically and efficiently than if procured piecemeal by the various civil operators. The CRAF requirements were then consolidated and included with the Air Forces total emergency POL requirement.

The CRAF organizational structure, as recommended by the Ad Hoc Staff Group in 1951, was designed to both fulfill the requirements of contractor operations and to provide for the long contentious transition from contractual to militarized operation if that proved necessary. With the latter in mind, MATS envisioned each contractor sponsoring a company-affiliated reserve unit to which all company personnel with a reserve status could be assigned and to which others could be recruited. The airlines, however, saw it differently. To them, the affiliation program was little more than an unwieldy attempt to superimpose a military organizational structure upon a civilian operating company.

Even in MATS, however, there were those who questioned the efficacy of the Ad Hoc Staff Group militarization plan. Col. John D. Bridges, Chief of MATS's Civil Air Branch, termed the affiliation plan "indefinite and difficult to implement." Noting that the plan considered militarization a last resort, he argued that "a Reserve Force program of the magnitude outlined in the plan appears exceedingly expensive, time consuming and wasteful." The airlines, he concluded, paid "'lip service' to the proposed affiliation unit program, as they recognize it has little chance of being completed and therefore contract operations would be the military's only recourse."

The notion that militarization would take place "when considered necessary by appropriate authority" also drew fire from planners at Air Force headquarters. They asked MATS to furnish either "a planning assumption or a fixed decision as to when militarization of the Civil Reserve Air Fleet is to take place." That question put MATS in a difficult position. To provide even a planning assumption would almost certainly anger the air transport industry, which remained strongly opposed to militarization in any form. But to do otherwise was to give up the option. General Smith chose the latter course. In its response, MATS declined to estimate when militarization might take place and instead simply insisted that "the contractual method of employing the capability of the Civil Reserve Air Fleet is preferable to militarization." Air Staff planners concurred in general, but were unwilling "to make an irreversible Air Force commitment for contractual operations" unless MATS could obtain "the required degree of operational control" and a commitment from the airlines "describing conditions under which civilians will be used in hazardous zones." In large part because of the vagueness which existed about when, and under what conditions, militarization might take place, the Air Force ultimately decided in favor of contractual operations throughout.⁷²

Instead of the organizational approach developed by MATS, the Top Committee, on May 5, 1953, proposed an entirely new type of organization.⁷³ Since the Civil Reserve Air Fleet consisted essentially of two fleets of aircraft—one for the Atlantic and one for the Pacific—they proposed separate but identical control organizations for both. The Atlantic and Pacific control boards, later revised to be called the operations boards, were to be composed of representatives from each carrier contributing aircraft to CRAF operation in the region,

and a representative from the MATS division commander's staff (Atlantic or Pacific Divisions) who was to be called a CRAF coordinator.⁷⁴ The two boards would each be assisted by the six technical advisory groups—operations, traffic, manpower, communications, stores and purchase, and engineering and maintenance. And, each board would elect a director to coordinate the operational activities of all participants and who would represent all participants in dealing with MATS on operational matters. The directors were responsive to a MATS division commander through whom MATS would exercise operations control of the civil reserve fleets.⁷⁵

"This proposed organization, designed to maintain the operational and economic entity of each company, appears at first glance to be somewhat cumbersome from a purely military viewpoint," admitted the MATS Commander, Lt. Gen. Smith. "However, since it was developed by the top operating personnel of the industry," he continued, "I am fully confident that it can be made to work satisfactorily. Accordingly, I have agreed to accept it, subject to the proviso, however, that sufficient directive authority be incorporated to ensure that operational requirements can be fully met." In June and July 1953, the Atlantic and Pacific committees began to review their organizations in preparation for adopting the new structure.⁷⁶

This organization plan permitted retention of the operational and economic integrity of each contractor, thereby taking full advantage of the experience, know-how, and esprit of each. At the same time, it permitted the individual efforts of each carrier to be coordinated into one master effort. This would provide "maximum coordination, expedition, efficiency and effectiveness in the utilization of CRAF to generate airlift for the national defense."⁷⁷

Prior to the wartime activation of CRAF, the Atlantic and Pacific Operations Boards were supposed to recommend to MATS any action which would improve the utilization of CRAF. Such recommendations might involve aircraft modification, base support, stockpiling of equipment and spare parts, facilities, maintenance, weather and communications requirements, manning flight procedures, or traffic.⁷⁸

Upon the wartime activation of CRAF, each operations board, in accordance with the plans and instructions of MATS, was to coordinate and direct the operations of the carriers within its area. This included the prompt and orderly transfer of equipment, facilities and personnel from commercial operations to CRAF services, the coordination and direction of CRAF services, the utilization of equipment and facilities, and the transmitting of instructions to the carriers from MATS concerning the conduct of CRAF operations.⁷⁹

Legal questions concerning the functions assigned to the operations boards were raised by legal representatives of both the airlines and the Air Force who reviewed the plan near the end of 1954. The questions were not over the power of the board to make recommendations, but, once again, the issue of the airlines acting in unison raised the concern that this might be contrary to the anti-trust laws.⁸⁰

The Top Committee approved the draft operations board agreement on March 1, 1955. With minor changes directed by the Air Force General Counsel, Assistant Secretary of the Air Force, Robert Lewis, approved this agreement on May 25, 1955. One condition of the approval, however, was the securing of the agreement of the Department of Justice to waive enforcement of the anti-trust laws as they pertained to participation in the operations board agreement by CRAF operators. Justice's ruling was not made until 1957 and then did not fully satisfy anyone. It was not until 1959 that the operations or control boards were fully organized and functioning.⁸¹

Summary and Analysis

As of December 1951, only a broad outline of the CRAF program had been defined. In the next three years, MATS and the air transport industry hammered out most of the details necessary to implement the program. The CRAF fleet composition proved to be one of the easier issues, although the increasingly rapid shifts in the makeup of commercial air fleets meant that this issue would have to be revisited regularly.

Other issues proved more difficult. A shortage of navigators and the utilization of reservists continued for some years to plague the program. Even efforts to create an organizational structure for CRAF proved problematic. The airlines, acting in unison as members of CRAF's various control organizations, were seemingly vulnerable to anti-trust action. Although this issue was taken to the Department of Justice, it was not immediately resolved.

The accomplishment of required aircraft modifications should have been a straightforward matter, but it was not. Four prototype aircraft were modified without difficulty in the first weeks of the process, but further progress became tangled in contract negotiations over issues of who would pay, and for what. Finally, there were the stand-by contracts over which there was much debate but little agreement. In fact, contract negotiations plagued the whole process—negotiations over the aircraft modification contracts, logistic service contracts, and finally the standby contracts that committed the airlines and their aircraft to the program.

The issues that separated the parties in these negotiations were often insubstantial, yet they seemed to defy resolution. There is no suggestion of purposeful delay. Still, one holdup followed another. General Smith repeatedly noted the failure to meet deadlines, but neither he nor anyone else made any apparent effort to avoid that outcome. Delays were not the results of conscious acts, rather of an unconscious pattern of action—a pervasive lack of urgency where CRAF was concerned. In fact, it was that, which seemed to define the process of implementing the program.

Endnotes

1. Rpt, "Statement of the Secretary of the Air Force, The Honorable Thomas K. Finletter," *Report to the Air Line Presidents on Civil Aviation Mobilization*, Mar. 26, 1952, p. 9, CRAF Papers, [individual item on shelf], AMC/HO.
2. Rpt, MATS, "Report of the Ad Hoc Staff Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, CRAF Papers, Box 14, AMC/HO. When approved by both the Department of Defense and the Department of Commerce, the Ad Hoc Staff Group report became the basic CRAF planning document. Because this document contained war plans information it was highly classified. An unclassified version was prepared for general use in CRAF, entitled "Department of Defense Plan for the Civil Reserve Air Fleet" (Mar 20, 1952).
3. *Illustrated Hist of MAC*, pp. 277-81.
4. *Ibid.*, p. 80.
5. Ltr, Brig. Gen. B. E. Allen (CofS MATS) to Chief of Staff, USAF, Subj: Phase-out of the Commercial Carriers Operating in Support of the Pacific Theater of Operations, Sep. 5, 1953, in Hist, MATS, "Military Air Transport Service, Jul-Dec 1953, p. M-6 (Supporting Documents), AMC/HO; Goldberg, p. 153.
6. Milton W. Arnold, "Civil Air Transport is Vital to Defense," *Canadian Aviation*, May 1952, pp. 50-52; "Airlines," *Aviation Week*, Feb. 25, 1952, pp. 118-20+.
7. "Airlines," *Aviation Week*, Feb. 25, 1952, pp. 118-19.
8. Milton W. Arnold, "Civil Air Transport is Vital to Defense," *Canadian Aviation*, May 1952, pp. 50-52.
9. Wilson, pp. 267-87. Truman had long been a friend, if not champion, of the airlines. Earlier, as a member of the Senate, he had usually supported the position taken by the Air Transport Association. [Ltr, Senator H. S. Truman (D-Mo), to E. S. Gorrell (Pres. ATA), Mar 3, 1939, ATA Microfilm Archives, Misc. Item V, Gorrell Ltrs Rec [1937 -] Dec 1941, ATA Lib; Gorrell to Truman, Mar 7, 1939, ATA Microfilm Archives, Misc Item V, Gorrell Ltrs Rec [1937 -] Dec. 1941, ATA Lib.]
10. "Airlines," *Aviation Week*, Feb. 25, 1952, p. 131.
11. "Airline Mobilization Plans Are Detailed," *Washington Post*, Mar. 27, 1952, p. 6; Stf Jnl, MATS Plans Weekly Diary, Mar. 26, 1952, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
12. Rpt, MATS, "Report of the Ad Hoc Staff Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, CRAF Papers, Box 14, AMC/HO. The ad hoc staff group was instituted by MATS commander Lt Gen Laurence S. Kuter in May 1952. The group, which met in May and June of that year, consisted of seven senior reserve officers, most of whom in civilian life had close connections with the air transport industry. A discussion of this group and their report is contained in Chapter 3.
13. Plan, MATS, "The Department of Defense Plan for the Civil Reserve Fleet," Mar. 20, 1952, CRAF Papers, Box 14, AMC/HO. The Ad Hoc Staff Group Report was classified Top Secret (since declassified) because of its frequent reference to war planning documents. The unclassified Mar. 20, 1952 version expunged those references.
14. Rpt, "Statement by Secretary of Commerce, The Honorable Charles Sawyer," *Report to the Air Line Presidents on Civil Aviation Mobilization*, Mar. 26, 1952, pp. 6-7, CRAF Papers, [individual item on shelf], AMC/HO.
15. Rpt, "Statement of the Secretary of the Air Force, The Honorable Thomas K. Finletter," *Report to the Air Line Presidents on Civil Aviation Mobilization*, Mar. 26, 1952, p. 11, CRAF Papers, [individual item on shelf], AMC/HO.
16. Rpt, "Statement of the Commander, MATS, Maj Gen Joseph Smith," *Report to the Air*

- Line Presidents on Civil Aviation Mobilization*, Mar. 26, 1952, p. 13. The plan that Smith referred to was "The Department of Defense Plan for the Civil Reserve Air Fleet" (Mar 20, 1952), which was merely an unclassified version of the earlier "Report of the Ad Hoc Study Group on First and Second Line Reserve Civil Fleet," (Jun. 27, 1951) which had been approved for implementation by the Secretaries of Commerce and Defense in Dec 1951.
17. *Illustrated Hist of MAC*, p. 230.
 18. Rpt, "Statement of the Commander, MATS, Maj Gen Joseph Smith," *Report to the Air Line Presidents on Civil Aviation Mobilizations*, Mar. 26, 1952, p. 15, CRAF Papers, [individual item on shelf], AMC/HO.
 19. "Air Reserve Fleet," *Washington Post*, Apr. 2, 1952.
 20. The Defense Air Transport Administration (DATA) was created within the Department of Commerce in 1951 to plan and direct (in the event of war) the mobilization of civil aviation resources and facilities. In the Dec 1951 memorandum of understanding between the Departments of Commerce and Defense, the Department of Commerce designated DATA to be its CRAF action agent. As such DATA was responsible for the allocation of the aircraft of the civilian operators, as required, to meet the needs of the Armed Forces. DATA also worked with the military in developing and establishing overall CRAF policies. [Briefing, MATS, "CRAF Briefing for Air Force Inspector General Survey Team," [1955], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.]
 21. Rpt, R. W. Ireland (Admin DATA), "Introduction and Action Items," *Report to the Air Line Presidents on Civil Aviation Mobilization*, Mar. 26, 1952, p. 2, CRAF Papers, Box 14, AMC/HO.
 22. Rpt, MATS, "Civil Reserve Air Fleet Plan, Second Annual Report, Summary of Implementing Actions," Jan. 1954, p. 4, CRAF Papers, Box 14, AMC/HO. Cited hereafter as "Second Annual Report." See also Rpt, NSRB, "Report on Utilization of Airlines for War time Airlift and Proposals to Aid Expansion of the Civil Air Fleet," Dec. 6, 1950, p. 2, CRAF Papers, Box 21, AMC/HO; Rpt, MATS, "Report of the Ad Hoc Staff Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, pp. 2-4, CRAF Papers, Box 14, AMC/HO.
 23. "M-Day Plans," *Aviation Week*, Oct. 27, 1952, p. 87.
 24. Memo, [Capt (USN) Robert W. Morse] (Dir Plans and Ops MATS), Oct 27, 1952, quoted in Hist, MATS, "Military Air Transport Service, Jul-Dec 1952," I: 204, AMC/HO.
 25. Ltr, Lt. Gen. Joseph Smith to Chief of Staff, USAF, Jan. 14, 1953, in Hist, MATS, "Military Air Transport Service, Jan-Jun 1953," Vol. II (Supporting Documents), AMC/HO.
 26. Plan, MATS, "The Department of Defense Plan for the Civil Reserve Air Fleet," Mar. 20, 1952, pp. 36-40, CRAF Papers, Box 14, AMC/HO. This CRAF plan called for adding aircraft to those of the (initial) second line fleet, sometime after D-Day, from the following firms: Arabian-American Oil Company (2), Kaman Aircraft Corporation (1), Resort Airlines (2), Salem Engineering Company (1), Twentieth Century (1), and Waterman Steamship Company (which had recently taken control of TACA Airways) (1). These, with some slight changes in the numbers contributed by a few of the initial participants, produced a total (permanent) second line fleet of 271 aircraft. That would yield a ultimate total reserve fleet—first and second lines—of 362.
 27. Stf Jnl, MATS Plans Weekly Diary, Apr. 2, 1952, CRAF Papers, Box 14, Folder IV-13, AMC/HO.
 28. "Second Annual Report," p. 4.
 29. "MATS Gets Airliner Draft Plan," *Aviation Week*, Jul. 21, 1952, p. 84.
 30. Stf Jnl, MATS Plans Weekly Diary, Apr. 14, 1953, CRAF Papers, Box 1, Folder: Civil Reserve Air Fleet 1951-1954, AMC/HO.

31. "Second Annual Report," p. 11.
32. *Ibid.*, p. 5.
33. Rpt, MATS, "Semi-Annual Report of the Military Air Transport Service...for the period 1 Jul-31 Dec 1950," p. 2.9, AMC/HO. For a more detailed discussion of contract negotiations in the period 1948 through 1951, see Chapter 3.
34. "Second Annual Report," p. 23.
35. *Ibid.*, p. 23.
36. *Ibid.*, pp. 24-25.
37. *Ibid.*, p. 25.
38. *Ibid.*, pp. 24-25.
39. *Ibid.*, p. 8.
40. *ibid*; "Airlines," *Aviation Week*, Feb. 25, 1952, pp. 120, 129-31.
41. "Airlines Programs Backstop Air Evacuation," *Aviation Week*, Mar. 3, 1952, p. 55.
42. Stf Jnl, MATS Plans Weekly Diary, Mar. 26, 1952, CRAF Papers, Box 14, Folder IV-13, AMC/HO; "Second Annual Report," p. 8.
43. Hist, MATS, "Military Air Transport Service, Jan-Jun 1954," p. 62, AMC/HO;
44. Ltr, Brig. Gen. B. E. Allen (CofS MATS) to Director of Plans, USAF, Subj: Special Report on the Status of Civil Reserve Air Fleet Plan Implementation, Feb 10, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.
45. Ltr, Lt. Gen. Joseph Smith (COMATS) to CofS, USAF, Subject: Status of Implementation—Civil Air Fleet Plan, May 13, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.
46. "M-Day Plans," *Aviation Week*, Oct. 27, 1952, p. 87.
47. Meeting Minutes, [AMC], Technical Meeting on Modifications of the CRAF, Aug. 19-22 [1952], p. 5, CRAF Papers, Box 11, Folder CRAF Modifications & Equipment (1952-1958), AMC/HO.
48. Ltr, Lt. Gen. Joseph Smith (COMATS) to CofS, USAF, Subj: Status of Implementation—Civil Air Fleet Plan, May 13, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.
49. "D-Day Plans," *Aviation Week*, Oct. 27, 1952, p. 87.
50. Ltr, Lt. Gen. Joseph Smith (COMATS) to CofS, USAF, Subject: Status of Implementation - Civil Air Fleet Plan, May 13, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.
51. "Second Annual Report," pp. 23-24; Hist, MATS, "Military Air Transport Service, Jan-Jun 1953," p. 130, AMC/HO; Hist, MATS, "Military Air Transport Service, Jan-Jun 1954," p. 63, AMC/HO; Hist, MATS, "Military Air Transport Service, Jul-Dec 1954," p. 158, AMC/HO.
52. Hist, MATS, "Military Air Transport Service, Jul-Dec 1954," p. 158, AMC/HO.
53. "Second Annual Report," p. 24.
54. *Ibid.*, pp. 8-10.
55. Rpt, MATS, "Report of the Ad Hoc Staff Group on First and Second Line Reserve Civil Fleet," Jun. 27, 1951, Section II (Modification), p. 4, CRAF Papers, Box 14, AMC/HO.
56. "Second Annual Report," pp. 10-11. A litter-carrying modification actually constituted a fourth category, but because these were soon dropped they are not detailed here. ["Second Annual Report," pp. 10-11; Stf Jnl, MATS, Plans and Operations Weekly Diary, Feb. 17, 1954, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-54, AMC/HO; R. F. Futrell, *Development of Aeromedical Evacuation in the United States Air Force, 1909-1960* (Maxwell AFB, Ala: Albert F. Simpson Historical Research Center, 1961) pp. 758-59.] Some years

later, in 1985, the idea of litter-carrying configurations was reintroduced into CRAF, this time successfully, see Chapter 8.

57. Memo, Col. John D. Bridges to Lt. Gen. Kuter, Lt. Gen. Cook, and Maj. Gen. Smith, Feb. 1, 1952, CRAF Papers, Box 15, Folder Emergency CRAF (1952-1959), AMC/HO.

58. "Second Annual Report," p. 20.

59. *Ibid.*, p. 20.

60. *Ibid.*

61. *Ibid.*, p. 22.

62. *Ibid.*, p. 21.

63. Memo, Col. C. H. Pottenger (Plans Dir, USAF) to Dep for Civil Aviation, Office of the Assistant Sec of AF (Materiel), Subject: Monthly Progress Report on the Civil Reserve Air Fleet, Oct. 13, 1952, RG 340 (Records Office Sec of AF), Entry 54, Box 99, Folder 1949, NA; "Second Annual Report," p. 13.

64. Briefing, MATS, "CRAF Briefing for Air Force Inspector General Survey Team," [1955], pp. 5-6, CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

65. Stf Jnl, MATS Plans Weekly Diary, Feb. 4, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet, 1951-1954, AMC/HO.

66. "D-Day Plans," *Aviation Week*, Oct. 27, 1952, p. 87.

67. "Second Annual Report," p. 17.

68. Ltr, Lt. Gen. Joseph Smith (COMATS) to Lt. Gen. Edward W. Rawlings (CG AMC), Feb 20, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.

69. Meeting Minutes, Meeting of the Pacific Committee and Technical Advisory Groups (Dec 6-10, 1954), Jan. 28, 1955, CRAF Papers, Box 10, Folder Conferences 1955, AMC/HO.

70. "Second Annual Report," pp. 18-19. The Senior Lodger was a CRAF operator designated by MATS, through a Senior Lodger Contract, to provide services related to CRAF operations at a given airport. These services included airport surveys, operational supervision of CRAF station activities, receipt and storage of equipment, and maintenance of communications. The Senior Lodger would be the air carrier at each location best able to completely manage all the CRAF resources at that base.

71. "Second Annual Report," p. 18.

72. Ltr, Col. Wallace C. Barrett (Exec Plans USAF) to COMATS, [ca. May 6, 1952], CRAF Papers, Box 15, Folder Emergency CRAF (1952-1959), AMC/HO. Despite the decision in favor on contractual operations, MATS did continue, for a time, to plan for the emergency militarization of CRAF—EMCRAF. This planning, however, functioned independently of the contractual agreements and never became an issue. Ultimately even EMCRAF was dropped. [Ltr, Brig. Gen. B. E. Allen, CofS, MATS, to DCS, Operations, USAF, Subject: Standby Plan for Militarization of CRAF, Jun. 1, 1953, CRAF Papers, Box 15, Folder Emergency CRAF (1952-1959), AMC/HO; Stf Jnl, MATS Plans Weekly Diary, Apr. 13, and Jul. 22, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.]

73. Stf Jnl, MATS Plans Weekly Diary, May 13, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-1954, AMC/HO.

74. Hist, MATS "Military Air Transport Service, Jan-Jun 1955," p. 124, AMC/HO.

75. Hist, MATS, "Military Air Transport Service, Jul-Dec 1954," pp. 159-61, AMC/HO; Stf Jnl, MATS Plans Weekly Diary, May 5, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet, 1951-1954, AMC/HO.

76. Ltr, Lt. Gen. Joseph Smith (COMATS) to CofS, USAF, Subj: Status of Implementation—Civil Air fleet Plan, May 13, 1953, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet, 1951-1954, AMC/HO.

77. Draft Agreement, Logistics Working Group, "Civil Reserve Air Fleet Operations Boards Agreement," quoted in Hist, MATS, "Military Air Transport Service, Jan-Jun 1955," p. 124, AMC/HO.
78. Hist, MATS, "Military Air Transport Service, Jan-Jun 1955," p. 124, AMC/HO.
79. *Ibid.*, pp. 124-25.
80. *Ibid.*, p. 125.
81. Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," p. 60, AMC/HO.

CHAPTER V

A PERIOD OF REDEFINITION, 1955-1962

The years from 1955 through 1962 were a period of redefinition for the Civil Reserve Air Fleet in terms of both structure and strategy—both for what it was and what it was to do. Those years also saw an important restructuring of the environment in which CRAF would function—a rethinking of the relationship between the military and the air transport industry.

In the last half of the 1950s, there was a growing recognition of the importance of military airlift in the nation's defense. The nation had come to rely almost entirely upon nuclear weapons to deter wars and conflicts, and airlifting the Strategic Air Command's supplies, relief aircrews, and ground support personnel to forward bases became a primary mission of the Military Air Transport Service. Although that was largely a role for MATS aircraft and crews, the increased reliance on air transport also focused attention on the Civil Reserve Air Fleet and its organization.¹ By 1958, however, military thinkers in and out of uniform were beginning to call for a more flexible strategy that would allow measured responses across the spectrum of aggression. The prospect of delivering and sustaining conventional forces, anywhere in the world, in response to threats at the lower end of that spectrum, further increased the focus on airlift and, thereby, on CRAF.²

These were also years that saw a dramatic evolution in civil aviation, as the airlines introduced jet transports into their fleets. But these were also years of economic distress for the airlines, years when the growth of both passenger and cargo traffic failed to keep pace with either industry projections or the increased capacity provided by the new aircraft they were acquiring.³

The increased interest in the reserve fleet prompted a growing emphasis on CRAF management in the period from 1955 through 1962. At the same time, the economic distress of the air transport industry provoked an often heated debate over the proper role and function of military airlift, and led to charges that the Military Air Transport Service was flying routes and missions that should be flown by the airlines.⁴

These two wholly separate debates—one over the nation's military strategy and the other over the relative roles of MATS and the airlines—redefined both CRAF and the environment in which it operated.

A Redefined Environment: MATS and the Airlines

Beginning in the mid- to late-1950s the nation's commercial airlines began to trade on the charges made by the Hoover Commission in 1955, that the Military Air Transport Service was much too large and that it engaged in activities that would better be performed by the civilian airlines. Because MATS's operations produced a "by product" of cargo capability, the commission concluded, the command was tempted to use it for cargo and passenger movements "which would be unthinkable in a period of mobilization." The commission recommended that "the level of MATS's peacetime operations be limited to that necessary to maintain the minimum war-readiness of the Command," and that MATS "pursue a positive course of action which would serve to strengthen and augment the reserve of airlift operated by the commercial airlines in time of peace." The commission recommended that "there must be a strong, basic backbone structure of military air transportation, operated and manned by military personnel." But, once that basic requirement was met by MATS, "the

additional requirements can be contracted to civilian organizations."⁵

Now on the threshold of the jet age when larger and faster planes would mean substantial excess capacity, the airlines were beset by a financial squeeze that was growing increasingly severe.⁶ For some airlines the problem was exacerbated by the government, which they claimed, was operating its own airline in unfair competition with them. The industry's displeasure was deepened by what, in their view, was an over-generous award of landing rights by the Eisenhower administration to foreign airlines—not only at U.S. gateway cities but also at interior points. Throughout the decade, U.S. airlines lost market share on the transatlantic routes to foreign carriers, particularly to BOAC. In 1950 the United States could claim 57 percent of the market, but in 1955 only 48 percent, and by 1960 only 33 percent.⁷

An Air Transport Association study, in 1957, showed that while MATS had more than doubled the volume of military passengers and cargo moving in foreign and overseas transport on their own aircraft, the civil air carriers' share of this traffic had declined substantially both on an absolute and percentage basis.⁸ If turned over to the airlines, this traffic might prove to be their salvation, and the Air Transport Association industry became increasingly determined to capture this routine MATS traffic for the civil airlines. At the same time, a growing congressional interest in the relative roles of MATS and the commercial airlines in peace and in war moved the debates to a new forum.⁹

In Congress, Representative Daniel Flood (D-Pa.) first raised questions about the role of MATS in 1956 in a Defense Appropriations subcommittee hearing on airlift issues. Flood sharply criticized the Air Force at these hearings for buying commercial transports, particularly the Douglas DC-6 (C-118) and the Lockheed L-1049 Super-Constellation (C-121). Instead, he said, the Air Force should be utilizing the airlines.¹⁰ Although Flood's initial interest was prompted more by his concern over the inadequacy of airlift provided for the Army, the committee report echoed the Air Coordinating Committee's 1954 report on Civil Air Policy that had recommended that "the Government should, to the greatest extent practicable, adjust its use of air transportation so as to use existing unutilized capacity of United States air carriers."¹¹

The Air Transport Association immediately recognized the value of the congressional forum in its contest with the Air Force. At a hearing before Flood's subcommittee a year later, in 1957, the Air Transport Association renewed its attack on MATS.¹² Stuart Tipton, president of ATA, led the assault. In his prepared Tipton linked MATS peacetime use of the airlines directly with CRAF: "The Department of Defense should revise its policy with respect to using the services of civil air carriers to handle peacetime foreign and overseas traffic, so as to offer more traffic to the civil air carriers, which would result in additional expansion of civil air fleets available for D-Day."¹³

Similarly, in the U.S. Senate, Tipton and the ATA, with the active aid of Stuart Symington (D-Mo.), a former Secretary of the Air Force, convinced the Senate Appropriations Committee to adopt language in its 1958 defense appropriation bill advocating the "maximum utilization" of civil air carriers, while limiting the government operation of its own transport facilities "to that essential to military security."¹⁴ The committee's report went on to convey the wish that appropriations made for MATS for 1958 should be reprogrammed to allow sufficient procurement of civil air carriers to handle 40 percent of the passenger requirements and 20 percent of cargo requirements of MATS.¹⁵

The logic of the ATA's arguments, however, now appeared to suggest more than a mere airline assumption of a share of the military transport traffic; it seemed to seek the disembodiment, if not the disestablishment of MATS. "If...MATS would shrink its transport

fleet and rely more heavily on the civil air carriers," ATA president Stuart Tipton had told Flood's House committee in April 1957, "a major benefit could accrue to the combat commands of the Air Force. Such a shift could result in the freeing of personnel and funds from MATS for use in the Strategic Air Command, the Air Defense Command and other strictly combat-type military operations which cannot be performed by industry." This message, which Tipton repeated frequently, was particularly troublesome because it tended to set MATS against the other elements of the Air Force—with which it competed for funding—and reinforced an air staff preference for combat aircraft.¹⁶

In 1958, Representative Chet Holifield (D-Calif.), chairman of the Military Operations Subcommittee of the House Committee on Government Operations, prompted by charges made by several small airlines located in his district, began his own investigation of military airlift. The ATA took advantage of yet another opportunity to call for the immediate reduction in MATS. This time, even the Civil Aeronautics Board recommended that all military airlift be prohibited except when commercial companies could not do the job.¹⁷

Although, in its report, the Holifield subcommittee did not specifically recommend that the Department of Defense reduce the size of MATS, it did say that MATS should concentrate on "outsize" loads that commercial aircraft could not accommodate (including special-cargo traffic or technical missions) and turn the balance—the transportation of passengers and conventional military cargo—over to the airlines. The committee was unimpressed by the Air Force's argument that the whole MATS transport operation was a "continuous training exercise." This, it noted, was the "sheerest kind of rationalization."¹⁸

A. S. Mike Monroney (D-Okla.), Chairman of the Senate's Commerce Committee's Aviation Subcommittee, held hearings that focused on the MATS vs. airlines issue in 1958. He was prompted, he said, by a determination to preserve the supplemental airlines, for they were a valuable military reserve that served without extra pay. Monroney also heard from the ATA, representing the scheduled airlines. Although these two groups were often in disagreement, the supplementals and the scheduled airlines did concur on one thing—that MATS should be reduced in size, perhaps by as much as 75 percent.¹⁹ When Monroney appeared before the Senate Appropriations Committee his testimony echoed the increasingly common theme—that Congress should require the Defense Department and MATS to spend more money for commercial airlift.²⁰ In response the Congress earmarked \$80 million of the FY 1959 defense budget for commercial airlift.²¹

The focus of the debate shifted somewhat in 1959 when retired Lt. Gen. Elwood R. Quesada, first administrator of the Federal Aviation Administration, presented his own plan calling for a National Air Cargo Fleet—an "air merchant marine" some called it—made up specifically of cargo aircraft built with government-guaranteed loans. Quesada, a reserve flying officer in 1924 who was integrated into the Regular Army in 1927, had quickly gained a reputation as a superb pilot. In 1929, Lt. Quesada had been chosen to fly with Maj. Carl Spaatz and Capt. Ira C. Eaker in the *Question Mark* air-to-air refueling demonstration. He served during World War II, commanding progressively larger fighter organizations and, after the war, became the first commander of Tactical Air Command. He retired in 1951 and embarked on a civilian career which included positions with Olin Industries, Lockheed's Missile System Division, an appointment as special assistant to President Eisenhower, then as administrator of the new FAA, and finally as part owner of the Washington Senators baseball team.²²

Quesada, acknowledging Air Force biases, pointed out that airlift aircraft would

always have a low-priority for Air Force dollars, and that this would preclude development of truly efficient military cargo planes. The new civil fleet he proposed would provide a commercially operated answer to Army and Air Force requirements for airlift. The plan did garner adherents in both houses of the Congress, including the strong support of Senators Monroney and Symington, with the tacit approval of Representative Chester Earl Holifield (D-Calif.).²³ But, that support was neither broad nor cohesive. Nonetheless, the promise of a fleet of commercially owned, new design cargo jets led Congress to reject the administration's request, in 1959, for strategic airlift modernization funds—funds which would have purchased ten modified commercial jets (C-jets)—either the Douglas DC-8 or Boeing 707.²⁴

Airline supporters accused the Air Force of planning to use the new C-jets that Quesada proposed on MATS scheduled passenger service, further harming the industry. Said Senator Monroney, "if this committee permits MATS to buy and begin equipping its fleet with pure jet transports, and this is what they are planning—they [the C-jets] are not cargo planes, they are swing-tail transports—you will never be able to develop the reserve air cargo fleet that this nation needs so desperately."²⁵ In 1959, on the floor of the Senate, Monroney proposed a new, three-part policy for MATS—first, "an orderly transfer of the routine logistic function from the MATS fleet to civil carriers"; second, "a comprehensive program to develop and encourage the civil carriers to procure modern cargo aircraft"; and third, the "modernization of the MATS strategic transport fleet" for its "primary hard-core mission," but not for "its former airline mission."²⁶ As if in response, the Air Force's new, outsized jet military transport, the C-141, was approved by Congress and funded the next year, in 1960.²⁷

Although the attack on MATS had begun in earnest in 1956, it was not until the spring of 1958 that the command began to respond aggressively. Lt. Gen. William H. Tunner, who took command of MATS on July 1, 1958—the first career airlifter to do so—complained that the command had not effectively resisted the ATA's campaign to take over MATS peacetime airlift. "God knows why," he wrote, "but before I came along, MATS was taking all this lying down." The peacetime lift, Tunner argued, was essential to train Air Force crews for their wartime missions.²⁸

Tunner began his campaign with "explanation and reason," as he put it, by inviting the president of each CRAF carrier to MATS's headquarters at Scott AFB for a thorough briefing on the entire MATS operation. He got nowhere. His appeal to their "common sense and patriotism" also was unavailing. "The decision to fight back," he later wrote, "was not at all a difficult one." In late 1958, Tunner turned to John Hohenberg, a public relations consultant from Columbia University, to help organize the defense of MATS. Hohenberg and Tunner then began systematically to take the MATS story to the press, to the Congress, to important national organizations, and to the people.²⁹ Still, the major battle was fought in Congress. "It seemed that I was constantly supervising the preparation of lengthy and detailed presentations," wrote Tunner, "constantly flying to Washington, constantly sitting in the witness chair testifying before committees of both the Senate and the House.... Sometimes there were fiery exchanges, but the fireworks in the hearing rooms were nothing compared to what was going on behind the scenes."³⁰

Although the congressional inquires of the late fifties largely focused on the role of MATS and the extent of its competition with the civilian airlines, many of the proposals made would have profoundly affected the Civil Reserve Air Fleet. A Pan American/TWA proposal of July 1958, to take over the movement of military personnel in peacetime, in wartime or during emergencies, sounded "like a counter offer by the airlines in lieu of reaching agreement on the [CRAF] stand by contracts," said one MATS officer. Indeed it would have

superseded the passenger requirement of CRAF.³¹ General Quesada's National Air Cargo Fleet scheme would have gone even further. Purely military operations would have been limited to "hard core" missions defined as those "in direct support of the execution of military emergency war plans."³² His commercially operated fleet would have done everything else—replacing CRAF in the bargain.³³

General Tunner himself had never been a champion of CRAF, and the actions of the civil airlines in congress did nothing to endear them to the new MATS commander. "I did not feel that MATS should count on using civilian equipment or personnel in peacetime missions to hot spots, or in full participation in time of war," he later wrote.³⁴ "We are supposed to have contracts with the airlines which assure performance; however, this could produce only aircraft and material things on an assured basis," remarked Tunner in an informal discussion of CRAF. "The airlines, in turn, have agreements with their personnel under which these people are responsible to management. Both of these contracts, MATS-industry and industry-personnel, each tied with a 'blue ribbon,' do not necessarily guarantee us that airline people will respond in wartime."³⁵ Tunner called for a MATS fleet of fifty C-133s for outsize cargo, ninety-four off-the-shelf, swing-tail jets, and 188 civil-military cargo workhorses. With this fleet, he argued, "commercial airlift would become increasingly less important, and perhaps superfluous."³⁶

For nearly three years, MATS and the Air Force were assailed by these committees, yet, by late 1959 and early 1960 there were signs that the opposition to strategic airlift modernization, at least, had had its day. The conference report for DOD's 1960 Supplemental Appropriation chided the Air Transport Association for its opposition to anything "affecting the modernization or strengthening of" MATS and insisted that "any step which weakens...the Military Air Transport Service would be a serious matter."³⁷ Moreover, in early 1960, when Senator Monroney's "air merchant marine" bill failed to muster the support he expected, Monroney denounced the airlines for their "inability to look beyond their nose," and announced that he would now support the immediate modernization of the MATS fleet—a position, as noted above, that he had been moving toward for a year.³⁸

Also in early 1960, in the midst of hearings before the House Armed Service Committee, the Army openly disagreed with the Joint Chiefs of Staff's contention that U.S. airlift capacity was adequate. That prompted Committee Chairman Carl Vinson to appoint an Airlift Subcommittee, chaired by L. Mendel Rivers (D-S.C.), to investigate. Rivers had conducted a similar airlift investigation in 1958 which had resulted in a report favorable to MATS and which had defended, as only common sense, the use of MATS aircraft to carry military traffic. This report, however, had had little impact while the tide was running in the opposite direction.³⁹

The 1960 Rivers' airlift hearings began in March with an examination of the war plans from which the airlift requirements were drawn. This was followed by testimony from the Air Force, the Army, and the air transport industry. With the possible exception of representatives of the Air Transport Association, who were blasted by Rivers for their opposition to any modernization of the MATS fleet, all of the witnesses were treated in a most gracious manner.⁴⁰ Rivers gave MATS an opportunity to testify at length, and the command took full advantage of it to present its case for modernization. Presenting over 200 pages of testimony, MATS told the story of its organization, aircraft, wartime tasks, peacetime training operations, CRAF plans and problems, and its present-day modernization requirements.⁴¹

In the midst of these hearings, MATS and the Army conducted Exercise BIG SLAM/PUERTO PINE, a test designed to measure MATS's ability to surge and sustain a

wartime rate, and to determine if it could move a large Army force from the United States to some overseas location to meet a contingency there. For the exercise the Air Force delivered Army forces and equipment to Ramey AFB and Roosevelt Roads Naval Station in Puerto Rico from bases all across the United States—some from as far as McChord AFB in Washington state. In the exercise, MATS flew 50,496 hours, and moved 29,095 troops and 10,949 tons of cargo in 1,263 sorties. At its peak, there were more than 100 aircraft aloft in the airlift stream.⁴²

Although MATS proved capable of surging its fleet utilization from a peacetime rate of five hours per day to a wartime rate of seven, the system started to grind down at the end of fifteen days. MATS and the Army had done a superb job—they had worked long and hard, but the exercise readily demonstrated the inadequacy of MATS.⁴³ General Tunner's analysis was characteristically terse: "It took so many airplanes and so much effort to do such a small job."⁴⁴

Strongly influenced by the shortcomings in military airlift demonstrated by BIG SLAM/PUERTO PINE, the Rivers subcommittee recommended the immediate modernization of the MATS fleet, and called for the overhaul of CRAF. The subcommittee urged that CRAF call-up authority be extended to periods of national emergency short of war, that carriers have "No Work Stoppage" agreements with their employees covering CRAF operations, and that CRAF carriers offer modern, long-range jet cargo aircraft. They also suggested that MATS airlift business be given only to CRAF carriers.⁴⁵ In terms of strategic airlift, however, the subcommittee's even more significant contribution may have been the positive, supportive tone in the hearings and in the report. This stood in stark contrast to MATS's more recent experiences.⁴⁶

The early months of 1960 were difficult for the MATS commander. For General Tunner, disappointment followed disappointment. Even within the confines of the Air Force, Tunner had had difficulty shaping events to his liking. The Air Staff, for example, did not share his enthusiasm for expanding military airlift or his unyielding opposition to increasing the amount of military tonnage flown by the commercial carriers.⁴⁷ When the Air Force Chief of Staff, Gen. Thomas D. White, gave him a draft of a report on the peacetime and wartime role of MATS which was about to go to the President, Tunner took strong issue with key provisions of the document. But to no avail. "There are...portions," Tunner wrote,

which I think are dangerous to the best interests of the Air Force and the country.... Some conclusions apparently were based wholly on information from civil airline interests. Naturally their primary concern is not the accomplishment of the military mission, but to get more business.... Certainly it would be most *imprudent*, now, to capitulate to these vested interests in hopes that their pressures would vanish. Capitulation now would only inspire them to demand more—until the USAF capability was completely gutted.... The military should not abrogate its responsibility for war airlift requirements to civil airline interests, no matter how plausible they make it appear.⁴⁸

Despite Tunner's objection, the Air Force sought and obtained President Eisenhower's approval of a report that redefined the role of MATS and its relationship with the air transport industry. The essence of that report was contained in a list of actions to be taken—commonly called the "Presidentially approved courses of actions." That document, *The Role of the Military Air Transport Service in Peace and War*, published in February 1960, contained all the items that Tunner had complained of in the draft. MATS's regularly

scheduled and fixed routes were to be turned over to the airlines. As the commercial carriers obtained modern, economical long-range cargo aircraft, they were to be employed in hauling military loads and, in the process, the role of MATS was to be reduced to handling narrowly defined military hardcore requirements. To promote CRAF, preference was to be given to CRAF carriers in contracting for the movement of military traffic. Finally, the role of CRAF was to be re-examined with the object of employing it "under all conditions"—in full and partial activation.⁴⁹

The next month, the Department of Commerce echoed the call for the government to route its traffic via commercial carriers. "The Government," the report recommended, "should support the common carrier system upon which the economy must rely and which is so vital for national security." And, noting the growing surplus of passenger capacity, the Commerce document proposed that Defense "should make maximum use of this civil airlift—consistent, of course, with overall emergency military effectiveness."⁵⁰

Just as disappointing to Tunner was the report of the Reed Committee in April 1960. This group, chaired by Gordon W. Reed, chairman of the board of Texas Gulf Producing Company, had been appointed by Secretary of the Air Force Dudley Sharp, from a list of prominent Americans most of whom had been suggested by Tunner.⁵¹ The committee examined the Presidentially approved courses of action and concurred with them. MATS military airlift, they agreed, should be reduced to hardcore requirements. MATS passenger traffic should be diverted on a "progressively phased-in basis" to certificated carriers who "are effectively committed to the CRAF Program."⁵² Tunner was so miffed about the committee's recommendation to give MATS tonnage to the airlines that he immediately called Reed to complain—but again, without effect. Reed replied: "Just before you called, I got a call from the airlines representatives. They were most unhappy too, over our recommendations pertaining to the modernization of MATS. We must have done a pretty good job, inasmuch as both of you are mad at me."⁵³

Even the Rivers Subcommittee, which held hearings from March 8 to April 22, 1960, and which had proved more congenial to MATS than any of the other recent congressional panels, was something of a disappointment to Tunner. Although it supported modernization of the MATS fleet and refrained from tampering directly with the role of MATS, it did recommend that provision be made for both full and partial activation of CRAF. Moreover, the committee's numerous references to and recommendations concerning civil augmentation suggested that even they anticipated a greater role for the airlines.⁵⁴

Tunner found little in which to take comfort as events played themselves out in the early months of 1960. Disappointed by his limited ability to influence events, and concerned about his health, Tunner put in for retirement. At his last appearance before the subcommittee in April 1960, Chairman Rivers commended him: "If there is anyone in America today who has justly earned the title of 'Mr. Airlift,' I am sure it is you," Rivers said. The chairman spoke of the difficulties Tunner had recently faced. "By the very nature of things, it has not been easy in recent years to carry the banner of MATS. Crosscurrents both within and without the military services have made your voyage rather stormy."⁵⁵

Tunner's confrontational nature had made enemies for MATS both within and outside of the Air Force. "Nobody got along with Tunner," said Lt. Gen. Joseph Smith who had commanded MATS from 1951-1958. "Tunner had an abrasive personality and he wanted everything his own way."⁵⁶ Tunner remained in command of MATS for less than two years—one of the shortest tenures in the history of the organization. It was no coincidence that when the Air Force designated his successor, they chose a much more even-tempered officer, Lt. Gen. Joe W. Kelly. Although Kelly had no airlift experience, he proved a quick

study and, in 1963, became the first four-star commander of MATS. Kelly had graduated from the United States Military Academy in 1932. He served with bomber forces in the European theater during World War II, and, from 1948 to 1953 with Strategic Air Command. More important, however, to his new assignment, was his service from 1953-1958 as Director of Air Force Legislative Liaison in Washington. Kelly commanded MATS from June 1960 to July 1964.

By 1960, a new accommodation between MATS and the airlines had seemingly been reached. All else considered, the ultimate defining relationship between the Military Air Transport Service and the air transport industry was the manner in which the former contracted for airlift services from the latter—the policies that governed that practice and determined its extent. This was the essence of the controversy that had boiled up in Congress and in the press repeatedly in past years.⁵⁷

Before 1960, MATS contracted for the commercial airlift it needed by means of formally advertising for bids. Under this method, any carrier authorized to operate aircraft by the FAA was eligible to receive MATS business. Because price was the determining factor in contract awards, this did provide peacetime airlift services at the lowest cost. It did nothing, however, to stimulate development of a civil mobilization capacity.⁵⁸

In the congressional hearings from 1958 through 1961, these contracting practices were discussed at length. "All aspects of the industry—certified route operators, supplemental carriers, and the contract carriers—engaged in a spirited bidding contest over the years, the end result of which was the letting of contracts in 1958 at rates so low that many operators charged they were non-compensatory and actually destructive of the industry as a whole," reported the Civil Aeronautics Board in 1959.

The Rivers subcommittee, in 1960, recommended that MATS's civil airlift augmentation should be restricted to CRAF carriers. Moreover, they concluded, "the current competitive bid practice must be displaced" and "a proper course of action would be the negotiation of a fair and reasonable rate."⁵⁹ Similarly, the courses of action that had been approved for MATS by President Eisenhower, in February 1960, directed that "commercial augmentation airlift procurement policies and practices be better adapted to the long-range Department of Defense requirements," and that preference be given to CRAF carriers.⁶⁰

On May 1, 1960, the Air Force presented a new procurement plan. It proposed that negotiations, rather than bidding, be the basis for contracting, and that awards be made only to CRAF carriers which had "No Work Stoppage" agreements with their employees. It planned to offer one-year contracts, with provision for two one-year extensions—for all intents, a three-year contract. Moreover, preference for passenger service would be given to carriers operating jet aircraft—for cargo traffic, turbine powered aircraft. That plan was approved on June 22. At the same time, to insure that negotiations did not produce rates that were "uneconomically low," the Civil Aeronautics Board (CAB) agreed to establish minimum charges for military airlift services. These became, in effect, the rates at which services were negotiated.⁶¹

On this basis, in the summer of 1960, the Air Force attempted to negotiate long-term contracts with the civil air carriers. Unfortunately, fluctuating requirements and the inability to negotiate acceptable rates thwarted these attempts to reach agreement with the airlines. To meet its requirements for the balance of the fiscal year, MATS resorted to short-term contracts.⁶²

In the spring of 1961, the request for proposal (RFP) covering the FY 1962 purchase of airlift services reiterated the new policy: "(a) Each offeror must be an 'air carrier' as defined by the Federal Aviation Act of 1958. (b) The offeror must have executed a CRAF

standby contract. (c) Aircraft offered for performance must be allocated to CRAF at the start of the performance period. [And,] (d) Aircraft offered must be owned or controlled throughout the performance period." The factors which would be considered in awarding contracts were: "(a) Reasonableness of price. (b) Total expansion capacity guaranteed in time of emergency. [And,] (c) Value to the DOD mission of aircraft offered in the following order: 1. Turbine-powered cargo or convertible aircraft. 2. Turbine-powered passenger aircraft. 3. Pressurized piston-engine cargo or convertible aircraft. [And,] 4. Piston passenger aircraft with overfly capability (non-stop Atlantic, one-stop Pacific)." Finally, the RFP indicated that the criteria for extending the contracts into the option years would be: "(a) Extent contractor had placed orders for or obtained modern cargo or convertible aircraft. (b) Extend contractor had obtained 'No Work Stoppage' agreements. [And,] (c) Satisfactory performance."⁶³

All of the eligible carriers were solicited, and because the CAB established minimum rate essentially eliminated price competition, the principal basis for the distribution of awards was the value of aircraft each had offered to CRAF. To establish the value of one aircraft relative to another, each type was assigned a so-called productivity score—its carrying capacity multiplied by the speed of the aircraft. For all practical purposes other criteria had little influence.⁶⁴

The airline attack on MATS that had described the command as "a billion dollar boondoggle," "excessively costly," "unnecessarily large," and, most frequently, "competitive with the carriers," had ultimately brought about a redefinition of the rules of the game.⁶⁵ It had redefined the environment in which MATS and the airlines operated. And, thereby, it had redefined the environment in which CRAF operated.

Redefining CRAF: Structure and Strategy

From 1955 to 1962, the CRAF program underwent two important periods of redefinition. The first was an effort simply to make CRAF workable—giving the new program the structure necessary to carry out its mission. The second redefined CRAF in terms of a new military strategy of Flexible Response that began to take shape in the late 1950s.

Although by 1954 general agreement had been reached in many CRAF policy areas, little had been done to organize or manage CRAF. Among the issues yet to be resolved, two were fundamental to making CRAF an operational reality: first, the establishment of effective mechanisms for the operational control of the CRAF fleet by MATS, and second, the execution of standby contracts that would obligate the airlines to provide aircraft for CRAF and define the conditions of that obligation.

At first, planning and management were handled almost entirely within MATS headquarters which, until 1957, was located at Andrews AFB, Maryland just outside Washington, DC. (Headquarters MATS began relocating from Andrews to Scott AFB, Ill. in September 1957.) The staff responsibility for the peacetime management of CRAF fell to the Civil Air Division, under the Deputy Chief of Staff for Plans (DCS/Plans). It monitored the CRAF program—including development and maintenance of CRAF emergency plans, and liaison with the civil aviation industry. The Civil Air Division had two branches—Policy and Air Transport. As the name suggests, the Policy Branch developed plans and policy concerning CRAF and MATS's relationship with the civil aviation industry generally. The Air Transport Branch monitored the performance of airlift contracts between MATS and the airlines, and also kept CRAF emergency plans updated.⁶⁶ On June 1, 1961, the functions and responsibilities of the Civil Air Division were absorbed by the newly created Civil Air Branch of the War Plans Division, which also came under MATS's DCS/Plans.⁶⁷

Wartime operational control over CRAF assets upon activation, however, was delegated to MATS's Atlantic and Pacific Division commanders. They would exercise that control through their respective CRAF committees and, later, CRAF operations boards. In either case, however, representatives of the CRAF carriers directed the day-to-day CRAF operations, in response to tasking by the MATS Division they served.⁶⁸

In late 1954, MATS and the operations representatives of various airlines began drafting plans to change the operational management of CRAF by replacing the Atlantic and Pacific committees, which had been instituted in 1952, with Atlantic and Pacific control boards—soon to become known as operations boards.⁶⁹ The original committees were made up of members from each of the airlines that operated in the division area and representatives from MATS, from the DATA, and from Air Materiel Command (AMC). The committees were responsible for ascertaining logistic requirements, and for developing detailed plans for CRAF operations within their areas. These committees were called into session at the request of the Commander, MATS, and were chaired by the DATA representative.⁷⁰

The drafting committee completed its work and submitted the draft operations board agreement to the Top Committee on February 15, 1955. According to the draft agreement, the new boards would differ from the committees in both composition and function. The membership of the new boards consisted of representatives from each of the CRAF airlines operating in the area and a military representative—the CRAF Coordinator. Each board elected a Director, empowered, in the absence of the board, to act in its name. In peacetime, the operations boards would make recommendations to MATS concerning such things as modification of aircraft, base support, stockpiling of equipment and spare parts, facilities, maintenance, weather and communications requirements, manning, and flight procedures and traffic. The object was to insure the "maximum coordination, expedition, efficiency and effectiveness in the utilization of CRAF to generate airlift for the national defense."⁷¹

As the name implied, the new operations boards were not only charged with the development of plans, but were also responsible for the post-D-Day direction of operations in their respective areas, under the operational control of the Atlantic and Pacific MATS Division Commanders. Upon activation of CRAF, the new operations boards would execute the CRAF emergency war plans. They would insure the prompt and orderly transition of aircraft and crews from civilian to CRAF service, and then coordinate that service. They would issue instructions regarding the utilization of flight and ground equipment and facilities; traffic, communications, landing, take-off and in-flight operation of aircraft, engineering, maintenance and overhaul of equipment, personnel; and inventories, materials and supplies for the support of CRAF operations. They would also "receive and transmit to the Carriers the plans and instructions of MATS concerning the conduct of CRAF Services."⁷²

The Top Committee approved the operations board agreement, with only minor changes, on March 1, 1955, and presented it to Assistant Secretary of the Air Force, Robert Lewis. Still, a cloud hung over the agreement. There was no question of the legality of the boards' power to make recommendations; there was, however, renewed concern about the airlines acting in unison to carry out those recommendations—a possible antitrust violation. This made the airlines hesitant to sign.⁷³ Secretary Lewis approved the draft on May 25, 1955 on the condition that the Justice Department, Civil Aeronautics Board, and the Federal Trade Commission agreed to waive enforcement of the antitrust laws as they might pertain to the functioning of the boards.⁷⁴

The Civil Aeronautics Board, however, in a bureaucratic reflex sought primary jurisdiction—asking the Attorney General for a ruling that airline participation in CRAF

peacetime planning groups was a matter for the CAB to handle under Section 412 of the Civil Aeronautics Act which authorized it to grant immunity from the antitrust laws when it considered that the public interest would be served.⁷⁵ In 1957, the Attorney General ruled that the CAB could grant such immunity but gave no assurance that action under the antitrust statutes would not be brought against the airlines in this regard at some future time—if the view of the public interest should change. That did nothing to bring the airlines closer to signing the CRAF agreement.⁷⁶

Although the Civil Aeronautics Board promised to consider antitrust immunity as soon as the government and airlines formally presented the operations board agreement, the matter dragged on for another year.⁷⁷ Finally, on July 16, 1958 the CRAF carriers signed the operations board agreement, and, on July 21, it was submitted to the CAB.⁷⁸ The Civil Aeronautics Board, in turn, issued a favorable ruling on November 21, 1958—finding that the CRAF operations board agreement qualified for exemption from antitrust action under provisions of the Federal Aviation Act. The CAB, however, did not give the CRAF operations boards a blank check; any changes in the structure or procedure of the CRAF operations boards would have to be resubmitted for approval to the CAB.⁷⁹

Some, but not all, in the CRAF hierarchy were pleased with the CAB ruling. "This approval marks a significant development in the CRAF Planning, and has only been made possible through the excellent cooperation of the Department of the Air Force, Department of Commerce and the airline industry," wrote Theodore Hardeen, Jr., Administrator of DATA.⁸⁰ General Tunner, the MATS commander, was less enthusiastic, however. Before activating the operations boards, Tunner preferred to seek a definite understanding from the CAB that CRAF operations would not "be restricted, delayed or interfered with in any respect." Without such assurances, he favored establishing the boards with military chairmen—a mechanism that would avoid the antitrust difficulties, although that would tend to reduce the role of the airlines in operational matters.⁸¹ At Tunner's request the CAB reviewed its ruling and, on April 13, 1959, rescinded the original order and issued a new one which overcame Tunner's objections.⁸²

On May 5, 1959, with a new and more favorable CAB ruling in hand, the Pacific operations board was organized at San Francisco Airport, and G. F. Maxwell of Pan American World Airways was elected Director. On May 14, the Atlantic Operations Board met at McGuire AFB, N.J. and elected Harry Olander, Trans World Airlines, as Director. After five years of haggling, the CRAF Operations Boards were now finally in place at San Francisco International and New York's Idlewild Airports from which all CRAF flights were to originate during a wartime emergency.⁸³ By the end of 1959, however, tests showed that the separation of the CRAF and military operations was unsatisfactory; it resulted in communications difficulties and prevented proper board supervision of CRAF operations. MATS advocated that the operations boards should co-locate with the MATS organization which each served—at either Travis or McGuire AFBs. By January 1960 both boards had agreed to do so.⁸⁴

Because MATS and the Air Transport Association, representing the airlines, had been unable to come to an agreement on a standby contract, the Air Force, in late 1953, ordered Air Materiel Command to drop efforts to draft a general contract, and to negotiate separately with each operator.⁸⁵ The results, however, were disappointing. The CRAF program had been operating since 1952 on the strength of the moral obligation of the airlines to furnish airlift support for the Department of Defense in an all-out emergency. Repeated efforts at negotiation between the government and commercial carriers failed to produce standby contracts acceptable to both sides. Draft after draft failed over the opposition of one party or

the other. In 1955, a senior MATS briefer described the contracts problem as "staggering." The difficulties, he said, were "so varied and so technical" that he would not even attempt to summarize them.⁸⁶

In the early months of 1956, however, industry attorneys and AMC representatives were back at the negotiating table, and, in May, after more than twenty meetings, they agreed on a new draft standby contract.⁸⁷ Regrettably, their efforts were not rewarded immediately. The contract that they had drafted was still under review by Air Force lawyers two years later, in 1958, by which time some airline lawyers were advising their clients not to sign. The issues that divided the two parties are unclear. On the one hand, airline officials pointed to their participation in CRAF as a basis for their claim to a lion's share of peacetime military air transportation contracts and may have judged that holding out somehow gave them additional leverage. On the other hand, the House Committee on Government Operations, sometimes referred to as the Holifield Committee, placed the blame on the Air Force. The committee suggested that it was the Air Force that was dragging its feet but did not elaborate further.⁸⁸

In August 1958, in apparent response to the Congressional prodding, Secretary of the Air Force James H. Douglas held a meeting with the airline presidents and renewed efforts to develop a mutually satisfactory standby contract. In late November 1958, an industry-government team completed a new draft and disseminated copies to each CRAF carrier for study.⁸⁹ Even then, however, three issues divided the parties. The first was the activation procedures for CRAF. Some of the airlines wished to require the President himself to make the decision rather than allowing him to delegate that authority to the Director of Defense Mobilization or the Secretary of Defense. Second, some of the carriers believed they should receive additional compensation—over and above the negotiated use charge—for giving CRAF priority over other operations. Finally, some of the carriers wished to limit the effective time period of the standby contract, making it contingent upon the completion of the planning for the War Air Service Pattern (WASP)—a plan by which the aircraft not allocated to CRAF would be redistributed among the airlines in order to operate key domestic routes during the emergency.⁹⁰

In March 1959, when several of the large scheduled carriers indicated acceptance, in principle, of the terms and conditions of the draft standby contract, an Air Force team was established to conduct final negotiations with each of the airlines.⁹¹ Then, on May 13, the first CRAF standby contract was signed by Air Force Secretary James H. Douglas and TWA president Charles S. Thomas. Under terms of the contract, TWA would not only provide thirty-five aircraft for the CRAF fleet, but would also furnish base support for all CRAF aircraft passing through Wheelus AB, Tripoli; Ciampino AB, Rome; Mildenhall AB, England; Chateauroux AB, France; Torrejon AB, Madrid; and Gander AB, Newfoundland.⁹² "It would be difficult to fix responsibility for the delays which have come about," wrote C. R. Smith of American Airlines. "Some of the responsibility must rest with the military service; some of it must be assumed by the airlines. But, irrespective of who is to blame for these delays, we continue to have responsibility to get this matter into better order."⁹³

The second CRAF standby contract was signed on July 24, 1959 by United Air Lines, and, in September, standby contracts were completed with Hawaiian Airlines and Flying Tiger Line.⁹⁴ By the end of 1960, objections to the contract had been dropped and eighteen of the nineteen CRAF airlines had signed standby contracts.⁹⁵

To test the evolving structure of CRAF, MATS conducted a long series of exercises. Of these, Command Post Exercise TRIPLE PLAY, begun on June 15, 1955, was the first. The object of that exercise was to test the CRAF emergency war plan—particularly airline

notification procedures and communications. As the MATS players soon learned, mobilization points of contact for the individual airlines listed in the war plan were sometimes incorrect, and CRAF operators did not always have someone on duty at the indicated contact points. It took MATS's Atlantic Division five hours and thirty-five minutes to reach a representative of Pan American World Airways, and almost as long to contact Trans World Air Lines. On a more positive note, most of the airlines contacted confirmed their ability to accomplish their assigned schedules.⁹⁶

A second CRAF command post exercise—SWING SHIFT—was conducted in March 1957 to test airline capability to support planned operations, and communication and notification procedures. The availability of aircraft as reported by the airlines—no actual diversions of aircraft assigned to CRAF were made during the test—fell short of requirements by more than 20 percent initially, but improved at D-Day plus 15, and met the requirement at D plus 30. Since airlines could not contractually commit their crews for wartime duty, availability of crews could not definitely be ascertained.⁹⁷ Of even more concern—only fourteen of the twenty-five CRAF carriers participated.⁹⁸

The problem of determining a more realistic method of testing the CRAF plan and CRAF readiness was discussed at some length at the joint Atlantic/Pacific committees meeting in October 1958. A subcommittee was appointed at that meeting to help develop a more realistic test.⁹⁹ The committee met at Scott AFB on February 17-18, 1959 and drafted a test plan that was reviewed by all CRAF carriers and approved by the Top Committee. It was designated test exercise SNOW FLAKE.

SNOW FLAKE was executed in August 1959 to test the airlines' ability to mobilize and practice procedures outlined in the war plan (MATS CRAF Plan 182-59). As a result, the operations boards recommended a number of revisions to the emergency war plan and aircraft allocation processes; the board also called for the development of well defined standardized operational procedures. In addition, the exercise illustrated the problem that occurred when aircraft were allocated to CRAF which could not respond immediately to a call-up. This was essentially a problem of aircraft that had not undergone Group A or Group B modifications. Of the 149 cargo aircraft committed to CRAF as of January 1, 1959, forty-three did not have Group A modifications and eighty-six did not have all their Group B equipment stored.¹⁰⁰

SNOW FLAKE also afforded an opportunity to test the response and efficiency of the Air Force Reserve navigators who were to be assigned to CRAF flights. To make up the shortage of airline navigators, Air Force reservists, who had been trained as navigators and provided with navigational gear, were slated to man CRAF aircraft upon mobilization. In this exercise, 10 percent of the assigned reserve navigators were selected at random and ordered to report to CRAF points with full navigation equipment. The test pointed up some training deficiencies but proved the practicability of the concept.¹⁰¹ The test, from the standpoint of reaction time, education of participants, and spotting deficiencies in the CRAF program, was termed a success.

Most troubling to MATS, however, was carrier participation in the exercise. Less than half had sent representatives to the operations boards—only six of fourteen were represented on the Atlantic Operations Board and only ten of twenty on the Pacific Board. Although six of those who had failed to participate were soon eliminated from the program, there was no practical way that the CRAF contract could be enforced if individuals or companies declined to perform.¹⁰² "All of the CRAF planning which is now being accomplished; the expenditure of funds for stockpiling spares and modification to ready the civil aircraft, will only be effective if the airlines and their personnel desire to participate."¹⁰³

Militarization, some argued once again, was the only guarantee. "Our only measure of positive performance is through appropriate legislation which will give military control over this organization at the outset of an emergency," concluded some on the MAC staff.¹⁰⁴ The truth of this assertion was essentially impossible to test. While MATS's own readiness was assessed by frequent special airlifts and maneuvers, the true ability of the Civil Reserve Air Fleet to operate with MATS in an emergency would remain a matter of conjecture. An actual test activation of CRAF, as some members of the Holifield Committee suggested, would have disrupted the airline industry and all those who depended upon it. Moreover, it would have been prohibitively expensive for the government. A trial mobilization of the airlines was as impracticable in 1959, as it had been when first proposed by Senator Royal Copeland (D-N.Y.) in 1937.¹⁰⁵

Strategy Redefined

The changes in the nation's overall defense strategy—shifting from a reliance on "massive retaliation" toward a more flexible approach—which began to take shape in the late 1950s and early 1960s brought a new emphasis on air transport and required a new definition of CRAF. When, in early 1960, the Air Force reported to President Eisenhower on the role of the Military Air Transport Service in either peace or war, it noted the recent structural maturation of CRAF but admitted that "no provision is made for partial mobilization or use in conditions short of general war." "Present CRAF planning," the document concluded, "is largely a reflection of World War II experience and, consequently, inadequate to cope with the wide variety of emergencies that might arise."¹⁰⁶ As a result, the President directed "that the role of CRAF be reexamined with the objective of insuring optimum effectiveness and responsiveness of commercial airlift services to the Department of Defense under all conditions."¹⁰⁷ The shift in the nation's military strategy required a redefinition of the role CRAF would play in both general and limited war plans.¹⁰⁸

Until 1958 the Civil Reserve Air Fleet was solely a "full mobilization" tool. A "partial mobilization"—anything short of full mobilization—was to be handled outside CRAF, and "worked out by negotiations between the military departments and the airlines in the manner of the Berlin and Korean airlifts."¹⁰⁹ In 1958, however, under pressure of Congressional hearings chaired by Representative Holifield, that notion was reexamined. In that review, the subcommittee found that emergency missions for both MATS and CRAF were currently predicated only upon full-scale mobilization and recommended that "military and civil air transport resources must be integrated and developed in a manner to meet all the contingencies of warfare."¹¹⁰

That recommendation, and a proposal worked out between TWA and Pan Am in July 1958 "for the handling by the commercial airlines of the United States of overseas military passenger traffic in peacetime and for their instant readiness to handle military passenger traffic in emergencies," spurred an open debate on the partial activation of CRAF. "Developments in recent years," the proposal pointed out, "have proven the need for military personnel airlift not only in all-out war for which the Civil Reserve Air Fleet program was designed but also for limited or "brush fire" wars requiring quick action by the Secretary of Defense."¹¹¹ "We in TWA," wrote one airline official, "have long recognized the need for some method of mobilizing airlift to cover situations that fall short of requiring full CRAF activation." Their concern led them to discuss the issue with Pan American representatives. "Out of these discussions came a plan for 'partial mobilization' that was originally referred to as the 'Joint TWA/PAA Proposal' but later referred to as an 'Industry Proposal.'"¹¹²

The TWA-Pan American proposal provided that: "Upon declaration of an emergency by the Secretary of Defense, each airline party will immediately designate and make available for emergency military service licensed transport aircraft, efficiently manned, fully operational, suitable for the mission, and for so long as may reasonably be required." The amount of emergency airlift provided by each company would be proportional to its passenger carrying capacity. If required by the Secretary of Defense, the participating air lines would expand the emergency airlift by 50 percent for a period of eight weeks—and beyond if necessary.¹¹³

At a meeting of the Executive Committee (formerly the Top Committee) of the CRAF Logistics Working Group on November 18, 1958, Pan Am proposed that a plan for the partial activation of CRAF be developed. Out of that discussion emerged eight "suggested principles" to guide a partial activation of CRAF: (1) that no partial activation be ordered until all aircraft normally available for contract had been utilized; (2) that the industry be given the opportunity to volunteer aircraft; (3) that the partial activation of CRAF be by allocation; (4) that essentially the same proportion of each airline's fleet should be allocated; (5) that partial activation be in increments of fifty aircraft, up to a total of 200 aircraft—half to be passenger and half to be convertible; (6) that this partial activation of CRAF be by order of the Secretary of Defense with the approval of the Administrator of the Office of Civil Defense Mobilization or other designee of the President; (7) that satisfactory reimbursement to the carriers be worked out between the industry and government (on a fixed price basis, if possible); and (8) that a mutually agreeable term of the partial activation contract be worked out between the industry and government.¹¹⁴

When the "suggested principles" were submitted by DATA to all CRAF carriers for comment, only American Airlines spoke out in opposition. "We feel that there is not justification for partial activation of CRAF," wrote an American Airline official. American was particularly concerned about the nascent air-cargo industry: "If the manufacturers and other shippers of this country realized that the entire civil freight lift was subject to a small CRAF mobilization at any time, they would immediately go back to rail and truck delivery[,] and [maintain] large inventories because they could not stand the disruption in case of mobilization." Still, with the exception of American, the airlines were unanimous in supporting some program of partial activation.¹¹⁵

That same concern was echoed by some in defense establishment. They were concerned that when the CRAF carriers discovered that the partial activation of their aircraft would put them at a disadvantage in comparison to those not enrolled in the program, they simply would not respond. General Tunner pointed to the crises in Lebanon and the Taiwan Straits, in 1958, to illustrate the point. "There were ten separate occasions," he said, "in which MATS was unable to secure enough civilian planes to help us with our routine flights" while military aircraft were diverted to emergency missions. "It was summertime, vacation season," said Tunner, in sardonic explanation.¹¹⁶

By March 1959, however, MATS was also at work on a plan that could activate portions of the CRAF for partial mobilization airlift requirements. Its planning called for the use of airlines under contract on a voluntary basis rather than through CRAF.¹¹⁷ At about the same time, the Air Coordinating Committee revised its statement of civil air policy to make provision for both full and partial mobilization, and to allow the activation of CRAF under conditions short of an unlimited national emergency.¹¹⁸

The Executive Committee of the CRAF Logistics Working Group took up the issue of partial activation of CRAF again in July 1959.¹¹⁹ In January 1960, Theodore Hardeen, Jr., DATA Administrator, forwarded the committee's draft to the Air Force secretariat. In essence

that plan called for partial activation in increments of 25 percent, 50 percent, and 75 percent of the total CRAF fleet. "I am...sure," wrote Hardeen, "that you are aware of DATA's continuing desire and of the interest of other Governmental Agencies in having an acceptable partial activation plan in being at the earliest possible date." The Secretariat sent the plan to the Air Staff and promised Hardeen that he would be notified as soon as an Air Force position on the subject had been worked out.¹²⁰

The MATS leadership, however, opposed the DATA/Executive Committee format. Moreover, they persisted in that opposition in the face of a Presidential directive to reexamine the role of CRAF "with the objective of insuring optimum effectiveness and responsiveness of commercial airlift services to the Department of Defense under all conditions."¹²¹ Instead, they continued to promote the simple expedient of exercising a contract expansion clause in peacetime contracts to obtain needed civil airlift in emergencies short of all-out war.¹²² By August 1961, MATS was complaining to Air Force headquarters of a growing tendency on the part of some at the senior headquarters to view CRAF as "the appropriate civil augmentation force for all types of emergencies." To plan for the use of CRAF "under circumstances and for tasks entirely different from those for which it was designed is considered undesirable," MATS insisted.

Instead, the MATS staff argued that CRAF, as then constituted, was only for general war augmentation, and that peacetime contract expansion and standby capability was the proper source of augmentation during the initial phases of a contingency situation. Limited war, they added, might require a system of allocation of civil airlift capacity to satisfy a variety of airlift requirement associated with the multiple situations planned for in limited contingencies, but again this would be handled through contracts and not as a function of CRAF.¹²³

Air Force headquarters responded that it would not agree that CRAF is solely for airlift augmentation in general war. "Alternative arrangements to full mobilization of the CRAF are needed" noted the Air Staff, "to satisfy a wide range of contingencies in which a lesser amount of civil airlift augmentation is needed." They acknowledged that the "expansion clause" in current commercial airlift contracts was "intended to provide for such situations," but insisted that "further arrangements are needed...to provide for an assured civil airlift augmentation when requested under all contingencies."¹²⁴

In the early months of 1963, MATS answered with a plan that called for the use of CRAF resources across the spectrum of warfare—from contingency operations and other emergency situations short of general war to general war itself. The conditions of CRAF employment were divided into three phases: Phase I was defined as a period of peace or, at the most, cold war with no airlift emergency.¹²⁵ The air carriers would perform the services specified in their fixed-buy contracts and would provide additional services if the government wanted them and the contractor had the extra capacity. Phase II was a period marked by an airlift emergency, but still a situation short of general war—essentially a limited war or counterinsurgency operation, or a state of preparation for either of the two. In Phase II, air carriers could be called upon to furnish part or all of the expansion capability called for in their contracts. Unlike Phase I, incremental expansion during Phase II would be binding rather than voluntary on the part of the contractors. Phase III involved support for a general war, either imminent or in progress. CRAF would be activated completely, and the airlines would be directed to respond to the general war plan, including dispersal.¹²⁶

In the early spring of 1963, MATS presented its proposal to the Office of Emergency Transportation, which had recently absorbed the functions of the Defense Air Transport Administration. By agreement between MATS and OET, the new plan was modified slightly

by also defining Phase I as a period of airlift emergency during which air carriers would be obligated to respond.¹²⁷ On that basis, a new memorandum of understanding between the Secretaries of Defense and Commerce concerning CRAF was signed on August 8, 1963. The new document recognized four stages of civil airlift operations, "beginning with the normal day-to-day civil airlift augmentation obtained under MATS fixed contracts covering domestic, international and overseas requirements, and ending with the full implementation of CRAF."¹²⁸ (See Table 5.1)

Table 5.1

Incremental Stages of CRAF Activation

Stages	Description	Authority
Peacetime operations	Perform airlift service in support of deployed forces	Executive director, single manager, operating agency for airlift services.
Airlift emergency- Stage I	When required to perform airlift services for DOD operations in support of, but not confined to, counterinsurgency activities and localized emergencies.	Secretary of Defense
Airlift emergency- Stage II	When required to perform airlift services for DOD operations in support of, but not confined to, limited wars.	President of the United States
Airlift emergency- Stage III Activation of CRAF	When required to perform airlift services for DOD operations during major military engagements involving U.S. forces (limited or general war).	Declared national emergency -- Secretary of Defense, or in accordance with the conditions of the contracts.

Source: The Federal Register, No. 168, August 28, 1963, p. 9446.

Summary and Analysis

At one level, the Civil Reserve Air Fleet matured and developed in the years from the end of the Korean War to the first hints of involvement in Vietnam. Operations boards were created to monitor and advise on CRAF developments in peacetime and to control CRAF assets in case of war. Standby contracts were finally negotiated with virtually all of the CRAF participants, and a series of CRAF exercises were conducted to evaluate program mechanics and airline participation.

At the same time, however, at a different level, CRAF's very existence was challenged. Stuart Tipton, president of the Air Transport Association, and others, in testimony before various congressional subcommittees, proposed plans, which if adopted, would have virtually eliminated organic military strategic airlift and would have eliminated or dramatically altered CRAF. Even MATS commander Lt. Gen. William H. Tunner seemed willing (even anxious) to do away with CRAF—so long as he could have a military fleet adequate to accomplish his mission.

Out of all of this came a series of CRAF policy reforms that had not yet fully worked themselves out when, in 1961, a new administration formulated a national military strategy—a strategy of Flexible Response—that seemed to promise the ability to deal with wars at all levels. The partial activation of CRAF and the increased use of civil airlift augmentation for MATS—two of the major unfinished policy reforms of the era—seemed particularly fitted to the new strategy and were certain to be addressed in the years ahead.

The Civil Reserve Air Fleet had passed through a difficult period of redefinition, but, in 1962, the full impact had yet to be played out.

Endnotes

1. *Illustrated Hist of MAC*, p. 89.
2. Futrell, I: 606-27, II: 10-21.
3. Davies, pp. 529-31.
4. Miller, pp. 235-71.
5. Rpt, Commission on Organization of the Executive Branch of the Government [Hoover Commission], *Report on Transportation*, (Washington: GPO, 1955), pp. 295-96.
6. ATA, *Air Transport Facts and Figures*, 19th ed. (Washington, D.C.: ATA, 1958), p. 12. At the end of 1957 there were 474 new aircraft on order for delivery from 1958 through 1961. Profits, however, had fallen from 7 percent of revenues in 1952 to 1.9 percent in 1957.
7. Davies, p. 672.
8. Minutes, ATA, Board of Directors Meeting, Mar 29, 1957, "Military Air Transport Service," pp. 11-12, Book XIII, ATA Library. In 1956 ATA noted that, despite "a steady and dramatic increase, both passengers and cargo totals almost doubling, in use of the air by the military" between 1951 and 1955, the proportion carried by civilian carriers had decreased from 37.3 percent to 14.6 percent for passengers and from 30.9 percent to 2.7 percent for cargo. [Speech, Stuart G. Tipton (Pres ATA), "A New Concept In Partnership for Security," delivered Dec 19, 1956 to the Wings Club of New York, ATA Library.] In 1959, the ATA claimed that MATS flew 62 percent of all cargo and 25 percent of all passengers airlifted in the Atlantic region. With foreign airlines hauling 21 percent of the cargo and 44 percent of the passengers, the U.S. companies were left with only 17 percent and 31 percent respectively. Although these statistics were flawed when ATA lumped into the MATS figures all of the traffic handled by domestic cargo lines and the supplementals, the true MATS numbers would not have been remarkably lower. [Frederick C. Thayer, Jr., *Air Transport Policy and National Security* (Chapel Hill: University of North Carolina Press, 1965), pp. 181-82. Cited hereafter as Thayer.]
9. Thayer, p. 149-66. Stuart Tipton, ATA president, in a late 1956 speech indicated ATA support for modernizing (with jet transport) the MATS fleet, but, at the same time, for a greater employment of the civil airlines by the military. [Speech, Stuart G. Tipton, President, ATA, "A New Concept In Partnership for Security," delivered Dec. 19, 1956 to the Wings Club of New York, ATA Library.] By 1959, MATS strategic airlift modernization had become an anathema to ATA for it seemed to promise only increased shifts of military traffic from the airlines to MATS. "During a period of three or four years we got on both sides of the fence," the ATA Board of Directors were told. "We first advocated government aid in the development of a jet transport, and later backed away from that idea." [Minutes, ATA Board of Directors Meeting, Jun. 9, 1959, Exhibit "G" to Agenda, "Peacetime and Emergency Airlift Requirements," Book XIV, ATA Library.]
10. Hearings, U.S. Congress, House, Committee on Appropriations, *Department of the Air Force Appropriations for 1957*, Hearings before Subcommittee, 84th Cong., 2d Sess. (Washington, D.C.: GPO, 1956), pp. 1464-65.
11. Rpt, ACC, *Civil Air Policy*, May 1954, p. 17. See also, Report, U.S. Congress, House, Committee on Appropriations, *Department of the Air Force Appropriations for 1957*, 84th Cong., 2d Sess., House Report 2104 (Washington, D.C.: GPO, 1956), pp. 45-47. Flood credited the Army's retired Gen. James M. Gavin with having prompted his interest in military airlift. [Thayer, p. 156n.]
12. Hearings, U.S. Congress, House, Committee on Appropriations, *Department of Defense Appropriations for 1958*, Hearings before Subcommittee, 85th Cong., 1st Sess. (Washington,

D.C.: GPO, 1957), Part 2, pp. 1772-73, 2301.

13. Minutes, ATA Board of Directors Meeting, Mar. 29, 1957, "Military Air Transport Service," p. 11, Book XIII, ATA Library. See also: Hearings, U.S. Congress, Senate, Committee on Appropriations, *Department of Defense Appropriations for 1958*, Hearings before Subcommittee, 85th Cong., 1st Sess. (Washington, D.C.: GPO, 1957), p. 1422.

14. Rpt, U.S. Congress, Senate, Committee on Appropriations, *Department of Defense Appropriations for 1958*, 85th Cong., 1st Sess., Senate Report 543 (Washington, D.C.: GPO, 1957), p. 13.

15. Report, U.S. Congress, Senate, Committee on Appropriations, *Department of Defense Appropriations for 1958*, 85th Cong., 1st Sess., Senate Report 543 (Washington, D.C.: GPO, 1957), p. 14.

16. Testimony and Statement of Stuart G. Tipton, Pres. of the Air Transport Association of America, before the House Appropriations Committee, Apr. 3, 1957, [MATS] Commander's Correspondence Files, 1957, Folder OPS6 Civil Air, AMC/HO.

17. Hearings, U.S. Congress, House, Committee on Government Operations, *Military Air Transport*, Hearings before Subcommittee, 86th Cong., 2d Sess. (Washington, D.C.: GPO, 1958) pp. 13-14, 329.

18. Report, U.S. Congress, House, Committee on Government Operations, *Military Air Transport, Twenty-Eighth Report*, 85th Cong., 2d Sess, House Report 2011 (Washington, D.C.: GPO, 1958), pp. 5, 89.

19. Thayer, pp. 160-62.

20. Hearings, U.S. Congress, Senate, Committee on Appropriations, *Department of Defense Appropriations for 1959*, Hearings before Subcommittee (Washington, D.C.: GPO, 1958), pp. 978, 1091.

21. Public Law 85-724, Section 634.

22. John Schlight, "Elwood R. Quesada: Tac Air Comes of Age," in John L. Frisbee, ed., *Makers of the United States Air Force* (Washington, D.C.: Office of Air Force History, 1987), pp. 177-204.

23. Stuart Symington was former Chairman, National Securities Resources Board and Secretary of the Air Force.

24. Thayer, pp. 167-78.

25. Hearings, U.S. Congress, Senate, Committee on Appropriations, *Department of Defense Appropriations for 1960*, Hearing before Subcommittee, 86th Cong., 1st Sess. (Washington, D.C.: GPO, 1959), p. 1241.

26. Remarks, Senator A. S. Mike Monroney, *Congressional Record*, Aug 25, 1959, pp. 15508-11, reprinted by ATA Public Relations Service in "Senators Demand...Enough Airlift for National Defense," [1959].

27. *Illustrated Hist of MAC*, p. 110.

28. Tunner, p. 291. The MATS commander, Lt. Gen. Joseph H. Smith, and his staff, may have been preoccupied with other critical issues including the creation of the Airlift Service Industrial Fund. In addition, the designation, in Dec. 1956, of MATS as single manager of airlift services had required a total reorganization of the command and the movement of MATS headquarters to Scott Air Force Base, Illinois. [*Illustrated Hist of MAC*, pp. 92-93.]

29. Tunner, pp. 291-300.

30. *Ibid.*, p. 304. Actually, Tunner and Assistant Secretary of the Air Force Dudley C. Sharp (soon to be Air Force Secretary) had begun the contest even before Tunner took command. In Apr. 1958 they testified before both House and Senate panels arguing that the "'unfair competition' charges leveled at the Military Air Transport Service by the airlines pose[d] a

- dangerous threat to MATS' role as a combat ready supporting force in the event of war." [Article, Robert H. Cook, "MATS Defends Transport Role," *Aviation Week*, May 26, 1958.]
31. Memo, Lt Col Leonard Sherman (DCS/M Staff MATS) to DCS/Plans MATS, Subject: Procurement Comments Relative to Airline Proposal to Furnish All Airlift to DOD, Aug. 4, 1958, CRAF Papers, Box 15, Folder: Plan on Movement of Passengers by Commercial Air in Peacetime and Wartime, AMC/HO.
 32. Hearing, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation*, Hearings before Subcommittee, 86th Cong., 1st Sess. (Washington, D.C.: GPO, 1959), p. 202.
 33. *Ibid.*, p. 213.
 34. Tunner, p. 295.
 35. Memo, Col. Ward E. Cory, Memo for Record, Subj: General Tunner's Informal Comments on CRAF on 2 Dec, Dec. 11, 1959, CRAF Papers, Box 15, Folder Emergency CRAF (1952-1959), AMC/HO.
 36. Hearings, U.S. Congress, House, Committee on Armed Services, *Hearings before Special Subcommittee on National Military Airlift*, 86th Cong., 2d Sess. (Washington, D.C.: GPO, 1960), pp. 4183-88, 4831-32.
 37. Report, U.S. Congress, House, Committee on Appropriations, *Supplemental Appropriations Bill 1960*, 86th Cong., 1st Sess., House Report 943 (Washington, D.C.: GPO, 1959), pp. 7-8.
 38. Thayer, p. 190.
 39. Rpt, U.S. Congress, House, Committee on Armed Services, *Investigation of National Defense, Part II*, 85th Cong. 2d Sess., Committee Print (Washington, D.C.: GPO, 1958) pp. 2-3.
 40. Thayer, pp. 196-213.
 41. Miller, pp. 262-64.
 42. *Ibid.*, p. 265.
 43. *Ibid.*, pp. 265-66.
 44. Hearings, U.S. Congress, House, Committee on Armed Services, *Hearings before Special Subcommittee on National Military Airlift*, 86th Cong., 2d Sess., 1960, p. 4807.
 45. Rpt, U.S. Congress, House, Committee on Armed Services, *Report of Special Subcommittee on National Military Airlift of the Committee on Armed Services*, 86th Cong., 2d Sess., Committee Print (Washington, D.C.: GPO, 1960), pp. 4051-55.
 46. Thayer, pp. 214-15.
 47. Tunner, p. 306.
 48. Ltr, Lt. Gen. William H. Tunner (COMATS) to Gen Thomas D. White (CofS USAF), Dec. 8, 1959, CRAF Papers, Box 22, Folder Future of MATS, AMC/HO.
 49. Rpt, [Air Staff], *The Role of the Military Air Transport Service in Peace and War*, Feb. 1960, pp. 5-6 in Hist, MATS, "Military Air Transport Service, Jan-June, 1960," Vol. II (Supporting Documents), AMC/HO. Cited hereafter as *The Role of MATS in Peace and War*. The report also called for the modernization of MATS, but this was small consolation.
 50. Rpt, U.S. Department of Commerce, *Federal Transportation Policy and Program* (Washington, D.C.: GPO, 1960), pp 6-8, 24.
 51. Tunner, p. 303.
 52. Rpt, Reed Committee, "Reed Committee Report on MATS," Apr 1960, pp. 1-3, CRAF Papers, Box 10, Folder: Reed Committee Report on MATS, AMC/HO.
 53. Tunner, pp. 303-4.
 54. Rpt, U.S. Congress, House, Committee on Armed Services, *Report of Special*

- Subcommittee on National Military Airlift of the Committee on Armed Services, 86th Cong., 2 Sess. (Washington, D.C.: GPO, 1960), pp. 4049-55.*
55. Tunner, pp. 316-17. Some on the MATS staff indicated that it was "these discouraging attacks [on MATS] that, in part, led to his retirement." Clay Blair, Jr., "Uncle Sam's Orphan Airline, *Saturday Evening Post*, Jun 4, 1960, p. 77.
 56. Intvw, Lt. Gen. Joseph Smith by Dr. James C. Hasdorff, Jul. 22-23, and Nov. 16, 1976, USAF Oral History Program, pp. 352-53, General Collections, Folder 239.0512-906, AFHRA.
 57. L. L. Doty, "New Plan May End Airline-MATS Fight," *Aviation Week*, Feb. 15, 1960, p. 36.
 58. Rpt, Maj. Gen. Donald W. Graham, et al, "Study of Civil Augmentation Air Procurement Policies and Procedures," Aug. 16, 1966, p. 1, CRAF Papers, Box 19, Folder Report on Civil Augmentation Airlift Procurement Policies and Practices, AMC/HO.
 59. Rpt, U.S. Congress, House, Committee on Armed Services, *Report of Special Subcommittee on National Military Airlift of the Committee on Armed Services, 86th Cong., 2d Sess., Committee Print (Washington, D.C.: GPO, 1960), pp. 4045-46, 4052-54.*
 60. *The Role of MATS in Peace and War*, p. 5.
 61. Rpt, Maj. Gen. Donald W. Graham, et al, "Study of Civil Augmentation Air Procurement Policies and Procedures," Aug. 16, 1966, pp. 7-8, CRAF Papers, Box 19, Folder Report on Civil Augmentation Airlift Procurement Policies and Practices, AMC/HO.
 62. Testimony, Assistant Secretary of the Air Force Joseph S. Imirie, before the House Military Operations Subcommittee of the Committee on Government Operations, 1961, cited in Rpt, Lt. Col. H. H. Putnam, Jr., "Executive and Legislative Governmental Interest in Development of the Civil Reserve Air Fleet-1948-1966," Jan. 1968, p. 20, CRAF Papers, Box 21, Folder Civil Reserve Air Fleet 1948-1966, AMC/HO; Briefing, Lt. Gen. Joe W. Kelly, Procurement Briefing to Certificated Carrier Representatives of the White House-DOD-Air Force, Oct. 10, 1960, CRAF Papers, Box 17, Folder Procurement Criteria and Policies (1960-61), AMC/HO.
 63. Rpt, Maj. Gen. Donald W. Graham, et al, "Study of Civil Augmentation Air Procurement Policies and Procedures," Aug. 16, 1966, pp. 8-10, CRAF Papers, Box 19, Folder Report on Civil Augmentation Airlift Procurement Policies and Practices, AMC/HO.
 64. Rpt, Maj. Gen. Donald W. Graham, et al, "Study of Civil Augmentation Air Procurement Policies and Procedures," Aug. 16, 1966, p. 10, CRAF Papers, Box 19, Folder Report on Civil Augmentation Airlift Procurement Policies and Practices, AMC/HO.
 65. Futrell, II: 15-16.
 66. Briefing, [Dir Plans MATS], "CRAF Briefing of Air Force Inspector General Survey Team," [1955], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO; Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," p. 81A, AMC/HO. To avoid creating a large staff within the Civil Air Division, various MATS staff offices were made responsible for technical assistance in the initial CRAF planning.
 67. Hist, MATS, "Military Air Transport Service, Jul-Dec 1961," p. 160, AMC/HO.
 68. Hist, MATS, "Military Air Transport Service, Jul-Dec 1956," p. 98, AMC/HO.
 69. Minutes, [CRAF Logistics Working Group] Top Committee Meeting, Dec. 17, 1954, in Hist, MATS, "Military Air Transport System, Jul-Dec 1954," Vol III (Supporting Documents), AMC/HO; Hist, MATS, "Military Air Transport System, Jan-Jun 1955," pp. 123-24, AMC/HO.
 70. Briefing, [Director of Plans, MATS], "CRAF Briefing for Air Force Inspector General Survey Team," [1955], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.
 71. Draft Agreement, CRAF Logistics Working Group Top Committee, Civil Reserve Air

- Fleet Operations Board Agreement, Mar. 1, 1955 in Hist, MATS, "Military Airlift Command, Jan-Dec 1955," Vol. V (Supporting Documents), AMC/HO.
72. Draft Agreement, CRAF Logistics Working Group Top Committee, Civil Reserve Air Fleet Operations Board Agreement, Mar. 1, 1955 in Hist, MATS, "Military Airlift Command, Jan-Dec 1955," Vol. V (Supporting Documents), AMC/HO.
73. Minutes, [CRAF Logistics Working Group] Top Committee Meeting, Mar. 1, 1955, CRAF Papers, Box 1, Civil Reserve Air Fleet 1955-58, AMC/HO; Hist, MATS, "Military Air Transport Service, Jan-Jun 1955," pp. 125-26, AMC/HO; Rpt, U.S. Congress, House, Committee on Government Operations, Twenty-eight Report by the Committee on Government Operations [Holifield Committee], "Military Air Transportation," Jun. 26, 1958, 85th Cong., 2d. Sess., [House Report No. 2011], p. 33.
74. Study, MATS Civil Air Division, Appendix F, Annex 1, Tab B [to Civil Air Division Staff Study on the Integration of CRAF Planning within the MATS Staff], [Sep 8, 1955], CRAF Papers, Box 2, Civil Reserve Air Fleet 1959, AMC/HO; Hist, MATS, "Military Air Transport Service, Jan-Jun 1955," p. 126, AMC/HO.
75. Rpt, U.S. Congress, House, Committee on Government Operations, Twenty-eight Report by the Committee on Government Operations [Holifield Committee], "Military Air Transportation," Jun 26, 1958, 85th Cong., 2d Sess., [House Report No. 2011], p. 33.
76. Hist, MATS, "Military Air Transport Service, Jul-Dec 1957," p. 151, AMC/HO.
77. Rpt, U.S. Congress, House, Committee on Government Operations, Twenty-eight Report by the Committee on Government Operations [Holifield Committee], "Military Air Transportation," Jun. 26, 1958, 85th Cong., 2d Sess., [House Report No. 2011], p. 33.
78. Agreement, Civil Aeronautics Board Agreement No. 12304, Order No. E-13186, Nov. 21, 1958, CRAF Papers, Box 22, Folder CRAF Operating Boards (1952-63), AMC/HO.
79. Agreement, Civil Aeronautics Board No. 12304, Order No. E-13186, quoted in Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," pp. 59-60, AMC/HO. The FAA Act of 1958 replaced the CAA Act of 1938. This approval by CAB applied only to this specific agreement. "We are not," testified CAB Chairman Chun Garney before the House Committee on Government Operations, "extending any special future antitrust immunity to carriers participating in the operations board activities." [Holifield Committee Hearings, pp. 142ff, quoted in Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," p. 60, AMC/HO.]
80. Ltr, Theodore Hardeen, Jr. (Administrator DATA) to Lt. Gen. William H. Tunner (COMATS), Nov. 26, 1958, CRAF Papers, Box 22, Folder CRAF Operations Boards (1952-63), AMC/HO.
81. Ltr, Lt. Gen. William H. Tunner (COMATS) to Theodore Hardeen, Jr. (Admin DATA), Dec. 17, 1958, CRAF Papers, Box 22, Folder CRAF Operations Boards (1952-63), AMC/HO; Ltr, COMATS to Dir Ops HQ USAF (ATTN: Transportation Div), Subject: Operations Board Agreement, Dec. 17, 1958, CRAF Papers, Box 22, Folder CRAF Operations Boards (1952-63), AMC/HO.
82. Memo, Col. Richard F. Bromiley (DCS Plans MATS) to COMATS, Subject: CRAF Operations Boards, Apr. 24, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO. The revised order was CAB Order No. E-13733 dated Apr. 13, 1959.
83. Hist, MATS, "Military Air Transport Service, Jan-Dec, 1959," pp. 60-61, AMC/HO.
84. Memo, Col Richard F. Bromiley (MAXDC) to HQ USAF (AFOOP), Subject: Report of CRAF Test Exercise "Snowflake," Nov. 2, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO; Memo, Col. Ward E. Cory (Plans staff, MATS) to DCS/Plans MATS, Subject: Joint Atlantic and Pacific Operations Board Meeting-San Francisco, 2-6 Nov 1959, Nov. 12, 1959, CRAF Papers, Box 22, Folder CRAF Operations Board 1952-63, AMC/HO;

Memo, Plans staff MATS to DOI/PID [MATS], Subj: Location of CRAF Operations Boards, Dec. 2, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO; Memo, Plans staff MATS to DOI/Historical [MATS], Subject: Historical Items (HOI 210-1), Apr. 5, 1960, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1960, AMC/HO.

85. For a fuller discussion of the early development of standby contracts see Chapter 4.

86. Briefing, Director of Plans, MATS, "CRAF Briefing for Air Force Inspector General Survey Team," [1955], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

87. Hist, MATS, "Military Air Transport Service, Jul-Dec 1956," p. 106-07, AMC/HO; Hist, MATS, "Military Air Transport Service, Jul-Dec 1957," p. 150, AMC/HO.

88. Hist, MATS, "Military Air Transport Service, Jan-Jun 1958," pp. 157-58, AMC/HO; Rpt, House Committee on Government Operations, "Military Air Transportation," Twenty-eighth Report by the Committee on Government Operations, 85th Cong., 2d Sess., 1958, p. 33. The Holifield Committee, in its report, made twenty-two recommendations. Recommendation number nine suggested that it was now up to the Air Force to complete action on the contracts: "Final action should be taken by the Air Force to enter into standby contracts with the reserve fleet carriers for emergency airlift service." [*Ibid*, p. 7.]

89. Briefing, Col. Harold M. Brecht, "Briefing for Congressional Committee, The Civil Reserve Air Fleet Program," Mar. 19, 1959, CRAF Papers, Box 9, Folder CRAF Briefing, Monroney Committee (1959), AMC/HO.

90. Briefing, Col. Harold M. Brecht, Briefing for Airline Executives, MATS and the Civil Reserve Air Fleet, Nov. 25, 1958, CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO; Rpt, Department of Commerce, *Annual Report of the Secretary of Commerce, 1953* (Washington, D.C.: GPO, 1954), pp. 25-26. In the late 1960s, as CRAF came to incorporate fewer and fewer of the short-range domestic aircraft, WASP evolved into the War Air Service Program which was essentially a means of assigning civil and military priorities to non-CRAF civilian air transport. [Air Force Regulation 75-6, "DOD Use of Commercial Air Transportation under the War Air Service Program (WASP)," Dec. 12, 1968.]

91. Briefing, Col. Harold M. Brecht, "Briefing for Congressional Committee, The Civil Reserve Air Fleet Program," Mar. 19, 1959, CRAF Papers, Box 9, Folder CRAF Briefing, Monroney Committee (1959), AMC/HO.

92. Memo, Col. Ward E. Cory (Plans staff, MATS to DAS (Hist Div), MATS, Subj: Historical Items, Jul. 7, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO.

93. Ltr, C. R. Smith, Chairman of Board, American Airlines, to S. G. Tipton, President, ATA, May 14, 1959, in Minutes, ATA Board of Directors Meeting, Jun. 9, 1959, Exhibit "G" to Agenda, Book XIV, ATA Library.

94. Memo, Col. Ward E. Cory, Chief, Civil Air Division, DCS/P, MATS, to DAS Historical, MATS, Subj: Historical Items (HOI 210-1), Oct. 6, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO; Hist, MATS, "Military Air Transport Service, Jan-Dec, 1959," pp. 62-63, AMC/HO.

95. Rpt, Department of Commerce, *Annual Report, 1960*, p. 79.

96. Memo, COMATS to Dir Ops HQ USAF, Subj: Result of CRAF Command Post Exercise, [mid-late Jun, 1955], CRAF Papers, Box 22, Folder Exercise TRIPLE PLAY (1955), AMC/HO; Memo, Atlantic Div MATS to COMATS, Subj: Report of MATS OPLAN 115-55 ("Exercise TRIPLE PLAY"), Jul. 16, 1955, CRAF Papers, Box 22, Folder Exercise TRIPLE PLAY (1955), AMC/HO.

97. Hist, MATS, "Military Air Transport Service, Jul-Dec 1957," p. 150, AMC/HO. At D plus 2 the airlines claimed to be able to supply 172 of 218 aircraft required—229 of 246 at D plus

- 15, and 243 of 343 at D plus 30. At a CRAF Top Committee meeting in Aug, Ray Ireland (a former DATA Administrator and then consultant to DATA) questioned the SWING SHIFT figures given as not really reflecting the availability of airlift, since they did not show the readiness of aircraft not now in the CRAF but Group A modified. Ireland recommended a study to produce a realistic estimate of the true airlift available to CRAF in an actual war, rather than limiting the estimate to only those aircraft currently assigned to the CRAF as in Operation SWING SHIFT. [Minutes, CRAF Top Committee Meeting, Aug. 6-7, 1957, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1955-58, AMC/HO.]
98. Hist, MATS, "Military Air Transport Service, Jan-Jun 1958," p. 161, AMC/HO.
99. Ltr, Col. [Harold M.] Brecht (ACS/Plans MAC) to Carl D. Press (VP Seaboard & Western), Jan. 27, 1959, CRAF Paper, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO.
100. Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," pp. 66-72, AMC/HO.
101. Ltr, Col. Richard L. Bromiley (MAXDC) to HQ USAF (AFOOP), Subj: Report of CRAF Test Exercise "Snowflake," Nov. 2, 1959, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1959, AMC/HO.
102. *Ibid.*
103. *Ibid.*
104. *Ibid.*
105. *Ibid.*; Hist, MATS, "Military Air Transport Service, Jan-Dec 1959," p. 65, AMC/HO. On Senator Copeland's proposal and the Army Air Corps response, see Chapter 1.
106. *The Role of MATS in Peace and War*, pp. 3, 18.
107. *Ibid.*, p. 6.
108. Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation-1963*, Tenth Report by the Committee on Government Operations, 88th Cong., 1st Sess., 1963, pp. 42-43; Hist, MATS, "Military Air Transport Service, Jan-Jun 1962," p. 31, AMC/HO.
109. Rpt, ACC, *Civil Air Policy* (Washington, D.C.: ACC, Mar 1954), pp. 53-54.
110. Rpt, U.S. Congress, House, Committee on Government Operations, Military Operations Subcommittee, *Military Air Transport*, Twenty-Eighth Report (Washington, D.C.: GPO, 1958), p. 81.
111. Plan, [TWA and Pan Am World Airline], "A Plan for the Handling by the Commercial Airlines of the United States of Overseas Military Passenger Traffic in Peacetime and for Their Instant Readiness to Handle Military Passenger Traffic in Emergencies," [ca. Jul 25, 1958], CRAF Papers, Box 15, Folder Plan on Movement of Passengers by Commercial Air in Peacetime and Wartime, AMC/HO.
112. Ltr, Dan K. Phillips (Dir Mil Projects TWA) to Theodore Hardeen, Jr. (Admin DATA), Feb. 18, 1959, CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO.
113. Plan, [TWA and Pan Am World Airline], "A Plan for the Handling by the Commercial Airlines of the United States of Overseas Military Passenger Traffic in Peacetime and for Their Instant Readiness to Handle Military Passenger Traffic in Emergencies," [ca. Jul. 25, 1958], CRAF Papers, Box 15, Folder Plan on Movement of Passengers by Commercial Air in Peacetime and Wartime, AMC/HO.
114. Plan, [Executive Committee of CRAF Logistics Working Group], [Suggested Principles for Partial Activation of CRAF], [Nov 18, 1958], CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO. This list was amended slightly at the suggestion of Pan Am. The most significant changes were in points five and six: (5) that partial activation be in increments of approximately one-quarter of the entire CRAF Fleet; and (6) that partial activation be by order of the Secretary of Defense with approval of the Administrator OCDM,

subject to ratification by the President within thirty days—and each six months thereafter for the duration of the partial CRAF mobilization. [List, Pan American, Suggested Principles for Partial Mobilization of CRAF, Jan. 12, 1959 enclosed with Ltr, Dallas Sherman (Mob Rep PAA) to Theodore Hardeen, Jr. (Admin DATA), Subj: Partial Activation of CRAF, Jan. 12, 1959, CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO.]

115. Ltr, Samuel C. Dunlap (Mob Rep American Airlines) to Theodore Hardeen, Jr. (Admin DATA), Subj: Partial Activation of CRAF, Feb. 12, 1959, CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO. Dunlap went on to note that this applied only to a *small* CRAF mobilization and not to a full-scale mobilization in time of war or other national emergency.

116. Tunner, p. 296; *The Role of MATS in Peace and War*, p. 18. In Jul 1958, Lebanon, fearing an attempt on the part of its Arab neighbors and the Soviet Union to overthrow the regime, called on the U.S. for assistance. Pres. Eisenhower sent in the Marines; forty-eight MATS C-124 (Globemasters) flew a constant cycle of flights from Frankfurt to Beirut and Turkey and back again. At about the same time, on the far side of the world, the Communist Chinese began to shell the Nationalist-held islands of Quemoy and Matsu in the Taiwan Strait. The administration committed the Seventh Fleet and backed it up with an airlift of hundreds of MATS transports delivering supplies to Taiwan and the Philippines.

117. Rpt, Civil Air Division MATS, "Policy Statements, National—DOD--USAF—MATS Pertinent to Procurement of Commercial Airlift Mobilization & Development of Airline Industry," Mar. 4, 1959, CRAF Papers, Box 9, Folder CRAF Briefing, Monroney Committee (1959), AMC/HO.

118. Memo, ACC, ACC 38/11 (2d rev.), Jun. 8, 1959 CRAF Papers, CRAF Background Book [Binder] No. 3, AMC/HO.

119. Ltr, Col. L. J. Mantoux (Opns staff, MATS) to COMATS, Subj: Partial Activation of CRAF, [Jun. 19, 1959], CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-1960, AMC/HO; 1st Ind. to Ltr, HQ USAF (AFOOP-TR), Jun 19, 1959, Subj: Partial Activation of CRAF], Col Ward E. Cory (Plans staff MATS) to HQ USAF (AFOOP-TR), Jul. 2, 1959, CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO.

120. Ltr, Gilbert C. Greenway (Dep for Civil and Military Air Transportation, Dept AF) to Theodore Hardeen, Jr. (Admin DATA), Jan. 21, 1960, CRAF Papers, Box 22, Folder Partial Activation of CRAF 1959-60, AMC/HO.

121. *The Role of MATS in Peace and War*, p. 6. See course of action nine among the Presidentially approved courses of action.

122. Memo, MAXDC to HQ USAF (AFXPD), Subj: Civil Augmentation of MATS, Aug. 28, 1961 in Hist, MATS, "Military Air Transport Service, Jul-Dec, 1961," Vol. III (Supporting Documents), AMC/HO.

123. Memo, MAXDC to HQ USAF (AFXPD), Subject: Civil Augmentation of MATS, Aug. 28, 1961, Hist, MATS, "Military Air Transport Service, Jul-Dec, 1961," Vol. III (Supporting Documents), AMC/HO.

124. Ltr, William B. Dunham (Asst DCS/P HQ USAF) to MATS, Subj: Civil Augmentation of MATS, Oct. 5, 1961, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1961-63, AMC/HO.

125. An "airlift emergency" was defined by MAC as: "A state of emergency, formally declared by competent authority, in which the Department of Defense requires airlift capability exceeding that available in military transport type aircraft and the additional airlift covered voluntarily by US civil air carriers. An airlift emergency is not necessarily related to any level of international tension or war, or state of readiness, or alert of the

armed forces." [MAC Manual 55-8, "Operations, Civil Reserve Air Fleet (CRAF)," Apr. 7, 1972, p. A14-4.]

126. Rpt, U.S. Congress, House, Committee of Government Operations, *Military Air Transportation—1963, Tenth Report by the Committee on Government Operations*, 88th Cong., 1st Sess., Union Calendar No. 231, Jul. 17, 1963, p. 44.

127. Draft MOU, MATS, by and between the Secretary of Defense and the Secretary of Commerce with respect to the Civil Reserve Air Fleet Program, May 1963, CRAF Papers, Box 22, Folder CRAF Operations Boards 1952-63, AMC/HO. The Office of Emergency Transportation (OET) was established in the Office of the Under Secretary of Commerce for Transportation, in 1962. The next year, OET absorbed the functions of the Defense Air Transport Administration. Whereas DATA's specific responsibility had been the preparation and development of national emergency plans and programs for civil air transport, OET's role was much broader. OET was charged with the task of developing and coordinating "overall policies, plans and procedures" for the "centralized control of all modes of transportation in an emergency," and "the proper apportionment and allocation of the total civil transportation capacity or any portion thereof to meet overall essential civil and military needs." Among its responsibilities, OET would allocate civil aircraft to CRAF to meet the emergency military airlift requirements defined by the Department of Defense, and administer the war risk insurance program for CRAF. [Rpt, Department of Commerce, *Annual Report 1962*, pp. 14-15, 86.] 128. MOU, Sec Def and Sec Commerce, Memorandum of Understanding By and Between the Secretary of Defense and the Secretary of Commerce with Respect to The Civil Reserve Air Fleet Program, Aug. 8, 1963, Folder 300.601-7, AFHRA; Rpt, U.S. Congress, House, Committee of Government Operations, *Military Air Transportation—1963, Tenth Report by the Committee on Government Operations*, 88th Cong., 1st Sess., Union Calendar No. 231, Jul 17, 1963, p.50. The terms "stage" and "phase" are both used in the official literature to describe specific levels of CRAF activity or activation. Similarly, both are used here to describe the same phenomena; no distinction is intended.

CHAPTER VI

AN ERA OF MODERNIZATION, 1963 - 1972

Despite the substantial redefinition of CRAF's structure and environment that occurred from 1955 through 1962, the years from 1963 through 1972 saw further refining and evolution in both areas. Still, it was refinement and not dramatic change, and the Civil Reserve Air Fleet continued to look much as it had. (See Table 6.1.) In part, the changes in 1963 and afterward reflected previous events and policy decisions. For example, key changes in the airlifting and CRAF contracting formats that were made in 1963 were a direct result of the movement toward the incremental activation of CRAF that had taken shape in the late 1950s and early 1960s. Other changes were influenced by events and decisions associated with the war in Southeast Asia.

For many Americans and many American institutions, the decade that began in January 1963 was dominated by the events that occurred in Southeast Asia. To a degree CRAF was one of those institutions. The newer, larger and faster jet transports that were introduced into both civilian and military inventories in this time were not necessarily products of the Vietnam War era, but the large number acquired was. Both military and civilian air fleets expanded markedly to accommodate the demands of the war. The size and capabilities of the two fleets, during and after the war, were underlying factors in virtually every program issue and debate, whether dealing with CRAF's structure or its environment. In that sense, these issues had their roots in Vietnam.

Refining CRAF Management and Organization

In the years from 1963 through 1972 the Military Air Transport Service and the Military Airlift Command (MAC) refined a number of aspects of CRAF's management and organization.¹ A number of these changes occurred in 1963. The first, a modification of the airlift and standby contracts, reflected the new incremental activation plan for CRAF which was hammered out between 1958 and 1962, but which was ultimately formalized by a memorandum of understanding between the Secretaries of Defense and Commerce in August 1963. Next, MATS reevaluated the function of the CRAF operations boards and abolished them in favor of a centralized Airlift Scheduling Center. Finally, also in 1963, MATS shifted its policy on civilian airlift procurement from one that merely encouraged the purchase of jet-powered aircraft, to one that specifically promoted the acquisition of cargo jets by the civil air carriers. In 1964, the Air Force further modified its airlift procurement practices when it decided that (beginning in 1965) it would no longer contract with carriers which worked exclusively for the government. These firms, whose assets were nearly fully committed to the military in peacetime, offered no ability to expand their service in time of emergency. The government preferred carriers who had a additional aircraft and crews available for emergency call-up. Subsequently, carriers had to do a substantial proportion of their business in the commercial sector.

**Table 6.1
Civil Reserve Air Fleet
(International Segment)**

**Number of Aircraft Allocated
(c. January 1)**

CRAF Airlines	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
AAXICO	9	X	X	-	-	-	-	-	-	-
AirLiftIntrnl	-	X	X	13	27	22	6	8	11	8
Alaska	4	-	-	5	7	5	-	-	-	-
American	7	X	X	11	12	12	10	24	28	33
Am Flyers	-	-	-	-	-	-	-	2	2	-
Braniff	5	X	X	5	14	12	10	16	16	12
Capitol Intl	X	X	X	25	11	11	5	7	6	6
Continental	3	X	X	6	7	10	13	13	15	15
Delta	2	X	X	2	2	2	-	-	-	-
Eastern	2	X	X	2	2	2	7	23	6	6
Flying Tiger	18	X	X	22	25	20	15	14	16	18
National	2	X	X	2	2	2	-	-	-	-
Northwest	8	X	X	15	24	26	36	36	23	21
Overseas Natl	2	-	-	-	2	2	3	6	4	4
Panagra	-	-	-	-	1	-	-	-	-	-
Pan American	74	X	X	81	88	96	104	91	88	87
Riddle	X	X	-	-	-	-	-	-	-	-
Saturn	-	-	-	3	3	3	3	4	3	3
Seaboard World	7	X	X	7	8	9	10	12	14	14
Slick	X	X	X	6	-	-	-	-	-	-
Southern Air	4	X	X	4	7	8	-	-	-	-
Trans Carib	2	X	X	3	3	3	5	5	6	-
Trans Intl	4	X	X	6	3	3	5	7	8	9
TWA	25	X	X	27	38	46	46	52	42	44
United	30	X	X	29	9	22	40	35	23	21
US Overseas	X	X	-	-	-	-	-	-	-	-
Universal	-	-	-	-	-	-	2	4	4	-
Western	-	-	-	-	-	-	-	1	1	-
World	17	X	X	4	6	9	9	9	9	9
Zantop	X	X	X	-	-	-	-	-	-	-
Intrnl CRAF	263	249	257	263	301	315	330	369	328	315
No. Airlines	24	23	21	21	22	21	18	20	20	16
	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972

Source: MAC HQ Forms O-312 & 312, CRAF Office, AMC.

Notes: ↗

x Airline participated in CRAF; number of aircraft allocated to international segment not available.

Also during this period, MATS (and then MAC) progressively divided the CRAF fleet into functional segments, for better management. In 1962, MAC divided the Civil Reserve Air Fleet into international and domestic segments, reflecting the influx into CRAF of modern high-speed, long-range commercial jets ideally suited to international routes. In 1967 MAC further divided the international fleet into long-range and short-range segments. Finally, in 1968, it created a segment specifically to serve Alaskan requirements.

In 1970, MAC took another look at the CRAF incremental stages that had been put in place in 1963, and proposed a restructuring of Stages I and II—Stage I to be activated by the MAC commander instead of the Secretary of Defense, and Stage II, by the Secretary of Defense in place of the President. The authority to activate Stage III would remain essentially as it had been—the Secretary of Defense, *after* war or an emergency was declared by the President or Congress.

These several changes did not constitute any bold reworking of CRAF, but rather the simple refinements that experience had shown necessary. CRAF was evolving into a mature program, and increasingly change would be at the margins.

New Contracts

The restructuring of 1963, which provided for incremental phases of CRAF activation, also required a revision to the airlift contracting process. In fact, in 1963 the contracting process was fundamentally revised. Beginning in 1961, MATS airlift contracts had been negotiated only with carriers that had executed CRAF standby contracts and that had entered into "No Work Stoppage" agreements with their employees. At the same time, MATS began to award military airlift contracts to carriers on the basis of negotiation rather than competitive bids.² In 1963, however, MATS merged the CRAF standby contract and the airlift augmentation contract, through which MATS purchased peacetime airlift services, into a single document—often referred to as the "fixed-buy" contract.

The new "fixed-buy" contracts stipulated not only a specified purchase or "buy" of airlift services by MATS, but identified the aircraft which the individual carriers volunteered to make available, upon the proper declaration of an airlift or national emergency, for the early stages of CRAF activation. Each carrier listed, on "Attachment 'C'" of the new MATS fixed-buy contracts, the aircraft that they would commit in each CRAF phase. For Stages I and II, the airlines indicated the number and type of aircraft to be made available. For Stage III, the airline indicated, by N-number, those aircraft that had been officially allocated to CRAF by the Office of Emergency Transportation (OET). Under terms of the contracts, the carriers acknowledged the authority of the Secretary of Defense to declare an airlift emergency and to require delivery of the aircraft committed to Stage I. Additional expansion would occur only if the President declared a national emergency (Stage II), or upon CRAF's full activation (Stage III).³ This, of course, permitted MATS to build up the CRAF capability in increments, as required to meet some deteriorating international situation short of a declaration of war or national emergency.⁴

For the members of CRAF that did not usually negotiate airlift contracts, other provisions were made. In 1963, there were twenty-four CRAF members, of which only fifteen had fixed-buy contracts. United Airlines, for example, had thirty aircraft in CRAF, but did not at that time contract for MATS business. For such carriers, a new standby contract was created that would go into effect only upon the total activation (Stage III) of CRAF. These airlines did not commit aircraft to Stages I and II.⁵

The new 1963 CRAF concept of incremental activation also brought changes in

organizational structure. MATS proposed, and the Air Force agreed, that the two CRAF operations boards, which had been organized in 1959, should be dispensed with. These operations boards, one for the Atlantic and one for the Pacific, had been created as industry groups which, upon activation, would direct CRAF operations and missions. The boards had been conceived in 1954, at a time when the range and speed of prop-driven transport aircraft dictated that CRAF should have separate fleets operating from each coast. By the time the boards were put into operation, in 1959, modern jets, with increased speed and range, had begun to obviate that requirement. By 1963, when the operations board agreements were terminated by the Air Force, the passenger segment of the international CRAF was totally jet-powered, and jet aircraft were being introduced into the cargo fleet.⁶

In place of the operations boards, MATS decided to rely for operational control upon the existing sophisticated management and communication structure that the airlines had built. Control of Stage I and Stage II operations was handled directly between MATS and the individual airlines. For Stage III operations, MATS would maintain its command and control functions through a new CRAF Airlift Scheduling Center (ASC) co-located at Scott AFB with the MATS Command Post.⁷ Employing air carrier personnel who were specialists in crew scheduling, equipment scheduling, airlift scheduling, and communications, the ASC was to schedule CRAF aircraft, maintain continuing airlift mission control, and monitor carrier airlift support requirements. The ASC would normally exercise this control through the existing management structure of the airlines, but if that corporate control was lost, it would assume operational control of the effected CRAF aircraft, passing its instructions through the appropriate Senior Lodgers. The new ASC facility was completed and ready for activation on January 15, 1965.⁸

Prior to fiscal year 1960, no jet aircraft had been allocated to CRAF. In that year, the first Boeing 707s and DC-8s were allocated to the fleet for passenger service. In 1961, the Air Force used its newly acquired ability to shift from bid to negotiation in airlift procurement to establish criteria that would encourage airlines to purchase modern jets. This, with a general increase in civilian air passenger traffic and a sharp increase in the use of the civil carriers on MATS's scheduled military channel flights, prompted the airlines to add a number of modern jet aircraft to their fleets. By 1963, almost half the aircraft allocated to CRAF were pure jets, largely Boeing 707s and DC-8s. And, all of the passenger aircraft in the CRAF international segment were by then jet-powered.⁹

In 1963, the Air Force announced that its goal to promote airline investment in modern jet aircraft had not only been achieved but had been exceeded. In terms of passenger aircraft, at least, the air transport industry now had (or had on order) modern jets in quantities and with capacities that went well beyond MATS's anticipated needs. In fact, the peacetime requirements for commercial aviation to augment the available military airlift were declining. Anticipating the delivery of the first C-141s and the dramatic increase in military airlift capacity that would result, the Air Force announced that the civil carriers should begin to look to the commercial market to help keep their fleets employed. Although Secretary of Defense Robert McNamara pledged to maintain the then current level of annual spending for civil air carriers (\$211 million), he made it clear that the time had arrived when airline procurement of additional aircraft could not be based solely on anticipated military needs, but would have to be predicated on demands of the civilian marketplace. Assistant Secretary of the Air Force for Materiel Joseph S. Imirie announced in 1963 that henceforth one of the criteria for future awards for civil airlift would be the degree to which the individual carriers achieved success in creating and expanding their civilian business. With C-141 about to enter the inventory (1964), the Air Force no longer needed so much civilian

peacetime airlift augmentation, and the airlines were warned to look elsewhere for business.¹⁰

In 1964, MATS informed the air carriers doing business with the military that, in the years ahead they would be expected to derive an increasingly larger share of their air transport revenues from commercial sources. The command then introduced a schedule that required airlines to meet specific standards in that regard: by fiscal year 1966 they would have to receive at least 30 percent of total revenues from commercial sources in order to qualify for MAC contracts; in fiscal years 1967 and 1968, 40 percent; and ultimately 60 percent. MATS suspended these requirements almost immediately, however, because of the demand for airlift during the Vietnam War. Afterward, the requirement was submerged by larger issues that whirled about airlift augmentation, including renewed complaints in 1970 that MAC's fleet was unfairly competing with the civilian airlines.¹¹

In the mid-1960s, to better manage its resources, MATS (and then MAC) progressively divided the CRAF program into functional segments: a long-range international segment; a short-range international segment; a domestic segment; and an Alaskan segment.¹² The long-range international segment was to support worldwide operations and was the only segment that had aircraft committed to all three phases of CRAF mobilization: Stage I, for responding to localized actions; Stage II, limited war; and Stage III, general war. In this segment the emphasis was on range and speed. Therefore, the Office of Emergency Transportation allocated to it only those aircraft capable of carrying large loads and of flying at least 2,350 nm (the distance from the west coast to Hawaii). Increasingly, that came to mean jets only. From mid-1961 onward, the passenger aircraft in this segment were all jet-powered. Only in the cargo service did the slower, less capable piston-engine planes persist, and then solely because they were the only cargo/convertible aircraft available. It was not until July 1969, when the last of the propeller-driven aircraft were dropped—two Canadian-built turbo-prop CL-44s—that the international segment of the CRAF fleet (passenger and cargo) became an all-jet. (See Table 6.2) Moreover, when longer-range jets came into airline inventories, beginning with the DC-8-30 series (1960) and the Boeing 707-300 series (1963), they were added to the CRAF fleet, replacing earlier, shorter-range models. The jets, particularly the newer aircraft, offered two immediate advantages: First, they were designed specifically for long-range, transoceanic flights and therefore did not require the Group A modifications and Group B equipment packages that had been necessary to prepare earlier aircraft for such flights. Virtually all that had to be done to these aircraft upon activation, was the installation of the electronic equipment that would identify them to air defense forces as friendly aircraft—Identification: Friend or Foe (IFF) beacons. Second, with their range, these aircraft could overfly en route airfields that might be lost to enemy action or saturated with wartime traffic.¹³

Table 6.2
Civil Reserve Air Fleet
Aircraft
(International Fleet)

Type Aircraft	Number of Aircraft Allocated ¹										
	1960	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Piston:											
DC-4	41	-	-	-	-	-	-	-	-	-	-
DC-6	33	39	16	14	14	3	3	-	-	-	-
DC-7B/7BF	11	12	9	4	4	-	-	-	-	-	-
DC-7C/7CF	24	28	26	18	19	21	18	-	-	-	-
L-1049H	40	37	23	27	21	23	-	-	-	-	-
L-1649AF	22	14	10	2	2	-	-	-	-	-	-
Turbo-prop:											
L-382 ²	-	-	-	-	2	3	3	-	-	-	-
CL-44 ³	-	21	21	23	22	21	17	2	-	-	-
Pure-jet:											
CV-880 ⁴	-	1	1	1	1	-	-	-	-	-	-
B707-300	35	51	76	103	132	189	237	240	238	185	164
B707-200	-	4	4	4	4	4	-	-	-	-	-
B707-100	-	13	9	9	7	5	5	-	-	-	-
DC-8	23	49	54	52	89	55	76	112	138	106	102
B727	-	-	-	-	-	-	12	11	15	-	-
DC-9	-	-	-	-	-	-	1	-	-	-	-
B747	-	-	-	-	-	-	-	-	-	42	42
Total	229	269	249	257	290	324	372	365	391	330	308

Sources: U.S. Congress, House, Committee on Government Operations, Military Airlift Transportation, 1963, 88th Cong., 1st Sess., July 17, 1963, p. 63 (1960 data); Directorate of Industrial Fund, Airlift Service Industrial Fund, Commercial Augmentation, 1970 (1963-1970 data); CRAF Newsletter (1971-1972 data).

Notes:

¹ As of June 30 each year.

² The Lockheed L-382 and L-100 are civilian versions of the Lockheed C-130 Hercules.

³ The Canadair CL-44 was a swing-tail, turbo-prop, cargo aircraft that first went into U.S. commercial service with Flying Tiger in 1961. CL-44s were operated by Flying Tiger, Slick, and Seaboard World.

⁴ The Convair CV-880 was a swept-wing jet, generally used in the medium-haul market, that first went into service in 1960. Only 55 were built. The lone CV-880 in CRAF was operated by Alaska Air.

The domestic segment provided airlift support of logistics requirements for the Air Force and the Navy. This segment was established in 1962 to insure the availability of aircraft to continue, in emergencies, the peacetime logistics transport programs—LOGAIR (Air Force) and QUICKTRANS (Navy). In the domestic segment, aircraft were committed for Stages II and III only. In 1963 the domestic segment had 77 aircraft, mostly C-46s, DC-4s, and DC-6s. Beginning in 1969, these were gradually replaced by short-range jets, such as the Boeing 727, and by turbo-prop aircraft such as the Lockheed L-100, L-382, and L-188. By 1971, the CRAF domestic segment fleet had only turbo-prop or pure-jet aircraft.¹⁴

MAC created a CRAF short-range international segment in 1967, made up of aircraft which could meet the requirements of movement of intratheater cargo and passengers, or which could support the shorter range international and inter-island missions. These aircraft were committed only to Stage III and were largely Boeing 727s. Finally, in 1968, MAC introduced the Alaskan segment to provide aircraft to support CRAF Stage III airlift requirements of the Alaskan Air Command and the Alaskan Distant Early Warning Radar installations. A variety of types of aircraft were allocated for the unique Alaskan operations.¹⁵

The initiation of a series of CRAF command post exercises evidenced a renewed commitment to the program. Command Post Exercise (CPX) MIXED DOUBLE was conducted in October and November of 1965 to test the new three-phase CRAF concept. The scenario simulated a period of limited war in which MATS airlift capability would be taxed to the maximum. The scenario's gradual escalation would ultimately require civil augmentation through CRAF Stage I, Stage II, and finally Stage III. This was the first CRAF exercise since 1959 and the first to involve the new concept of incremental expansion in specific stages of an airlift emergency. It was also the first to test the new CRAF Airlift Scheduling Center, and it revealed a number of difficulties: the size of the center facility was inadequate, and its procedures needed refinement. Moreover, the exercise showed that the CRAF scheduling center needed to be activated earlier to allow it to take up the immediate management of operations at the declaration of a Stage III airlift emergency.¹⁶

The second exercise in the series, exercise COLD SCARF, was played in November 1966. The object was "to practice using, and to evaluate, the procedures and forms which would be used to schedule CRAF aircraft from the Airlift Schedule Center." The emphasis was "on precise scheduling, documentation, and analysis of airlift missions, applying those limiting factors (such as crew staging, logistic support, etc.) which would have to be considered in actual operations."¹⁷ Although this proved to be a "considerable improvement over last year's CPX," problems were identified in a number of areas: space, forms and procedure, workload, manning and communications personnel and equipment.¹⁸

COLD SCARF was followed in May 1967 by Exercise COLD WIRE, as a test of CRAF communications. The limited object was to test the capability of the Airlift Scheduling Center to communicate effectively with the diverse locations from which the airlines would manage the CRAF operations, using civilian circuits and equipment. The exercise was scored a success; it demonstrated that effective communications could be established and maintained between the ASC at MAC headquarters and essential field locations.¹⁹

MAC initiated exercise COLD SCARF II, an exercise similar in nature to the first COLD SCARF, in March 1968. Its primary objectives were to practice and evaluate ASC procedures, functions and revised manning, and to analyze the basic Senior Lodger requirements. Although there were lessons learned, this time the operation of the ASC went much smoother.²⁰ COLD SCARF III (1969) and COLD SCARF IV (1971) were cancelled due to funding problems and delays in the construction of a new MAC command post.²¹

Finally, in March 1973, the series was revived with exercise COLD SCARF V that was held in conjunction with a Joint Chiefs of Staff worldwide exercise. It was the first time a CRAF exercise had been conducted jointly with another military exercise, and the first time the new MAC Command Post and Airlift Scheduling Center were tested. The exercise also marked another first, as the *CRAF Newsletter*, which was issued by MAC's Civil Air Branch, reported: "[it was] the first time 'women's lib' had entered into the workings of our Airlift Schedule Center." The degree of "liberation" achieved is questionable, however, for Pan American's female representative to the ASC was almost immediately crowned "Miss COLD SCARF V" by a still chauvinistic, and otherwise all-male staff.²² More significantly, the Air Scheduling Center staff learned, in the exercise, that assigning missions to the carriers and allowing them to determine their own routing for the flights was unworkable. Simultaneous or near simultaneous arrivals at the destination resulted, which would cause saturation in an actual emergency. The staff concluded that the center would have to establish a flow plan and direct the carriers as to routing and departure times. This offered the added advantage of allowing mission changes as flights passed through assigned control points.²³

In 1970, MAC proposed a further modification of the CRAF incremental staging concept that had been put into effect in 1963. During the decade of the sixties, the Civil Reserve Air Fleet had steadily increased in both cargo and passenger capability, and in that time had become an all-jet fleet. In the midst of the war in Southeast Asia, DOD expenditures for commercial augmentation airlift reached new high levels in 1967 and 1968—over \$700 million per year for cargo, mail, and personnel movements.

By 1970, however, that era of record expenditures for civilian airlift had come to an end. That downturn was all the more troublesome because Boeing, in January 1970, began to deliver its new B-747 wide-body aircraft. To further exacerbate the airlines' situation, an expected increase in civilian passenger traffic did not materialize. The airlines suddenly found themselves with costly excess capacity. One result was a new flood of offers of aircraft for MAC business. This new ease with which the Air Force could get augmentation aircraft provided MAC with an opportunity to make modifications to the CRAF mobilization concept and impose new restrictions on aircraft that would be accepted into CRAF.²⁴

The most obvious change in the CRAF concept was that the MAC commander gained the authority to activate Stage I (instead of the Secretary of Defense), and the Secretary of Defense became the activation authority for Stage II (in place of the President).²⁵ In addition, Stages I and II were restructured to reflect more adequately the requirements of contingency and war plans. So many aircraft were now being offered for Stages I and II that MAC could now pick and choose based on contingency needs.²⁶ (See Table 6.3)

Table 6.3

Incremental CRAF Activation (1970)

Stages	Description	Authority
P e a c e t i m e operations	Perform airlift service in support of deployed forces	MAC Commander
Airlift emergency- Stage I	When required to perform airlift services for DOD operations in support of, but not confined to, counterinsurgency activities and l o c a l i z e d emergencies.	MAC Commander
Airlift emergency- Stage II	When required to perform airlift services for DOD operations in support of, but not confined to, limited wars.	Secretary of the Air Force
Airlift emergency- Stage III Activation of CRAF	When required to perform airlift services for DOD operations during major military e n g a g e m e n t s involving U.S. forces (limited or general war).	Declared national e m e r g e n c y - - Secretary of Defense, or in accordance with the conditions of the contracts.

Source: Briefing, MAC DCS/Plans, Subject: New CraF Concepts, December 1970, CRAF Papers, Box 8, Folder: Civil Reserve Air Fleet (Briefings), AMC/HO.

The original CRAF program, in 1951, and the redefinition accomplished in the early sixties, had been put into effect by memorandums of understanding (MOU) between the Departments of Commerce and Defense. Because the changes to be made in 1970 were to Stages I and II, which in their essence were contractual agreements between MAC and the airlines, no new MOU was necessary. In fact, no formal coordination concerning the changes to the CRAF program in 1970 was made outside the Air Force. MAC briefed the proposal to the Air Staff and to the Air Force Secretariat. It was approved, and the changes were put into place.²⁷

In redefining Stage I, MAC examined a number of potential deployment plans ranging from show-the-flag missions to brush fire wars. The deployment and sustainment requirements of such plans formed the basis of the new Stage I—a requirement for some 60 cargo and 40 passenger aircraft (B707 equivalents). Given the relatively modest cargo and passenger airlift requirements of this stage, the MAC staff decided to accept only convertible aircraft into Stage I. Aircraft in Stage I received extra credit when MAC calculated the relative contribution of the various carriers to CRAF to determine the distribution of airlift business; therefore, the decision to accept only convertibles in Stage I placed a premium on them.²⁸

The operational basis upon which requirements for Stage II were calculated ranged from major contingency operations to something just short of a national emergency. For this, MAC would need approximately 90 convertibles, 20 cargo, and 45 passenger aircraft to meet the requirements. Stage III, which had always been determined by contingency and war plan needs, was determined to require all of the available long-range cargo capable aircraft in CRAF, but only 175 passenger configured airframes.²⁹

Again because of the flood of aircraft being offered to CRAF, MAC was able to establish restrictive eligibility criteria. For the long-range international CRAF, aircraft had to be equipped with the required navigation and survival equipment for over-ocean operations and have a minimum range of 2,500 nautical miles. Eligible aircraft were the Boeing 707-300 series, the Boeing 747s with an upper deck galley, and most DC-8s. Ineligible aircraft included the B-747s with the galleys in the lower lobe of the aircraft (where the galley took up valuable cargo space) and the DC-8-61s (passenger version), the B-707-100 and -200 series, the initial series of DC-10s, and the L-1011s—all of which had inadequate range.³⁰

For the short-range international CRAF only two models qualified, the Boeing 727 convertible and the Lockheed Hercules L-100 cargo aircraft. B-737s and DC-9s were ineligible due to limited range. The Canadian built CL-44 was ineligible because of its high cost of operation in short-range service. The Domestic segment accepted B-727s, B-737s, DC-9s, L-100 Hercules and L-188 Electras, and no restrictions were placed on aircraft for the Alaskan CRAF.³¹

MAC introduced these changes in CRAF Stages I and II to the airlines' senior executives at a conference in December 1970. The new CRAF, they were told, was tailored to contingency needs, provided flexibility for incremental call-up, encouraged retention and acquisition of convertibles and cargo aircraft, and caused "minimum disruption of civil business when meeting an airlift emergency by judiciously applying resources against requirements." Interestingly, there seems to have been no objection on the part of the airlines to this new activating authority. Almost twenty years earlier, when CRAF was born, the airlines had insisted that the authority to activate the program (and thereby the power to disrupt their routine operations) be vested only in the President. They no longer expressed that concern.³² In any case, given the difficult economic conditions of the industry and their desire for MAC business, the airlines were ill prepared to resist. Some might even have

relished a low-level call-up and the business it would bring. Having the activating authority closer at hand, may have made that seem more likely.

Revisiting the Environment: The Airlines vs. MAC

The environment in which CRAF existed was essentially defined by the working relationship between MAC and the air transport industry. That relationship was forged in both cooperation and competition and shaped by both concord and contest. The arena might be Congress, a combat theater, or the commercial marketplace.

The spate of Congressional hearings from 1958 through 1960 produced a series of sometimes contradictory recommendations concerning MATS's operations, commercial airlift augmentation, and CRAF. In 1963, and regularly in the years after, the various committees involved revisited these issues.³³ The central concern in most of the hearings through 1960 had been the allegation of unfair business competition by MATS, because its aircraft carried military passengers and cargo in scheduled routine operations over routes that paralleled those of the commercial airlines. The air transport industry insisted that MATS should conduct itself as a military transport arm and not as a civil-type airline. The Congressional committees generally agreed. In response to that, and to policy direction from the Eisenhower administration in 1960, MATS began devoting more and more of its own airlift capability to special missions that could not be performed by the airlines—leaving an increasing share of MATS's routine traffic and airlift dollars to the airlines. In dollar terms, that business increased from \$88.8 million in fiscal year 1960 to \$220.4 million in 1962, and then, in the middle of the Vietnam War, to \$733.3 million.³⁴ (See Table 6.4) The downturn in this business that began in 1968—most dramatically in the cargo segment—had become a major concern by 1970. It prompted a new round of accusations that MAC had created its own "airline" and was operating it in unfair competition with the commercial airlines. This set off another series of congressional hearings on the subject.

Table 6.4
Commercial Airlift Procurement
FY1960 - FY 1971
(Millions of Dollars)



Year	International		Domestic		Mail	Total
	Passengers	Cargo	Cargo ¹			
	(\$)	(%)	(\$)	(%)	(\$)	(\$)
1960	47.8	n/a	16.2	n/a	24.8	88.8
1961	53.8	42.7%	24.7	16.5%	30.4	143.3
1962	77.2	58.0%	65.7	40.5%	35.7	220.4
1963	100.9	68.2%	63.1	37.5%	38.0	249.8
1964	98.6	70.6%	46.1	22.2%	36.7	229.0
1965	108.7	76.2%	82.1	26.1%	35.4	266.6
1966	190.0	94.5%	127.4	30.2%	33.7	427.7
1967	293.5	95.7%	281.6	33.7%	39.3	724.0
1968	373.4	97.3%	198.4	24.0%	42.0	733.3
1969	385.1	99.1%	142.7	20.3%	42.6	653.7
1970	373.0	95.5%	75.9	15.8%	41.5	599.5
1971	345.7	94.7%	44.5	10.8%	41.8	543.6

Sources: Chart III-3, "Commercial Augmentation," & Chart III-4, "Civil Share of DOD Industrial Fund Revenue," History of Military Airlift Command, July 1971 - June 1972, pp. 348-49.

Notes:

¹ Includes LOGAIR and/or QUICKTRANS.

Through the late 1960s, at least, the subcommittees that revisited the airlift issues were generally satisfied by the progress that had been made. "For more than 5 years the Military Operations Subcommittee [of the House Committee on Government Operations] has conducted close and continuing studies of the Military Air Transport Service," noted one subcommittee report in 1963. "In particular, the subcommittee has examined...MATS procurement policies and practices regarding...the portion of airlift services purchased from civil carriers to fill military requirements." Representative Chet Holifield, the subcommittee chairman, found that by and large the Air Force had acted positively on the earlier recommendations. There was, in the 1963 report, none of the critical tone that had characterized earlier reports, particularly those of 1958 and 1959.³⁵

In 1966, Mendel Rivers, now chairman of the House Armed Services Committee, appointed Congressman Melvin Price (D-Ill.) to chair the Military Airlift subcommittee. Price and his group found that all the recommendations of 1960 and 1963 subcommittees either had been accomplished or were then being acted upon. The Air Force had even succumbed to Rivers repeated suggestion that the name of the Military Air Transport Command should be changed to the Military Airlift Command. Rivers had first suggested this change in 1960

and MATS had soon taken up the cause—particularly so under Gen. Howell M. Estes, Jr., who commanded MATS (and then MAC) from 1964 to 1969. Estes was one of a long line of MATS/MAC commanders who came to airlift secondhand after service primarily with bombers. Estes, however, quickly became a champion of a broad airlift mission—"operating," he wrote, "across the entire spectrum of airlift from airdrop missions to intercontinental logistic support."³⁶

In looking at CRAF, the subcommittee focused largely on the issue of modernization. They noted that modernization of the passenger-carrying capability of CRAF had been completed with the airlines' acquisition of long-range passenger jets but pointed out that the cargo capability still depended upon piston-engine aircraft. Only 55 of CRAF's 144 cargo aircraft were modern jets. They also noted, however, that 65 new cargo jets were on order, and these would provide added capacity greater than all of the propeller aircraft remaining in CRAF. Their addition to the fleet over the next three years would assure the replacement of all of the propeller aircraft.³⁷

MAC, the Airlines, and the Vietnam War

Although the origins of U.S. activity and interest in Southeast Asia go back at least to World War II, President John F. Kennedy's decision in late 1961 to increase substantially the number of American military advisors in Vietnam marked the effective beginning of United States involvement in the military conflict there. In February 1962, the United States Military Assistance Command, Vietnam (MACV) was established in Saigon, and by the time of Kennedy's assassination, in November 1963, the total number of U.S. forces and advisors had risen from only a few hundred to about 15,500.³⁸

When, in August 1964, North Vietnamese torpedo boats attacked two American destroyers in the international waters of the Gulf of Tonkin, President Lyndon B. Johnson asked for (and Congress quickly granted) the authority to use United States armed forces as he deemed necessary in the Southeast Asia crisis. In response to a Vietcong attack on a U.S. compound and helicopter base, Johnson ordered retaliatory air strikes. Soon afterwards, Johnson committed the first U.S. ground units—two Marine battalions. By the end of 1965, more than 180,000 U.S. troops were in Vietnam. Three years later that number had risen to approximately 540,000.³⁹ (See Table 6.5)

Table 6.5
U.S. Military Personnel In South Vietnam
(December 31)

1960	≈900
1961	3,200
1962	11,300
1963	16,300
1964	23,300
1965	184,300
1966	385,300
1967	485,600
1968	536,100
1969 ¹	475,200
1970	334,600
1971	156,800
1972	24,200
1973 ²	<250

Sources: U.S. Department of Defense, Directorate of Information, Selected Manpower Statistics. (Washington: GPO, 1980), Table 2-30.

Notes:

¹ Military personnel strength peaked in April 1969 at 543,400.

² The last planeload of Vietnam War service US military personnel left Saigon on March 29, 1973. [Kennedy, An Illustrated History of Military Airlift Command, 1941-1991, p. 147.] Only a handful of military personnel remained--members of the Embassy staff and negotiating teams.

The large-scale troop and logistic build-up in Southeast Asia following the Gulf of Tonkin Resolution of August 1964 resulted in an almost immediate sharp increase in both military and contract air carrier traffic across the Pacific.⁴⁰ The most striking increase came in contract carrier operations. These carriers airlifted more passengers and cargo across the Pacific in the month of December 1966 than had been handled by all U.S. civil and military air transports in their best year of transpacific operations during the Korean War. From six certified carriers participating in the airlift in January 1966, the number grew to twenty by 1967 and to twenty-three at the height of the build-up in 1968.⁴¹ By the latter year the commercial airlines were hauling 91 percent of the passenger traffic to Vietnam and 24 percent of the air cargo.⁴² This not only reflected the wartime demand but also the increasing capacity of the airlines and the growing number of jet aircraft in their fleets. Between 1963 and 1972 the available seat-miles on U.S. airlines grew by over 300 percent, from 94.8 billion to 287.4 billion.⁴³

Although MATS had flown missions into Vietnam for some time, it was not until 1964 that the command began to be heavily committed there. In 1965 MATS airlifted 700 million

ton-miles of men and materiel to and from Southeast Asia; in 1968 that total reached 5.7 billion ton-miles. The nation's military leaders came to rely increasingly on airlift to project U.S. military power not only in Southeast Asia but around the world. The growth of the airlines, and MATS's acquisition of the Lockheed C-141 Starlifter, beginning in 1964, provided an airlift capacity that dramatically enhanced U.S. power projection. It was the new jet transports that made the difference—the Boeing 707s, the Douglas DC-8s, and now, in the MATS fleet, the C-141. A C-124 Globemaster, previously the workhorse of the MATS fleet, required ninety-five hours to fly 50,000 pounds from Travis AFB, California, to Saigon and return. With a standard mission utilization rate of 6.7 hours per day, a Globemaster (with a crew of 8) made the trip in thirteen days. By contrast, a new Starlifter (with a crew of 4) could make the flight in under half that time, carrying 57,500 pounds of cargo 4,000 miles, making the round trip in six days or less. If need be, it could carry 20,000 pounds non-stop from Travis to Saigon.⁴⁴

In December 1964, Secretary of Defense Robert S. McNamara announced the decision to build an even larger aircraft, one capable of carrying "outsized" cargo and over 100 tons—the giant Lockheed C-5 Galaxy.⁴⁵ The fifty C-5s he was ordering, combined with the 150 C-141s delivered or on order, McNamara noted, would increase MATS's airlift capability six fold. By 1972, additional orders for both aircraft, stimulated by demands of the Vietnam War, meant that in the preceding decade the nation's military airlift capability had increased at least ten-fold. Although some of that growth was predicated on decisions made before the heavy involvement in Vietnam, it is clear that the war prompted larger buys than originally planned and speeded the decision to build the C-5.⁴⁶

Through the years since CRAF's creation in 1952, it had never been necessary to activate the program to obtain the aircraft essential to satisfy Air Force requirements. Additional commercial aircraft services had always been available voluntarily when needed. That was also true of the war in Southeast Asia, but there were occasions during the build-up in Vietnam when, for a time, the need for additional commercial airlift seemed to justify invoking "a mandatory response from the carriers." In each case, however, a reordering of airlift priorities and a temporary shifting of airlift assets solved the immediate problem. The MAC staff considered it to be to both the industry's and government's advantage not to activate even Stage I of CRAF. The staff was concerned about the "domestic and international implications and reaction that would necessarily follow," and, in any case, believed that "industry should prefer not to be subject to involuntary response."⁴⁷ That view persisted throughout the war. In mid-February 1968, MAC was ordered to move two U.S. brigades to Vietnam to help counter the Tet offensive—an Army brigade from Fort Bragg, North Carolina and a Marine brigade from El Toro Marine Air Base, California. To meet the requirement MAC once again considered activating Stage I of CRAF, but the airlines' response to a special call for aircraft was sufficient to meet the immediate emergency.⁴⁸

When a peace agreement was signed in Paris by representatives of the United States, North and South Vietnam and the Vietcong on January 23, 1973, MAC and the airlines began a 60-day operation withdrawing the remaining American and Allied personnel from Vietnam. The United States had begun to reduce the number of its troops in Southeast Asia in 1969, and by January 1973 only about 27,000 remained. They were withdrawn in a 60-day operation known as COUNTDOWN. The last planeload departed on March 29, 1973 on a commercial DC-8—very likely an aircraft allocated to the CRAF program. The U.S. airlines' significant contribution to the Vietnam War effort had been accomplished—from beginning to end—without the activation of CRAF.⁴⁹

The "Competition" Issue Revisited

In the early months of 1970, the Air Transport Association began to express serious concern over cutbacks in the military's use of civilian airlift, particularly cargo flights. The association perceived "disturbing signs of a retreat" from the policy that had been put together, after much debate, in 1960. A policy explicated in the courses of action approved by President Eisenhower in 1960 that, in the view of the air transport industry, meant that MAC would handle military hard-core airlift requirements, including realistic training, and that regularly scheduled, routine traffic was to be progressively turned over to the civil airlines. Now, they pointed to a sharp cutback in cargo contracts and the threat of suspension of these contracts altogether.⁵⁰ "A unique conflict is thus brewing between the military and civil sectors of this nation," wrote Ben Schemmer, editor of *Armed Forces Journal*. "What's involved," he continued, "is the future of what commercial carriers call 'MAC's private airline'—and at stake is the support MAC counts on from the same operators in case of war." The source of the difficulty was not hard to identify. Since 1962, MAC's own cargo-hauling capacity had increased some ten-fold with the addition of the C-141 and the C-5. Most of the cargo that since 1960 had been carried by civil air carriers could now be handled by the new fleet on what the Air Force insisted were simply routine training flights. Schemmer asserted that by June 1971, MAC would use over 60 percent of the C-5s flying-hour program in regular channel traffic, and that future cargo requirements would be purchased from commercial sources only to satisfy demands that were not met by the utilization of its military airlift capability.⁵¹

Throughout most of the 1960s, the airlines had experienced a steady increase in the amount of cargo they were asked to carry. Because of the growing U.S. involvement in the Vietnam War, the amount of cargo hauled by the air transport industry grew steadily through 1967. As the U.S. involvement in the war declined, however, the dollar amount fell. By 1971 it had fallen below even the 1962 level. Also troubling to the industry, the proportion of defense cargo hauled by civil carriers had dropped from 40 percent in 1962 to barely 10 percent in 1971.⁵² (See Table 6.6.) Adding to the difficulties generated by the decline in military cargo traffic was the failure of civilian passenger traffic to increase as fast as had been projected, just as the industry was introducing additional capacity in the form of the wide-body jets.⁵³

In part, the decline in military traffic carried by the civil airlines reflected the nation's disengagement from the conflict in Southeast Asia, but it was also the result of the introduction of the new C-5 Galaxy, the world's largest aerial transport which entered the MAC inventory in 1969. In peacetime, MAC's C-141s and new C-5s could handle much of the cargo the civilian airlines had been handling. This posed a dilemma of sorts for MAC. At the same time that it was reducing the amount of cargo business it was giving to the CRAF airlines, the command hoped to encourage those same air carriers to increase their cargo airlift capacity by buying convertible aircraft in order to better support future emergencies.⁵⁴

By 1970, MAC's use of its C-141 and C-5 fleet to haul military cargo had become a *cause celebre* with the air transport industry. In their view "MAC's private airline" was taking away their peacetime military cargo business. The industry saw the smaller percentage of cargo airlift that they were receiving as a policy reversal and implicit noncompliance with the 1960 policies that had essentially been a compromise between the executive and the legislative branches. In 1970, the air carriers once again turned to Congress in hopes of easing the financial bind that gripped their industry.⁵⁵

Table 6.6
Commercial Augmentation--Cargo
(thousands \$)

<u>Year</u>	<u>Amount</u>	<u>Percent</u> ¹
1962	\$ 65,712	40.5
1963	63,161	37.5
1964	46,137	22.2
1965	82,119	26.1
1966	127,478	30.2
1967	281,679	33.7
1968	198,426	24.0
1969	142,785	20.3
1970	75,969	15.8
1971	44,500	10.8

Sources: 1962-1970 Data: Report, Directorate of Industrial Fund, MAC, "Airlift Service Industrial Fund, Commercial Augmentation," [c. June 1970], History of the Military Airlift Command, July 1969 - June 1970, Vol. IX (Supporting Documents), AMC/HO; 1971 Data: Chart III-3, "Commercial Augmentation," & Chart III-4, "Civil Share of DOD Industrial Fund Revenue," History of Military Airlift Command, July 1971 - June 1972, pp. 348-49.

Notes:

¹ Percent of military cargo hauled.

As before, the Congress was sympathetic to the airlines. In hearings before the Senate Commerce Committee's Aviation Subcommittee in February 1971, the airlines' representatives insisted that the decline in military cargo business was an important element in their difficulties, and again they raised the issue of competition. They called on Congress to force MAC to ship a substantial proportion of its cargo via the civil airlines. In response, Senator Warren Magnuson (D-Wash.) drafted a bill in April 1971 that would compel MAC to set aside cargo for the commercial airlines: "As a minimum, at least 50 percent of the annual gross tonnage...of all property moved by the Department of Defense by air [excluding property that because of special military considerations, security, or physical characteristics had to be transported in military aircraft]... shall be transported by air carriers." A similar companion bill was introduced into the house at the same time.⁵⁶

In the hearings on the senate bill in May and June 1971, the airlines repeated the bromide that MAC was operating a private airline which competed with the commercial carriers, and that the drop-off in DOD cargo business was a major factor in their financial difficulties. They also argued that recent practices were contrary to the courses of action

President Eisenhower had approved in 1960, and to congressional intent as it had been expressed in hearings. They charged that the Air Force had reneged on its obligation to air carriers, and that the Air Force was nurturing MAC and letting CRAF wither away, despite the loss of vital airlift.⁵⁷ "It is apparent," testified Edward J. Driscoll, President of the National Air Carriers Association, representing the nonscheduled airlines,

that the Air Force still intends to rely primarily on MAC to transport international military cargo and to use the civil carriers only for the overflow. This approach, of course, is entirely unrealistic. The civil carriers cannot afford to maintain idle capacity on a standby basis waiting for sporadic, unplanned, short-notice military requirements. Unless MAC utilizes the available civil capacity on a programmed basis to provide the day-to-day routine cargo service for the military, that capacity will be put to use elsewhere—or it will be disposed of. Either way, it will not be available to the defense department when the need arises.... This, of course, is just the opposite of the way in which these matters should be handled. The routine day-to-day cargo requirements of the military should be handled by the civil carriers, not by MAC.⁵⁸

Gen. Jack J. Catton, who had assumed command of MAC in August 1969, considered these charges unwarranted, but worried "that the good working relationship between MAC and our CRAF partners could be damaged by continued bickering before Congress." Catton did not have an airlift background; still, he insisted that "the preservation of MAC's ability to accomplish wartime tasks must not be compromised in resolving the problem, nor should deceptive testimony by the airline industry go unchallenged."⁵⁹ Catton had entered the Army Air Corps in 1940 and in World War II had served with the XXI Bomber Command, flying B-29 missions against Japan. Throughout the late 1940s and 1950s he served with various organization within the Strategic Air Command. In 1959, he took command of SAC's 817th Air Division, Pease AFB, as the youngest brigadier general in the Air Force. In late 1966 Catton assumed command of SAC's Fifteenth Air Force, March AFB. He became Commander of the Military Airlift Command on August 1, 1969, and served in that capacity until September 11, 1972.

The task of defending Air Force and MAC interests before the Senate Commerce Committee's Subcommittee on Aviation fell to Assistant Secretary of the Air Force Philip Whittaker. Whittaker testified, in September 1971, that the Air Force had consistently recognized the need for both organic and commercial strategic airlift, but added: "We have got to maintain proficiency, we have got to train our people, not only our flight people but our support people, we have got to exercise our fleet at least to a minimum level." Leo Seybold, Vice President of the Air Transport Association, however, quoted testimony that Secretary Whittaker had given before the same subcommittee earlier that year: "As you are aware," Whittaker had told the subcommittee, "MAC's modern jet aircraft were approved by Congress on the understanding that they would not be used for normal passenger operations." Said Seybold, "In complete disregard of this policy, the C-141 is being utilized to carry passengers over domestic and international routes on programmed schedules," and that, in July 1971, "the C-5A cargo aircraft entered into the competition for passenger traffic."⁶⁰

The accusation that MAC policy was contrary to congressional and presidential policies was particularly troubling. The conflict was partly a matter of interpretation or emphasis. One example of that was the third Presidentially approved course of action: "That MATS routine channel traffic (regularly scheduled, fixed routes) operations be reduced on an orderly basis, consistent with assured commercial airlift capability at reasonable cost, and consistent

with economical and efficient use, including realistic training, of the MATS." On the one hand, the airlines emphasized the first portion which directed MATS to reduce its routine channel traffic and to allow that service to be taken over by the civil air carriers. On the other hand, MAC placed the emphasis on the latter part which provided that any such reductions should be consistent with its training requirements and the economical utilization of its fleet. The Air Force position was that it was not violating either presidential or congressional policies.⁶¹

As for the charges that the Air Force had broken faith with the airlines, or that it was nurturing MAC and letting CRAF wither away, MAC pointed out that since 1963, the civil carriers had received an average of 50 to 60 percent of the airlift dollars, and that the airlines' heavy investment in modern jet aircraft was based on their own forecasts of the whole air transport market, not just the small portion which was military. The airlines' difficulties, MAC argued, stemmed not from the reduction in military cargo traffic, but from the failure of the civilian market to develop as forecasted.⁶²

Secretary Whittaker summed up the Air Force's objection to a bill by Senator Howard W. Cannon (D-Nev.) which set aside military cargo for the civil carriers. It would, he argued, involve a substantial increase in cost, materially interfere with war readiness training, and prevent any growth in DOD use of airlift. Moreover, he continued, it would be an inefficient way for the airlines to increase their utilization of aircraft and would not cause any improvement in their airlift capacity. The extra \$100 million that the legislation would cost, he asserted, would provide insufficient incentive for the airlines to purchase added cargo aircraft for CRAF.⁶³

The airlines, however, proved more persuasive than the Department of Defense, the Air Force, or the Military Airlift Command. Although the committee did amend the bill to lower the cargo set aside from 50 to 40 percent, it reported the bill to the Senate with a "do pass" recommendation. The report that accompanied the bill was highly critical of DOD and MAC, claiming that they had deviated from the airlift policies that had been established since 1957. If MAC continued to run an airline in direct competition with the civil carriers, the report concluded, the airlines would soon dispose of their cargo capability, a result that would weaken U.S. strategic airlift capability. Allowing the civil air transport industry to handle the routine cargo would maintain that capability, the committee added.⁶⁴

Both the airlines and the Air Force continued to press their cases with key members of the Senate. On March 9, 1972, Secretary Whittaker met privately with Senator Cannon to plead the MAC case. He observed that the Air Force was working very hard to follow the general policy of putting all cargo on commercial carriers except that which was carried while training and exercising the cargo fleet. The airlines were carrying approximately 30 percent of the DOD cargo, Whittaker noted. Had the committee known those facts before they voted, suggested Cannon, the result might have been different. But, it was too late now; his staff expressed confidence in an easy passage.⁶⁵

On March 28, 1972, the bill came up for final consideration. Senator Cannon, chairman of the Commerce Subcommittee on Aviation, became Senate floor manager for the bill, while Senator Allen J. Ellender (D-La.), Chairman of the Appropriations Committee, led the fight against the bill. Ellender was joined by Senator William Proxmire (D-Wis.), who spoke against the bill, the *Armed Forces Journal* reported, "in his usual colorful style."⁶⁶

When the vote was taken, the final tally—thirty-two aye, thirty-five nay—was three short of passage. MAC had won this round, and it would win the next, as well, a year later. Although the airlines managed to arrange for the introduction of new bills in both the House and Senate in 1973—essentially the same as those that had been introduced in the previous

session—both died in committee.⁶⁷

The environment in which CRAF existed was being constantly redefined as the relationship between MAC and the airlines evolved. But, regardless of the form it took, the tie was essentially a commercial one, and its nature was ultimately determined by that dynamic.

Summary and Analysis

Although the years from 1955 through 1962—the years just preceding those covered in this chapter—were ones of significant redefinition of CRAF's structure and environment, refinements in both areas continued through the 1960s and into the 1970s. The Atlantic and Pacific operations boards which were designed to control CRAF operations in periods of emergency were abolished in favor of a centralized Airlift Scheduling Center co-located with MAC's command post. Modifications were made in contracting policies and procedures, the CRAF fleet was divided into functional segments, and MAC redefined the approving authority for the program's Stages I and II.

Still, despite that activity, analysis suggests a certain ambiguity about CRAF during the years that coincided with the Vietnam War. Despite the refinements that were made, CRAF enjoyed a certain benign neglect during much of the period. The annual CRAF command post exercises which were begun in 1965 were cancelled in 1969 and not started again until 1973. Even MAC's command historians could find little in CRAF to write about. They noted that in 1965 and 1966 the program had undergone no significant changes; from 1967 through 1969 they hardly mentioned it at all.

At the same time, however, issues were being decided that would fundamentally alter the CRAF equation. For example, MAC's ten-fold increase in airlift capability during the period caused it to view the air transport industry rather indifferently. The airlines, in turn, eyed the new MAC fleet with a mix of concern, frustration, and repugnance. It altered the basic relationship between military and civilian airlifters, and thereby changed the environment in which CRAF existed.

This was an era of fleet modernization, but that turned out to be a double-edged sword. Modernization ultimately meant overcapacity for the airlines, and it meant new capabilities for MAC that would dramatically reduce the airlift business the Air Force would hire out.

Nonetheless, despite the C-141's and the C-5's, the Civil Reserve Air Fleet was still essential. That proved something of a dilemma; at the same time MAC was reducing the amount of cargo business it provided to the industry, it was encouraging the airlines to increase their cargo hauling capacity. That dilemma, and particularly the effort to expand CRAF's cargo handling capability, became the center piece of CRAF activities through the balance of the 1970s.

Endnotes

1. Effective Jan. 1, 1966, by Congressional edict, the Military Air Transport Service was renamed the Military Airlift Command. Mendel Rivers, Chairman of the House Armed Services Committee's subcommittee on Military Airlift, had first suggested this change in 1960, but without success. Rivers persisted, however, reintroducing the measure in 1962 and each year thereafter. In 1965, after Rivers became Chairman of the House Armed Services Committee, the Air Force found it politic to drop its opposition and to acquiesce in the name change; Congress passed the measure later that year. Rivers, with MATS tacit support, had also been pressing to make the organization a specified command of the Joint Chiefs of Staff and to consolidate in it all strategic airlift. The balance of the Air Force, however, was adamantly opposed. These changes were not included in the 1965 law. Only the name changed. MAC's mission remained much as it had been for MATS: strategic airlift, weather, rescue, and photographic and charting service for the Department of Defense. [*Illustrated Hist of MAC*, pp. 118-19.]

2. Rpt, Civil Air Branch MATS, "Report on the Civil Reserve Air Fleet," Aug. 1, 1963 in Hist, MATS, "Military Air Transport Service, Jul 1962-Jun 1963," Vol II (Supporting Documents), AMC/HO; "Secretary McNamara Reports on National Military Airlift Plans," *Army and Navy Journal and Register*, Aug. 10, 1963, pp. 16-18.

3. Rpt, Civil Air Branch MATS, "Report on the Civil Reserve Air Fleet," Aug. 1, 1963 in Hist, MATS, "Military Air Transport Service, Jul 1962-Jun 1963," Vol II (Supporting Documents), AMC/HO; "Secretary McNamara Reports on National Military Airlift Plans," *Army and Navy Journal and Register*, Aug. 10, 1963, pp. 16-18; Newsletter, Civil Air Division, MAC, *CRAF Newsletter*, Oct. 1967, pp. 3-4, AMC/HO; Rpt, U.S. Congress, House, Committee of Government Operations, *Military Air Transportation—1963*, 88th Cong., 1st Sess., Union Calendar No. 231, Jul. 17, 1963, p.45.

4. Stf Jnl, MAXLA (Col. Thomas), MATS Staff Digest, No. 140, Oct. 23, 1963, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1961-1963, AMC/HO.

5. Rpt, U.S. Congress, House, Committee of Government Operations, *Military Air Transportation—1963*, Tenth Report by the Committee on Government Operations, 88th Cong., 1st Sess., Union Calendar No. 231, Jul. 17, 1963, pp. 44-45.

6. Ltr, Maj. Gen. John K. Hester (Asst Vice CofS USAF) to MATS, Subject: The Civil Reserve Air Fleet Program, May 21, 1963 in Hist, MATS, "Military Air Transport Service, Jul. 1962-Jun. 1963," Vol. II (Supporting Documents), AMC/HO; Hist, MAC, "Military Airlift Command, Jul. 1962-Jun. 1963," p. 85, AMC/HO.

The operations board agreements were terminated on Jul. 1, 1963.

7. Hist, MATS, "Military Air Transport Service, Jul-Dec. 1963," I: 24-25, AMC/HO.

8. Rpt, U.S. Congress, House, Committee of Government Operations, *Military Air Transportation—1963*, Tenth Report by the Committee on Government Operations, 88th Cong., 1st Sess., Union Calendar No. 231, Jul. 17, 1963, p. 45; Booklet, MAC, "25th Anniversary, Civil Reserve Air Fleet," [1976], p. A-2, CRAF Papers, Box 4, AMC/HO.

9. Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation, 1963*, 88th Cong., 1st Sess., Jul. 17, 1963, pp. 34-36.

10. *Ibid.*, pp. 34-35; Rpt, U.S. Congress, House, Committee on Armed Services, *Report of Special Subcommittee on National Military Airlift*, 88th Cong., 1st Sess., [1963], pp. 6210-11.

11. Study, Hist Service and Research Division, MAC, "Highlights of Military Airlift, 1963 to 1969," Nov. 1968, pp. 55-56, AMC/HO.

12. Briefing, Lt. Col. John W. Collens, [CRAF], Jan. 22, 1970, in U.S. Congress, House,

Committee on Armed Services, Subcommittee on Military Airlift, *Military Airlift*, 91st Cong., 2d Sess., Jan. 22-Feb. 26, 1970, pp. 6287-89.

13. Peter W. Brooks, "The Coming of Jet Transportation," *Aerospace Historian*, (Winter 1961), pp. 219-20; Testimony [Typescript], Military Air Transport Service, Department of the Air Force Presentation to the Special Subcommittee on Military Airlift [of the] House Committee on Armed Services, Oct. 14, 1965, CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

14. Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation, 1963*, p. 42; MAC HQ Form O-312, "Civil Reserve Air Fleet Allocation and Capability," [prepared monthly], CRAF Office, AMC. The Lockheed L-382 (1965) and L-100 (1968) were civilian variants of the military C-130 Hercules (1958). (Dates in parentheses indicate the year these aircraft first entered service.) The L-188 Electra first entered commercial service in 1959.

15. Newsletter, Civil Air Division, MAC, *CRAF Newsletter*, Oct. 1968, p. 1, AMC/HO. Alaska Airlines, Reeve Aleutian, and Wien Consolidated participate in the Alaskan segment of CRAF.

16. Plan, MATS, Exercise Operation Plan 901, MIXED DOUBLE, Oct. 1966 in Hist, MAC, "Military Airlift Command, Jul 1965-Jun 1966," Vol VIII (Supporting Documents), AMC/HO; Rpt, MAC, Final Report CRAF Exercise MIXED DOUBLE, Feb. 15, 1966 in Hist, MAC, "Military Airlift Command, Jul 1965-Jun 1966," Vol VIII (Supporting Documents), AMC/HO.

17. Ltr, Col. Thomas L. Shockely (Dir War Plans DCS/Plans MAC) to All International Carriers, Subj: Exercise COLD SCARF Guidance, Oct. 24, 1966 in Hist, MAC, "Military Airlift Command, Jul-Dec. 1966," Vol III (Supporting Documents), AMC/HO. See also: Plan, MAC, Exercise Operation Plan 909, COLD SCARF, Nov. 1966 in Hist, MAC, "Military Airlift Command, Jul-Dec. 1966," Vol III (Supporting Documents), AMC/HO.

18. Rpt, MAC, "Exercise COLD SCARF Final Report, Dec. 28, 1966 in Hist, MAC, "Military Airlift Command, Jul-Dec. 1966," Vol III (Supporting Documents), AMC/HO.

19. Newsletter, Civil Air Division, MAC, *CRAF Newsletter*, Jul. 1967, p. 3.

20. *Ibid.*, pp. 1-2.

21. *Ibid.*, p. 3.

22. *Ibid.*, Apr. 1973, pp. 1-2.

23. Rpt, Col. Fred R. Matthews (DCS/Plans Staff MAC), Final Report—Exercise COLD SCARF V, Jun. 27, 1973 in Hist, MAC, "Military Airlift Command, Jul 1972-Jun 1973," Vol. VIII (Supporting Documents), AMC/HO.

24. BP, John F. Shea (Asst DCS/Plans MAC), "Background Paper on New CRAF Concept," Nov. 25, 1970, CRAF Papers, Box 11, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

25. The Air Force explained this to Congressman L. Mendel Rivers that it would establish a new, lower stage of guaranteed expansion for periods of peak channel traffic, exercises or minor contingencies not justifying declaration of an airlift emergency. This would be activated by the Commander MAC, and would become the new Stage I. The old Stage I, which was to be activated by the Secretary of Defense, now became Stage II, and the old Stage II, which was to be activated by the President, would be dropped. [Ltr w/enclosure, Philip N. Whittaker, Asst Secretary of the Air Force, to L. Mendel Rivers, Nov. 16, 1970, enclosure p. 10, CRAF Papers, Box 2, Folder Civil Reserve Air Fleet 1968-1974, AMC/HO.

26. Briefing, DCS/Plans MAC, "New CRAF Concepts," [Dec. 1970], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

27. BP, John F. Shea (Asst DCS/Plans MAC), "Background Paper of Commercial Augmentation," Jan. 18, 1971, CRAF Papers, Box 8, Folder Commercial Airlift Augmentation,

AMC/HO.

28. Briefing, DCS/Plans MAC, "New CRAF Concepts," [Dec. 1970], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

29. *Ibid.*

30. *Ibid.*

31. *Ibid.*

32. Newsletter, Civil Air Division, MAC, *CRAF Newsletter*, Jan. 1971, pp. 1-2.

33. The Military Operations Subcommittee of the House Committee on Government Operations held public hearings on military air transportation in 1958, 1959, 1961, and in 1963. The Special Subcommittee on National Military Airlift of the House Committee on Armed Services held hearings in 1958, 1960, 1963, 1966, and 1970.

34. Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation-1963*, 88th Cong., 1st Sess., Jun. 17, 1963, pp. 1-5; Hist, MAC, "Military Airlift Command, Jul. 1971-Jun. 1972," I: 348, AMC/HO.

35. *Ibid.*, p. 1; Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation*, 85th Cong., 2d Sess., 1958; Rpt, U.S. Congress, House, Committee on Government Operations, *Military Air Transportation*, 86th Cong., 1st Sess., 1959.

36. Ltr, Gen. Howell M. Estes, Jr.(COMATS), Subj: [Letter covering MATS draft of AFM 2-21, "Airlift Doctrine"], [1964], quoted in *Illustrated Hist of MAC*, p. 118. Although MATS was designated the single Air Force agency to exercise control over all airlift force movements in deployment and redeployment operations in Sep. 1964, and was redesignated MAC in 1966, the command did not gain the tactical airlift mission (or designation as a unified command under the JCS) for some years to come.

37. Rpt, U.S. Congress, House, Committee on Armed Services, *Military Airlift*, Report of Special Subcommittee on Military Airlift, 89th Cong., 2d Sess., May 16, 1966, pp. 7182, 7196-7200, 7205.

38. The brief discussion of the US involvement in Vietnam in this paragraph and those that immediately follow is drawn from Charles B. MacDonald and Charles V. P. von Luttichau, "The U.S. Army in Vietnam," in Maurice Matloff, ed., *American Military History*, (Washington, D.C.: Office of the Chief of Military History, 1972).

39. In May 1969 President Richard M. Nixon announced his intention to let the South Vietnamese forces gradually take over the burden of fighting and to begin the withdrawal of American troops from South Vietnam. By the spring of 1972 the U.S. contingent in Vietnam had dwindled to 285,000 and, by the end of the year, more than 90 percent of these had been withdrawn.

40. Typescript, "History of the Department of Transportation in the Lyndon B. Johnson Administration (Nov 22, 1963-Jan 21, 1969)," VI: VIII-7, Dept of Transportation Library.

41. *Ibid*; Rpt, U.S. Department of Transportation, *First Annual Report, Part I—The Department, Fiscal Year 1967* (Washington: U.S. Department of Transportation, 1967), p. 54. In 1951, 92,000 passengers and 30,600 tons of cargo were transported by U.S. civil and military airlift to Japan (for further shipment to Korea); in Dec. 1966, the contract carriers alone carried 99,980 passengers and 37,400 tons of cargo to Vietnam.

42. *Illustrated Hist of MAC*, p. 124.

43. CAB, *Handbook of Airline Statistics* (Washington: GPO, 1973), p. 22.

44. *Illustrated Hist of MAC*, pp. 110, 117-28; Enzo Angelucci, *The Rand McNally Encyclopedia of Military Aircraft, 1914 to the Present* (New York: Gallery Books, 1990), pp. 500-505.

45. The term "outsize" cargo refers to cargo which exceeds the entry door dimensions and/or

the loading capability of the C-141. The term "oversize" cargo is generally understood to mean cargo which exceeds 10,000 lbs (the stressed weight limit of the standard 463L pallet) or which, because of its size, cannot be accommodated by civilian cargo aircraft such as the Boeing 707. [MAC Manual 55-8, "Operations, Civil Reserve Air Fleet (CRAF)," Apr. 7, 1972, p. A14-13.]

46. *Illustrated Hist of MAC*, pp. 120-124; Rpt, U.S. Congress, House, Committee on Armed Services, *Military Airlift*, Report of Special Subcommittee on Military Airlift, 89th Cong., 2d Sess., May 16, 1966, p. 7177. Inventory strengths of these aircraft peaked at 277 C-141s (1968) and 77 C-5s (1973). In 1963, MATS had, in its inventory of strategic transports, 377 C-124 Globemasters, 82 C-130 Hercules, 43 C-133 Cargomasters, and 40 C-135 Stratolifters. In 1972, MAC had 13 C-135 (Boeing 707), 276 C-141 Starlifters, and 65 C-5 Galaxies. [Kennedy, pp. 282-83.]

47. Hearings, Dept of AF, Dept of AF Presentation to the Special Subcommittee on Military Airlift, House Committee on Armed Services, Oct. 14, 1965, CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO; Memo, Robert H. Charles (Asst Sec AF) to Asst Sec Def (Installations and Logistics), Subj: FY 1968 Procedures for MAC Airlift Procurement, Nov. 15, 1966, CRAF Papers, Box 23, Folder Report on Civil Augmentation Airlift Procurement, Policies and Procedures, AMC/HO; Talking Paper, Col. H. E. Greutrer (MAMPC) "On Column I Aircraft," [Feb. 7, 1966], CRAF Papers, Box 8, Folder Civil Reserve Air Fleet (Briefings), AMC/HO.

48. Miller, p. 235. The Tet offensive (Jan. 20-Feb. 24, 1968), timed to coincide with the Vietnamese New Year, was a massive assault. by Viet Cong forces throughout South Vietnam. South Vietnamese and US forces were surprised by the scope and size of the operation, whose key targets included Saigon, the Marine base at Khe Sanh, and a number of provincial capitals including Hue. MAC's response to this new requirement in Vietnam was complicated by emergency operations already in progress in response to the seizure of the USS *Pueblo*, an intelligence gathering ship, by the North Koreans on Jan. 23, 1968. Between Jan. 29 and Feb. 17, 1968 MAC's C-124s, C-130s, C-133s, and C-141s flew more than 800 missions to Korea.

49. *Illustrated Hist of MAC*, p. 147.

50. Pamphlet, ATA, "Airlines and the Military, How the Scheduled Airlines Meet Defense Transport Needs," Apr. 1, 1970, p. 9, CRAF Papers, Box 8, Folder Commercial Airlift Augmentation, AMC/HO. This pamphlet was based on the testimony of ATA president Stuart G. Tipton before the HASC Subcommittee on Military Airlift on Feb. 5, 1970. Tipton seems to have exaggerated the situation in 1970, but there was a dramatic decline in cargo hauled—both in percent and dollars after fiscal year 1967.

51. Benjamin F. Schemmer, "MAC's Private Airline?," *Armed Forces Journal*, Sep. 21, 1970, pp. 26-32.

52. Hist, MAC, "Military Airlift Command, Jul. 1971-Jun. 1972," I: 347-49.

53. *Ibid.*, I: 351; Benjamin F. Schemmer, "MAC's Private Airline," *Armed Forces Journal*, Sep. 21, 1970, pp. 26-32. See also: Lt. Col. Charles C. Irions, "MAC's Dilemma: Competition With Its Civil Reserve Air Fleet," (MBA Research Paper, Auburn University, May 1971).

54. Maj. Gen. Maurice F. Casey (Dir of Transportation HQ USAF), "The Military-Civilian Airlift Partnership," *Translog*, Mar. 1971, pp. 2-5.

55. Hist, MAC, "Military Airlift Command, Jul. 1971-Jul. 1972, p. 351; Benjamin F. Schemmer, "MAC's Private Airline," *Armed Forces Journal*, Sep. 21, 1970, pp. 26-32.

56. Bill, U.S. Congress, Senate, "A Bill to Amend the Federal Aviation Act of 1958 [S 1821]," May 11, 1971. The House version of this bill [HR 8264] was introduced by Representative

- Harley Orrin Stagers (D-W. Va.) also on May 11, 1971.
57. Hist, MAC, "Military Airlift Command, Jul. 1971-Jun. 1972," I: 352-53.
 58. Testimony, Statement of Edward J. Driscoll, President National Air Carrier Association before the Sbcmtc on Aviation of the [Senate] Committee on Commerce, Sep. 30, 1971 in Hist, MAC, "Military Airlift Command, Jul 1971-Jun 1972," Vol XI (Supporting Documents), AMC/HO.
 59. Ltr, Gen. Jack J. Catton (COMAC) to Philip N. Whittaker (Asst. Sec AF), Oct. 23, 1971 in Hist, MAC, "Military Airlift Command, Jul 1971-Jun 1972," Vol XI (Supporting Documents), AMC/HO.
 60. Memo, Maj. Gen. Ray M. Cole (DCS/Plans USAF) to CofS USAF, Subj: Hearings before Sbcmtc on Aviation, Senate Committee on Commerce (Senator Cannon) on S. 1821, 30 Sep. 1971, [ca. Oct. 18, 1971] in Hist, MAC, "Military Airlift Command, Jul 1971-Jun 1972," Vol IX (Supporting Documents), AMC/HO.
 61. Hist, MAC, "Military Airlift Command, Jul 1971-Jul 1972," I: 354-55, AMC/HO.
 62. *Ibid.*, I: 355-58.
 63. *Ibid.*, I: 364.
 64. Rpt, U.S. Congress, Senate, Committee on Commerce, Subcommittee on Aviation, *Transportation of Government Traffic by Civil Air Carriers, Report to Accompany S. 1821*, 92d Cong., 1st Sess., Dec. 2, 1971.
 65. Hist, MAC, "Military Airlift Command, Jul. 1971-Jun. 1972," I: 366-70; "MAC Keeps 'Private Air Line'," *Armed Forces Journal*, May 1972, pp. 10-11.
 66. "MAC Keeps 'Private Air Line'," *Armed Forces Journal*, May 1972, pp. 10-11; Ltr, DCS/Plans MAC to CofS MAC, Subj: Senate Consideration of S 1821, Apr. 7, 1972 in Hist, MAC, "Military Airlift Command, Jul 1971-Jun 1972," Vol. III (Supporting Documents), AMC/HO. There is a suggestion that, behind the scenes, the armed services committees of both houses (and their staffs) worked to defeat the bill. [Article, "MAC Keeps 'Private Air Line'," *Armed Forces Journal*, May 1972, p. 11.]
 67. BP, John F. Shea (Asst DCS/Plans MAC), Subj: Cargo Set-aside Legislation and Impact on MAC, Apr. 12, 1973 in Hist, MAC, "Military Airlift Command, Jul 1972-Jun 1973," Vol. VIII (Supporting Documents), AMC/HO; "Civilian Airlines Want More DoD Cargo: Here We Go Again," *Armed Forces Journal*, Jul. 1973, pp. 12-13. The two new bills were: Senate Bill S. 1350, by Senator Warren Magnuson (D-Wash.), and House of Representatives Bill H. R. 5085, by Representative Harley O. Stagers (D-W. Va.) No hearings were held on either bill.

CHAPTER VII

CRAF ENHANCEMENT, 1973-1979

Between 1973 and 1979 the management of the Civil Reserve Air Fleet program revolved about a single central concern—increasing the cargo capability of the CRAF fleet. Simply stated, the cargo-hauling capability of the airlines in the Civil Reserve Air Fleet, although adequate to meet day-to-day commercial needs, was insufficient to satisfy the emergency wartime requirements levied on them in war plans. Passenger aircraft, of course, were plentiful. By 1973, the shortage of cargo-capability was fast becoming critical. "The industry now had 12 [percent] less cargo-capable aircraft than it had on July 1, 1970," wrote Acting Assistant Secretary of the Air Force Lewis E. Turner to Congressman Melvin Price, Chairman of the Military Airlift Subcommittee of the House Armed Services Committee. "Even with the addition of the C-5 Galaxy to our airlift force," wrote Turner, "the ability to move equipment and supplies continues to be the limiting factor in determining the time needed to deploy major combat forces, and the extent to which these forces can be sustained by aerial resupply."¹ The Air Force calculated that it needed some sixty-five more Boeing-707 cargo aircraft (or equivalents) in CRAF.² To make matters worse, shifts in the NATO defense strategy late in the decade exacerbated the shortfall by placing increased emphasis on the rapid deployment of large numbers of troops from the United States to Europe.

From 1973 to 1979, two major programs were initiated by the Military Airlift Command to encourage the airlines to purchase cargo-capable wide-body aircraft. The first was designed to increase sharply the airlift augmentation business for CRAF carriers that purchased cargo-capable aircraft, particularly convertibles. This bonus award of extra business (and added profits) was intended to offset the extra cost of those aircraft. The second program to enhance CRAF proposed simply to pay the carriers outright the cost of adding convertibility to aircraft—either existing or under construction—which were to be used subsequently in passenger service. It also proposed to pay a share of the cost of other cargo-capable aircraft—both freighter and convertible—which were to be used in cargo service. Both programs had their champions and their opponents among each of the important constituencies—the airlines, the Congress, and the Pentagon. Moreover, both became entangled in the internal politics that seem to pervade bureaucracies. By 1979 the bonus award plan had proven ineffective and was dropped. The CRAF enhancement plan was a different story, but it took the better part of the decade to define it in a way that would satisfy at least the key players in all of the constituent groups.

Table 7.1

**Civil Reserve Air Fleet
(Long Range International)
(as of June 30)**

Airlines	Number of Aircraft Allocated								
	1972	1973	1974	1975	1976	1977	1978	1979	1980
Airlift Intl	8	8	5	5	5	7	8	10	11
American	36	16	16	19	21	20 ¹	16 ¹	44 ¹	42 ¹
Braniff	11	3	2	2	2	2	2	4	8
Capitol Intl	6	6	6	3	2	2	2	2	2
Continental	10	8	4	8	8	8	8	15	13
Eastern	5	2	-	-	-	-	-	-	-
Evergreen	-	-	-	-	-	2	-	1	2
Flying Tiger	18	18	18	21	20	19	24	24	26
National	-	-	-	-	-	-	-	4	-
Northwest	26	37	39	34	33	46	45	47	51
Overseas Natl	6	8	4	7	5	7	3	-	-
Pan American	79	65	61	61	53	60	53	74	74
Saturn	4	4	4	3	-	-	-	-	-
Seaboard World	14	14	12	10	13	6	6	6	8
Trans Intl	11	12	10	11	11	11	12	15	17
TWA	41	37	37	34	28	26	23	54	42
United	21	15	19	18	22	33 ²	32 ²	44 ²	28 ²
Western	-	1	1	1	1	1	1	14	-
Wien Consol'd	11	-	-	-	-	-	-	-	-
World	1	13	7	7	7	8	11	15	17
Zantop	-	-	-	-	-	-	-	-	1
L/R Intl CRAF	311	267	245	244	231	258	246	373	342
No. Airlines ³	21	21	20	20	21	21	22	22	19
	1972	1973	1974	1975	1976	1977	1978	1979	1980

Notes:

- 1 Includes 8 aircraft in "Plywood CRAF."
- 2 Includes 18 aircraft in "Plywood CRAF."
- 3 Includes airlines in Domestic, Alaskan, and Short- and Long-Range International Segments.

Source: CRAF Office, AMC.

The Strategic and Economic Environment

Although CRAF had always been short of cargo aircraft, that shortage had become critical by the early 1970s. The requirement for airlift had increased dramatically because of evolving strategic concepts in NATO. As the Soviet Union reached parity with the United States in both strategic and tactical nuclear weapons, conventional forces became increasingly critical for western Europe's defense, as did the airlift necessary to transport and sustain them. Even the substantial increase in the MAC fleet—the introduction of the C-141 and C-5 in the 1960s—did not satisfy the new and growing NATO requirement. To make up the difference, the Air Force looked to CRAF. (See Table 7.1) From 1970 forward, however, the number of cargo capable aircraft in the CRAF program (and in U.S. airline inventories generally) steadily declined. Because of the introduction of wide-body aircraft, the total cargo-capability of the fleet (in ton-miles per day) was reasonably steady, but as the demand grew the supply was inadequate. (See Table 7.2)

Table 7.2

CRAF Cargo Capability
(c. June 30)

Year	Cargo Aircraft			MTM/DA ²
	Narrow-body	Wide-body	Total	
1965	136	-	136	7.9 ¹
1966	159	-	159	9.3 ¹
1967	177	-	177	10.3 ¹
1968	186	-	186	10.87
1969	175	-	175	12.61
1970	201	-	201	14.79
1971	191	-	191	14.13
1972	186	-	186	13.7 ¹
1973	167	7	174	13.0 ¹
1974	144	11	155	13.48
1975	131	22	153	14.39
1976	116	24	140	13.78
1977	103	31	134	14.39
1978	87	37	124	14.43
1979	76	40	116	14.45
1980	49	61	110	15.79

¹ estimate

² MTM/DA = Million Ton-Miles per Day

Source: Monthly MAC HQ Form 0-312 (1965-1980), CRAF Office, AMC.

In the 1950s, NATO's military strategy relied on the threat of massive retaliation. Up to the mid-1960s, the NATO strategy was essentially a "trip-wire" strategy—nuclear weapons would answer the first Soviet tank that came across from East Germany into West Germany.

With the growth of the Soviet nuclear stockpile, however, the United States began to seek other options and a wider spectrum of choice. Beginning in the early 1960s, the United States adopted a national military strategy of flexible response—responses geared to the scale of the threat. The nation might still resort to all-out nuclear war, if necessary, but would reach that point through escalation—responding to a conventional attack with conventional weapons, and moving up to nuclear weapons by discrete stages as lesser responses proved inadequate. NATO adopted a similar "flexible response" strategy in 1967, but not without some misgivings. The most serious concern was that a strategy that reduced the threat of nuclear retaliation might make conventional aggression in Europe more likely.³

In 1969, the U.S. government reexamined the NATO strategy but found the current strategy—a short-term (ninety-day) conventional defense, followed, if necessary, by the introduction of nuclear weapons—was the most practicable. Yet, neither U.S. nor other NATO forces were fully prepared to fight such a war. Ironically, as nuclear parity had increased the significance of conventional defense in Europe, the Kennedy administration had increased the number of U.S. nuclear weapons stored and available for use in Western Europe by 85 percent. Moreover, the Johnson administration, which followed, cut U.S. troop strength in Europe by nearly 60,000. Neither administration built up the stockpiles necessary for ninety days of conventional defense.⁴

In 1970, as the Warsaw Pact built a formidable armored force in East Germany and Czechoslovakia, NATO Secretary-General Manlio Brosio proposed that the western alliance conduct a defense review aimed at strengthening its conventional defense. U.S. national security adviser Henry Kissinger agreed, saying, in November 1970: "We must act vigorously to maintain NATO's conventional capability while developing a strategy for its use that makes sense in this fundamentally new strategic situation." The maintenance of a credible conventional defense took on even more importance for NATO in 1971, as serious negotiations over nuclear arms limitations began.⁵ As early as 1972, it was becoming clear that, to respond to the numerical superiority of Soviet/Warsaw Pact forces in the theater, the United States would have to deploy sizeable air and ground forces to Europe in the opening days of any conflict there. Plans were developed that would augment the five and two-thirds U.S. divisions and twenty-eight tactical air squadrons then stationed in Europe, by moving an additional division and another dozen squadrons to the theater in the first ten days of the war. To do this, however, the United States would have to increase its strategic airlift and position more supplies and equipment in Europe.⁶

In 1977 and 1978, the Carter Administration, led by its Secretary of Defense, Harold Brown, decided that "a major, collective NATO effort, led by the United States, is necessary to counter the Warsaw Pact's growing capability to conduct a brief, intense conventional campaign in Central Europe, perhaps with only a few days advance warning to NATO."⁷ The new plan called for the United States, by 1983, to be able to move five divisions and sixty tactical air squadrons to Europe in ten days, and this by further increasing the U.S. strategic airlift and expanding the prepositioned stocks.⁸

Table 7.3

**U.S. Air Force
Strategic Airlift Capability**

Year Total	C-124 ¹	C-133 ²	C-135 ³	C-141 ⁴	C-5 ⁵	
1963	377	43	40	-	-	460
1964	375	43	39	2	-	459
1965	311	40	38	65	-	454
1966	235	40	30	164	-	469
1967	165	40	23	271	-	499
1968	181	40	19	277	-	516
1969	17	40	19	277	1	354
1970	-	39	19	276	21	355
1971	-	-	19	275	45	339
1972	-	-	13	276	65	354
1973	-	-	13	276	77	366
1974	-	-	12	275	77	364
1975	-	-	16	273	76	365
1976	-	-	16	271	77	364
1977	-	-	11	271	77	359
1978	-	-	11	270	76	357
1979	-	-	11	270	76	357

Source: Betty R. Kennedy, ed., Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command, 1941-1991 (Scott AFB, Ill: Military Airlift Command, 1991), pp. 282-83.

Notes:

- 1 Douglas "Globemaster"
- 2 Douglas "Cargomaster"
- 3 Boeing 707
- 4 Lockheed "Starlifter"
- 5 Lockheed "Galaxy"

Any significant expansion in strategic airlift, however, would have to come through the enlargement of the Civil Reserve Air Fleet, for in 1973 the last of the strategic military aircraft to be delivered in that decade were added to MAC's fleet. (See Table 7.3) The expansion of the CRAF passenger fleet, to accommodate the movement of more troops rapidly to Europe, proved quite manageable. For example, in early 1979, MAC (and the Department of Transportation) increased the CRAF passenger fleet by more than 225 percent in response to the new strategic requirement.⁹ (See Table 7.4) Getting the troops to Europe, however, was only half the problem. "Studies and exercises have shown that we can deploy all required troops," noted the MAC staff, "however, a shortfall in cargo capability exists—even utilizing all MAC resources and every CRAF cargo-capable long-range aircraft." Once in Europe, the troops had to be sustained until surface ships arrived and began to supply them, and that meant a larger cargo fleet. Additional passenger aircraft had been readily available, but adding cargo-capable aircraft was a different matter. The CRAF fleet, in 1973, already contained nearly all the freighters and convertibles owned by U.S. airlines.¹⁰

Table 7.4

CRAF Passenger Capability
(c. June 30)

Year	Passenger Aircraft			MPM/DA ²
	Narrow-body	Wide-body	Total	
1965	121	-	121	37.5 ¹
1966	138	-	138	42.8 ¹
1967	135	-	135	41.86
1968	173	-	173	56.07
1969	177	-	177	59.33
1970	175	-	175	59.42
1971	84	42	126	60.19
1972	82	43	125	60.2 ¹
1973	12	81	93	63.4 ¹
1974	7	83	90	63.21
1975	10	81	91	63.22
1976	10	81	91	63.22
1977	13	85	98	63.42
1978	9	87	96	63.41
1979	99	157	257	144.22
1980	58	174	232	144.06

Notes:

¹
²

estimate

MPM/DA = Million Passenger Miles per Day

Source: Monthly MAC HQ Form 0-312 (1965-1980), CRAF Office, AMC.

The economics of the marketplace simply would not support the construction of any substantial number of additional cargo-capable aircraft. Despite the enthusiasm, in the late 1940s and early 1950s, of freight haulers like Robert W. Prescott of Flying Tiger Line, the conviction that there was a tremendous future for air freight was not borne out. On the

contrary, air freight continued to be a disappointingly low proportion of total air traffic.¹¹ More significantly, most would-be freight airlines failed, and those that survived, often did so by a combination of luck and government airlift contracts. Regular, optimistic predictions of growth in the commercial cargo market just as regularly failed to materialize. For example, the forecast of growth in the mid-1960s prompted orders for twenty-six cargo-capable B-747s. None of these were ever delivered. The carriers that ordered them, found that the anticipated market was not there when the time came to confirm the buys.¹² As a result, the market for an airplane designed specifically to haul cargo remained limited. The swing-tail Canadair CL-44, introduced in 1960, is one of the few such aircraft. It was the first production aircraft to feature a hinged tail unit and rear fuselage that allowed straight-in loading of large pallets. Flying Tiger, Seaboard and Slick all flew the CL-44, accounting for twenty-three of only thirty-nine built. The CL-44 illustrated the difficulty in developing a market for cargo-oriented aircraft. It also showed how completely such aircraft were incorporated into CRAF; all twenty-three in American hands were allocated to CRAF.¹³

Compounding the difficulties of the all-freight airlines and further reducing the potential for any increase in the numbers of freighters was the introduction of wide-body passenger aircraft, beginning in 1970, which could haul freight in their lower compartments or lobes. Even with a full load of passengers, these aircraft could carry a significant load of cargo and at a modest additional cost. The scheduled passenger lines were quick to take advantage of this capability and generated significant competition for the freight haulers. Air freight that might have prompted the purchase of more cargo aircraft was now being carried in the bellies of passenger jets. What is more, the efficient use of the lower lobe cargo capability not only allowed airlines to cancel orders for new freighters or convertibles, but also to eliminate older, less efficient cargo aircraft. This was a triple blow to CRAF. Not only were there no new cargo aircraft and a loss of older cargo carriers, but, in actual practice, the lower lobes of the wide-body aircraft added little to CRAF's cargo-capability.¹⁴

Bonus Awards

The Bonus Award plan was created to offer added incentive to the airlines to increase their cargo hauling capability—and thereby to increase CRAF's. It awarded additional MAC airlift business to those carriers that purchased cargo or convertible aircraft. The bonus awards package was conceived by the MAC staff in early 1972, and announced in August of that year by General Jack J. Catton, shortly before he gave up command of MAC. Opposition to the program within the ranks of the air transport industry was so great, however, that MAC itself was soon recommending against going ahead with it. Nonetheless, Air Force headquarters ultimately ordered the plan put in place on July 1, 1974 and continued to promote it until August 1, 1979.¹⁵

Beginning in 1960, MAC contracted only with airlines that committed their assets to CRAF for its commercial augmentation airlift. A fixed-buy contract, called an Airlift Services Contract, was used to obtain peacetime airlift services and to obligate the carrier to provide aircraft for the three stages of CRAF.¹⁶ The value of the contribution made by each carrier was measured against the number, type, and capability of aircraft committed to the various stages of CRAF. Also used in deciding the so-called "mobilization value" of a carrier's aircraft in CRAF, was an incentive factor that scored the relative value of passenger, cargo and convertible aircraft.¹⁷ When MAC calculated the mobilization value of the Boeing 747, for example, it gave the passenger version a score of 13.1, the cargo craft 28.0, and the convertible 35.1. Also affecting the total score a carrier would receive were the CRAF stages

for which its aircraft had been accepted. Double award credits were awarded for aircraft that were accepted into Stage I (never more than half a carrier's fleet) because they were most susceptible to call-up.¹⁸

Under this procedure, MAC allocated its airlift business based on each airline's contribution to the CRAF program, as measured by the total of the mobilization values of the aircraft allocated to the first two stages. A carrier which, on that basis, accrued 10 percent of the total mobilization value awards would receive 10 percent of the business available.¹⁹ (See Table 7.5)

Table 7.5

MAC Airlift Contract Awards - FY73

Carrier	Percent of Total MV ¹	Contract Award (millions \$)
Airlift International	3.9%	\$ 4.5
American Airlines	10.1	11.6
Braniff Airlines	2.7	3.1
Continental Airlines	5.0	5.8
Capitol International	3.1	3.6
Eastern Air Lines	.4	.4
Flying Tiger Line	11.6	13.4
Northwest Airlines	7.6	8.7
Overseas National	3.7	4.3
Pan American	15.9	18.4
Saturn Airlines	2.3	2.6
Seaboard World	7.8	9.0
Trans International	7.4	8.5
Trans World Airlines	8.5	9.8
United Air Lines	5.2	6.0
World Airways	4.8	5.6
TOTALS	100.0%	\$115.3

Source: Briefing (slides), Lt Col Kenneth W. Durham (Plans, MAC), Subject: CRAF Aircraft Mobilization Values, October 6, 1972, CRAF Office, AMC.

Notes:
i

MV = Mobilization Value

Under the proposed bonus award program, however, carriers buying new cargo-capable aircraft would receive an additional award for these aircraft: for a convertible aircraft, a 100 percent bonus in the year of delivery, and a 50 percent bonus for up to four additional years or until the added cost of a convertible model was amortized by the profits from this added business. A Boeing 747 convertible that might normally receive a mobilization value of 35.1, would, if purchased under this program, receive 70.2 points in the year it was delivered and 52.65 points for each of the next four years. As the program was ultimately structured, carriers purchasing new freighters would receive a 100 percent bonus the first year but no additional bonus in subsequent years.²⁰

The bonus award plan was drafted in February 1972 by John F. Shea, a civilian who since 1960 had been Assistant Deputy Chief of Staff for Plans at MAC headquarters. Shea had been commissioned a Second Lieutenant in the Army Air Corps in 1943 and had served throughout World War II with the Air Transport Command. Discharged in 1946 as a major, he stayed on as a civilian management analyst with Air Transport Command. Shea eventually became Chief of the Programming and Policy Division of the Military Air Transport Service, and finally MAC's Assistant DCS/Plans.²¹

The bonus award plan was a response to questions concerning the relationship between CRAF and airlift procurement practices raised by Gen. Jack J. Catton, who commanded MAC from August 1969 until September 1972. In late January 1972, Catton asked his staff to answer two questions: "What influence [does] present airlift procurement policy [have] on the CRAF inventory?" and "What alternative procurement policies do we have to influence more cargo capability?" Shea, who provided the response, noted that, on the first point, there was no evidence to suggest that current policies had any influence on the airlines' procurement plans. The most assured means of adding cargo capability, suggested Shea, was direct capital investment, or a subsidy to aid the airlines to purchase cargo-capable aircraft. He was not sanguine, however, about the chances of such a proposal in Congress—not, at least, until all alternatives to providing incentive through procurement had proven futile.²²

Shea then examined the three alternative procurement policies. First, he discussed a proposal that had been made by the House Armed Services Committee that only cargo-capable aircraft should receive award credit. This, he conceded, would reward those carriers owning convertibles and freighter aircraft, but would deny awards to passenger aircraft, which were also needed in wartime, and might result in their not being offered voluntarily. The second alternative limited peacetime procurement awards to convertible aircraft only. Promoting the acquisition of convertibles, especially when they would be used in passenger service and would replace passenger aircraft (instead of freighters), seemed to hold promise. Nonetheless, Shea dismissed the idea because it was too dramatic a change in procurement policy. Not only would MAC be subject to the charge that they were employing "disruptive practices," but such action might actually endanger the economic growth of CRAF carriers. Instead, he offered a third alternative: carriers that ordered new cargo-capable aircraft would receive an increased award value (which translated into additional MAC airlift business)—100 percent additional in the year of delivery and 50 percent more in subsequent years until the extra cost of a convertible model was amortized by the added profits. He estimated the cost of conversions to be approximately \$1.3 million for a DC-10 and \$2.5 million for Boeing 747s, but these estimates proved too low. The added DOD revenue, he suggested, would encourage carriers contemplating the purchase of wide-body passenger aircraft to order convertibles instead.²³

Not everyone at Headquarters, MAC was enamored with this plan. The MAC procurement office had serious reservations about whether the increased credit for cargo-capable aircraft would influence equipment decision makers. "On the contrary," it argued, "our view is that it will not have such affect [sic]." The amount of money MAC planned to spend, when distributed among twenty carriers, simply would not produce the desired result. "Our concern is that to introduce a change of the nature suggested without the probability of achieving the goal, that is to bring forth increased civil cargo capacity, can only create carrier complaints and increased, if that is possible, political difficulties." The solution the procurement office put forward sounded much like one the airlines themselves might make. If MAC wanted to increase the cargo capacity of the civil fleet beyond what the commercial

market alone would support then MAC should make a greater share of military cargo hauling available to commercial airlift.²⁴

More than a few on the MAC staff were skeptical of the plan, but some saw an advantage even in its probable failure. "These misgivings notwithstanding," wrote one staff officer, "we believe that the proposal should be pursued. Ineffectiveness of the proposal can be used to justify and strengthen the case of other proposals that entail increased leverage."²⁵

MAC Commander Catton, however, did not share the skepticism expressed by some on his staff. On April 11, 1972, he forwarded the plan to the Pentagon. With the approval of the Air Staff and of Assistant Secretary of the Air Force Philip N. Whittaker, Catton wrote, he would notify the airlines of the plan and advise them that MAC intended to carry out the new bonus awards in FY 1974.²⁶ The decision from Whittaker, however, was delayed. In part, the Secretary was concerned about Catton's imminent retirement; he had no desire to commit the incoming commander to "a lot of detail he might want to change."²⁷ But, at Headquarters MAC, Shea opposed any delay and continued to push for a decision that would allow MAC to commit to the plan before Catton departed.²⁸ In mid-August they got the approval they had sought, and General Catton advised the airlines of the new policy. "Secretary Whittaker and I, in coordination with the Air Staff," he wrote, "have concluded that we will adopt for FY 74 an alternative procurement policy that uses contract airlift award dollars to help in amortizing the cost differential between a convertible and passenger aircraft. Every new convertible aircraft purchased by a CRAF carrier will receive [a]...bonus of 100 [percent] for the first 12 months following delivery, and a bonus of 50 [percent] each year thereafter until the profit on MAC business approximates the convertible cost differential."²⁹

General Catton retired and left Scott AFB and MAC on September 12, 1972, but the early responses to his August 18 letter had to be disappointing. The first, from Flying Tiger Line, was typical: "We don't believe the idea has a great deal of merit," wrote Robert Prescott, president of the line.³⁰ "We were quite shocked," wrote H. K. Howard of Saturn Airways, "to receive this sudden and abrupt departure." The new policy, he said, was "ill-conceived."³¹

The announcement caused such a stir among CRAF carriers that MAC's chief of staff circulated a memorandum, drafted by Shea's planners, providing an approved "MAC interpretation of the letter's meaning" and furnishing "an approved position from which a member of a MAC staff agency may discuss the CRAF Incentives letter."³² It did little, however, to check airline dissatisfaction. This policy was "incomplete and perhaps inequitable," said William T. Seawell of Pan American World Airways; it was "a grave error," wrote Richard M. Jackson of Seaboard World Airlines.³³

Gen. Paul K. Carlton, who now took command of MAC, watched the responses with growing concern. "Looks like a first class fight coming up," he told his chief of staff.³⁴ General Carlton had received his pilot wings and commission in the Army Air Corps in April 1942 and had flown B-17s and B-29s during World War II. After the war he joined the Strategic Air Command and spent most of his career with it, serving in several key positions with SAC headquarters and its numbered air forces and wings. Immediately before joining MAC, he had commanded the Fifteenth Air Force at March AFB, California.³⁵

"Paul, I certainly don't envy the situation you have walked into," wrote Prescott of Flying Tiger, "but I do beg you to delay this bonus incentive program until we discover the method of rewarding as it should be, i.e. from the government or from D.O.D. rather than [by taking business] from other carriers." He added: "I cannot believe that Congress intended that certain air carriers be required to pay [by receiving less MAC business] for the convertible aircraft that other carriers would acquire."³⁶ Thirteen of the twenty-one CRAF carriers responded to General Catton's announcement of the bonus award policy. Of the ten

who took a position, only three expressed strong support for the new policy—Overseas National, Trans International, and World Airways, and each of them had recently ordered new wide-body convertibles for which they hoped to gain the bonus. Seven staunchly opposed it—Flying Tiger, Capital, Saturn, Pan American, Seaboard World, Northwest, and TWA.³⁷

At the suggestion of some of the carriers, General Carlton invited the airlines' senior executives together to discuss the bonus award policy. That conference convened at Scott AFB on November 29, 1972. There, the plan that had been introduced in the August 18 letter was discussed in detail, and Carlton had an opportunity to assess, first hand, the views of the industry leaders. Only Continental Airlines joined the ranks of supporters.³⁸

By the beginning of January 1973, Carlton began to question the wisdom of the bonus award approach. "Why is MAC in the incentive business?" he asked his staff. "What are the legal implications of canceling the bonus?" And, "Could we include a plan for modifying a passenger aircraft into a cargo carrier?" His staff responded: In the first place, the House Armed Services Committee had recommended using such incentives to encourage the industry to acquire convertible aircraft. Second, despite the letter of August 18, 1972, no firm contractual offer had yet been made concerning the bonus award policy. Finally, the staff was already evaluating a Boeing proposal for its 747 that involved adding a side cargo door, cargo handling system, and strengthened floor.³⁹

Carlton's doubt now turned to resolute opposition. "I believe that we have complicated the system excessively," he told his staff on January 8, 1973. The results were not worth the complications. The bonus awards would give MAC little added leverage with the airlines and would have less in the future, as commercial airlift procurement continued to decline. Moreover, he pointed out, other government agencies—the Department of Transportation and the Civil Aeronautics Board—shared the responsibility to enhance the wartime support capability of the air transport industry. Carlton had decided that MAC should "draw back from complicated procedures." Frankly, he hoped to get rid of the incentive problem entirely. The best way to proceed, he said, was through programs administrated by the Department of Transportation, such as direct subsidies, guaranteed loans, or tax advantages.

Some airlines would object to dropping the bonus award, said Carlton, but he was now determined to pursue, with the Air Staff, some of the long-term incentives that MAC had suggested earlier.⁴⁰ On January 10, 1973, Carlton and Shea placed the issue before the Air Staff in Washington. The bonus award plan was "too little and too late," said Shea, who was now placed in the position of opposing the scheme he had conceived and championed. Only five of the twenty-one CRAF carriers favored the bonus plan—Continental, Trans International, World, Overseas National, and most recently Seaboard World Airlines—carriers which had recently ordered, or intended to order, new wide-body aircraft. Few other orders were anticipated, Shea pointed out. The other airlines had already taken delivery of most, if not all, of the wide-body aircraft they intended to purchase. "If we had put this incentive program into effect in 1967-68-69 or even 1970, we might have had some significant influence on the industry," Shea noted. "But now our timing is bad—thus, we recommend dropping the bonus proposal because of the obvious distortion in our award process with little to show for it." Shea reminded the Air Staff of the CRAF incentive study that MAC had completed the year before. "Our findings indicated that a direct one-time subsidy payment for convertibility features is a most attractive incentive.... We believe this should be a joint effort by DOD and DOT. The appropriation of funds should be administered by the Department of Transportation in response to Department of Defense-established requirements. This would replace the DOD effort, which merely reallocates a decreasing amount of MAC procurement dollars."⁴¹

A month later, in early February 1973, Carlton was back in Washington, this time bringing his message to Secretary of the Air Force, Robert C. Seamans, Jr.⁴² Again, Carlton recommended drawing back from the bonus proposal. He pointed out to Seamans that ten carriers, representing 79 percent of the long-range CRAF fleet, were now on record as opposing the plan.⁴³ In the meantime, four of the airlines that favored the bonus awards, had also appealed to the Secretary, urging approval of the proposed bonus awards. Equipment decisions, they pleaded, had been made "in reliance upon the proposed bonus credit" and "to change the incentive plan at this late date would be to breach a commitment" that they had relied on. That appeal had the desired effect; Seamans rejected Carlton's recommendation that the bonus award plan be abandoned.⁴⁴

All the while, interest in the bonus award plan was growing on Capitol Hill. In February 1973, Price's airlift subcommittee took a detailed look at the program. The Air Force supported the plan, the committee was informed, but that endorsement was somewhat half-hearted: "The incentive bonus seems to be the most promising course of action within our present authority," the committee was told, and "in any event, we [the Air Force] believe that it should be tried before other, more costly, proposals are considered."⁴⁵ In March, the committee reported in favor of the plan, but recommended two important changes. First, they recommended that the bonus apply only to any net increase in cargo capability—using the airline's cargo capability as of August 1972, when the plan was first announced, as the baseline. "The object of the plan," wrote Price, "is to increase the total cargo capability." The committee did not wish to pay the bonus for new cargo-capable aircraft which simply replaced old cargo-capable aircraft. Second, the committee recommended that the initiation of the bonus plan be delayed until July 1, 1974—the beginning of fiscal year 1975. This, noted Price, would allow other carriers to participate, if they would, by taking delivery of new aircraft early in the first year of the bonus program.⁴⁶

Despite this congressional action, most of the carriers, however, continued to oppose the bonus.⁴⁷ In light of this, the Air Staff took another look at the program.⁴⁸ As they did, some began to worry about getting "locked in" to the bonus program once it was put in place. "What happens if a workable alternative program should emerge during the five-year bonus period?" "How might implementation of the [bonus plan and some alternative program] be blended during any transition period?" Reports reached MAC headquarters in late August and early September 1973 revealing that the Air Staff was now somewhat split on the issue.⁴⁹

Encouraged by this turn of events, Carlton again entered the contest against the bonus awards. On September 17, 1973, he wrote the Air Force Chief of Staff, Gen. George S. Brown, regarding the bonus policy and again recommended against it. Instead, he argued, they should be seeking other methods to encourage airlines to increase the cargo-capability of their fleets. Brown responded in mid-October, but was noncommittal.⁵⁰

By this time, however, the bonus award issues—and all other more routine business—had been shunted aside as a result of the October 1973 attack on Israel by Syria, in the Golan Heights, and by Egypt, across the Suez Canal. It was clear from the beginning that an emergency airlift was the only means of providing the immediate resupply that beleaguered Israel would require, and the Military Airlift Command and the U.S. air transport industry were soon at the center of administration debates about how to accomplish that. In the meantime, Israel's El Al airline began its own airlift, devising a bulk-cargo-carrying capability in its seven jets (Boeing 707s and 747s) by stripping out the seats and galleys and shoring the floors with sheets of plywood.⁵¹

At first, defense officials hoped that the U.S. airlines would step in voluntarily, but the airlines were not eager either to invite an Arab boycott or to risk their planes in a war

that did not involve the United States. Finally, on October 13, 1973, the administration committed MAC to the task. To make more military aircraft and crews available, the airlines did take over much of the routine military airlift. MAC flew 567 missions and delivered over 22,000 tons of cargo, including ammunition, medical supplies, and tanks. The airlift ended on November 14, 1973, after the warring parties signed a cease fire.⁵²

In December 1973, as affairs returned to normal, General Carlton once again turned his attention to the bonus award problem. His staff, however, now urged against any additional opposition to the program. "Further MAC efforts to forestall implementation of the bonus policy," Shea advised, "might be contrary to our best interests and to MAC's relationship with the Chief, the Air Staff, and Congressman Price."⁵³ Senior Air Force civilian officials had earlier indicated to Price their willingness—even their intention—to implement the bonus plan, and Price had essentially concurred. Carlton, however, was not put off, for there had been key changes in the secretariat since then. Neither the new Air Force Secretary, John L. McLucas, nor the new Assistant Secretary for Installations and Logistics, Frank A. Shrontz, had committed themselves on the issue.⁵⁴ Carlton believed that the plan might yet be scuttled. "The bonus does not achieve the desired objective," he told his staff emphatically. "We need to simplify this whole contract business! And present new legislation for the CRAF! Go for a whole new package.... And keep it simple!"⁵⁵

General Carlton briefed Assistant Secretary Shrontz on the bonus issue on January 7, 1974. His presentation was an earnest appeal to abandon the bonus proposal and develop other means to build CRAF's cargo capability. At the conclusion of the briefing, Carlton left a proposed draft of the FY 1975 Determination and Findings (D&F)—the document in which Shrontz would resolve the fate of the bonus.⁵⁶ That draft, of course, reflected Carlton's strong recommendation not to implement that policy.⁵⁷

The general's unwillingness to abandon his opposition to the bonus plan was met with consternation in the MAC staff. "He's going to lose on this," said Shea. "I don't believe that we can easily get out of the bonus." Others were concerned that Carlton's opposition to the bonus issue was having an unsettling effect in Washington. This constant churning of the subject so troubled Shrontz that he decided to come to Scott AFB to talk with Carlton again. When word of that visit reached MAC headquarters, the staff concluded that Carlton had lost. "I figured it would be that way," lamented one MAC staff officer. "We just can't proliferate the atmosphere with a bunch of changing proposals and never let them have a chance to simmer down."⁵⁸

Shrontz arrived at Scott on February 4, 1974 and met with General Carlton for a good part of the day. "Your willingness to address our mutual problems in a candid manner is extremely helpful," wrote Shrontz to Carlton after the meeting. The Secretary, however, had gone to Scott to end the opposition that General Carlton had continually raised to the bonus award program. In his note to Carlton, Shrontz spoke of "the consensus reached during our meeting." They should now move immediately to "finalize the interim bonus program," Shrontz added. To speed that process along, he assigned members of his staff to work with MAC.⁵⁹

By mid-March 1974, the FY 1975 Determinations and Findings had been revised and signed by Secretary Shrontz—this version authorizing the bonus award program. Shortly thereafter, MAC issued a request for proposal (RFP) for airlift services for FY 1975.⁶⁰ "It is believed," wrote Shrontz to House Armed Services Committee Chairman F. Edward Hebert (D-La.), "that a commitment does exist to offer substantially the proposed plan as a result of the Air Force letters and presentations in 1972."⁶¹ The plan he approved very largely did that, although he specified that the bonuses "shall not be given to any carrier for any part

of the one-year or five-year period of eligibility during which that carrier's cargo capacity allocated to CRAF is less than the cargo capacity it had on April 1, 1973." Bonus awards of 100 percent for twelve months were to be paid for all cargo-capable aircraft delivered between August 18, 1972 and December 31, 1975. Convertible aircraft would receive an additional bonus of 50 percent in each of the four following years.⁶²

The Department of the Air Force later extended the program, but then brought it to a close on August 1, 1979 (effective for deliveries up to October 1, 1979). Despite the extension, General Carlton's contention that the plan would not produce the desired results seems essentially correct. It did not induce any scheduled carrier to purchase convertible aircraft except Continental, which ordered eight convertible DC-10-10s in late 1972 and early 1973. Even with that, there is no evidence to suggest that the bonus award program prompted any airline to purchase either cargo aircraft or convertibles that they would not have otherwise ordered.⁶³

It is remarkable that the bonus award plan was implemented despite the very obstinate objection of the commander of MAC, General Paul K. Carlton. But in large part, the decision to commit to the bonus plan had been made before Carlton arrived—even before the August 19, 1972 letter announcing the program was sent. In fact, the Air Force secretariat had been sold on the plan in the spring and summer of 1972 by the combined efforts of MAC's John Shea and Whittaker's Deputy for Transportation and Communications, John W. Perry. These two had argued simply that something had to be done and that, of the incentives that could be tried without further authority from Congress, the bonus was the most likely to succeed.⁶⁴ Within the secretariat, General Catton's August 19 letter was viewed as a commitment by the department to the bonus program. Air Force Secretary Robert C. Seamans, Jr. further fixed that commitment when, on April 4, 1973, he advised the House Armed Service Committee's Military Airlift Subcommittee that the bonus award plan would be executed when MAC negotiated its FY 1975 airlift contracts. Despite personnel changes, once having thus committed itself, the Air Force secretariat simply could not or would not back down, despite Carlton's arguments against the plan.⁶⁵

CRAF Enhancement

In the meantime, as the drama of the bonus awards program played itself out, MAC became engaged in a second effort to encourage the airlines to purchase cargo-capable aircraft. In the fall of 1972, MAC's new commander, Gen. Paul K. Carlton, watched with concern as the air transport industry reacted negatively to the bonus award policy that had been announced just days before he arrived. By year's end, he was convinced that such awards were a mistake. For over a decade, MAC had tried to use the award of its airlift business to influence the CRAF carriers' purchase of aircraft, but that had proved ineffectual. Despite these efforts, the number of cargo-capable aircraft in the fleet had continued to decline. (See Table 7.2) Moreover, because the number of dollars spent to purchase commercial airlift services was declining, MAC was losing any leverage it might ever have had.

General Carlton favored inducements outside the procurement award structure, even though these would require legislative approval.⁶⁶ "Could we include a plan for modifying a passenger aircraft into a cargo carrier?" he asked his staff, in January 1973.⁶⁷ The original plan was designed to encourage the CRAF airlines to purchase wide-body convertibles instead of passenger-only aircraft. The main features were that the government would pay the cost differential between a passenger jet and a convertible, and that the government would cover

any additional operating costs that resulted from the aircraft's extra weight.

The carriers were then asked if they would be willing to participate in modifying the wide-bodies in their fleets. The majority responded that the modifications would be acceptable, if the government would pay all of the modification costs and provide a one-time payment for added operating expenses related to the modifications. Under these circumstances, as many as 141 aircraft might be made available for modification—67 Boeing 747s and 74 DC-10-10s or L-1011-1s.⁶⁸

In May 1974, the administration submitted the program to Congress, asking \$19 million in a supplemental request for FY 1974, and \$155 million for FY 1975. In all, the program was projected to cost nearly \$1 billion by the end of FY 1979. Both requests were rejected. The Senate Armed Forces Committee complained that MAC had not satisfactorily addressed the program's requirement, its feasibility, its availability, or its cost effectiveness. The committee instructed the Air Force to resolve these issues "adequately" before presenting the program again.⁶⁹ Some committee members believed, said Senator Barry Goldwater (R-Ariz.), that the proposed modifications would provide more benefit to the airlines than to Defense, and that, whenever they used that added capability for commercial purposes, they should be required to reimburse the government.⁷⁰

"The Congress mystifies me on the airlines," General Carlton later said. "They absolutely mystify me. They will not put a dollar on the line that is supporting an airline operation. They think [the airlines are full of] well-to-do rich men...[who] ought to be [operating CRAF as] their patriotic cause." The real problem, said Carlton, was our "inability to convince the Department of Transportation and Congress that we need this standby capability, we need these mods, and that this is the best way to provide it." "I was not good enough a salesman," he lamented.⁷¹

In late November 1974, the MAC team carried a draft request for proposal (RFP) detailing the CRAF enhancement scheme to Air Force headquarters for review and comment. The program offered three options for the modification of either new or existing wide-bodies. Under the first, a full payment option, the government would pay the whole cost of aircraft modification, provided the plane was subsequently used only in passenger service.⁷² Carriers who wanted to conduct cargo operations with the aircraft could choose from the second or third options—government/carrier cost-sharing options. Under the second option the government would pay half the cost of modifying a passenger aircraft for freight operations. Under the third, the government would pay roughly \$3 million (half the cost of a typical full modification) toward the cost of a new freighter or convertible. Whichever option was chosen, the carrier would be subject to a scheduled payback to the government if the plane was sold. The RFP invited the commercial air carriers to identify the types and numbers of wide-body passenger aircraft that they would make available for DOD funded modification, including aircraft on hand, ordered, or planned as future acquisitions. Besides the program to modify passenger aircraft, the RFP also outlined a cost sharing arrangement that would apply in the event corporate planning included acquisition of pure freighter wide-body aircraft.⁷³

After a review by the Air Staff and the secretariat, the MAC team took the draft to the carriers to solicit their comments. Then, on December 16, 1974, they submitted it to nineteen civil air carriers. The solicitation was, of course, contingent upon Congressional approval and funding. Presumably, it was submitted in advance of this approval in anticipation that positive responses would bolster the case for the program. This approach became a matter of routine. Early in January 1975, Air Force headquarters directed MAC to modify the RFP to offer carriers an additional annual payment of \$50,000 for each modified passenger aircraft, as an added incentive for participation.⁷⁴

By the end of January 1975, six carriers had responded, offering a total of ninety Boeing 747s for modification: American, ten; Flying Tiger, seven; Pan American, thirty-two; Seaboard, four; TWA, nineteen; and United, eighteen. The airlines planned to operate seventy-seven of the modified aircraft in passenger service, and the balance as freighters. Most airlines chose one of the two modification options that had the least penalty to their passenger operations. The first was the nose cargo door with minimal floor reinforcement and a treadmill kit for vehicle transport. The second was the side cargo door with permanent freighter floor. To bring the total to the 110 (747-equivalents) needed by the Air Force, MAC again solicited the carriers, but without further success. Despite that, the addition of ninety cargo-capable aircraft to the CRAF fleet would have been a huge success by any standard.⁷⁵

Signs of difficulty in the program, however, began to emerge in January 1975. The two discrete centers of program management—General Carlton and John Shea at MAC, on the one hand, and Secretary Shrontz and Maj. Gen. Paul F. Patch, the Director of Transportation at Air Force headquarters, on the other—began to generate conflicting interpretations of program details. It was reminiscent of the feud over the bonus awards program two years before. This time, however, the churning of the program threatened to derail it.⁷⁶

The first incident involved the cost-sharing program. MAC, in its letter transmitting the RFP, had advised the carriers that freighter or convertible aircraft, which the government partially financed through cost-sharing, could (if offered to CRAF) earn peacetime mobilization value award points as normal cargo aircraft but would not be eligible for the (one year) 100 percent bonus award. Although the Air Staff and the Secretariat had earlier reviewed the letter and the RFP, they suddenly reversed themselves on the issue in February, maintaining that the cost-sharing aircraft should be excluded from DOD peacetime business. In fact, without advising MAC, Shrontz had already gone public with the issue—telling the Air Transport Association and the National Air Carriers Association that the cargo capability that was to be created by government funds would not be allowed to compete with private investment for government business. When Shrontz and Patch, in Washington, proved unwilling to relent, MAC was forced to issue a letter modifying the original RFP, eliminating the peacetime award credit for cost-sharing aircraft. On March 7, 1975, Seaboard World Airways indicated that due to the change, it was reevaluating its position with respect to the four freighters it had intended to acquire through the cost-sharing plan.⁷⁷

A second change followed on the heels of the first. On March 12, 1975, the Air Staff advised MAC that their position with respect to award credit for modified passenger aircraft had also changed; now carriers would elect each year to either retain the normal peacetime award credit or accept the \$50,000 yearly incentive payment—but not both. When the carriers were informed of this change, Pan American said that it too was reconsidering its offer to participate in the program, and that it was unwilling to commit its aircraft unless they received both the award credits and the annual \$50,000. On April 3, 1975, Flying Tiger followed the example of Seaboard and Pan American, and withdrew its commitment of seven 747 freighters under the 50 percent cost-sharing program.⁷⁸

General Carlton was exasperated. Shrontz, Patch, and the Air Staff were undermining the effort by constantly changing the ground rules and whipsawing those carriers that had offered aircraft for modification. Three carriers, representing almost half the aircraft committed to the enhancement program were threatening to withdraw. Even if that did not scuttle the program, it would raise difficult questions and almost surely complicate the already difficult relations with Congress concerning the effort.⁷⁹

On April 5, 1975, Carlton fired off an irate message to the Air Force Vice Chief of

Staff, Gen. Richard H. Ellis, protesting the conflicting directions on the CRAF Modification Program. Either the Air Force should provide clear and decisive rules for MAC's negotiations with the carriers, Carlton advised, or they should identify a single agent to assume full responsibility for all direct contact with the carriers and manufacturers.⁸⁰

General Patch was tasked to respond to Carlton's protest. Patch conceded that the RFP, as it had been modified, "would penalize carriers who are participating while at the same time providing advantages to carriers who have chosen not to participate." He then itemized a list of alternative RFP options and asked the MAC staff to "develop data that will show specific gains and losses for the individual carriers" for each option. Patch's list included a MAC proposal that would give full award credit and the annual \$50,000 fee to modified passenger aircraft and give partial award credit to cost-sharing aircraft in proportion to the investment that the carrier had made—recognizing that even with the government cost-sharing, the carrier paid approximately 93 percent of the price of the aircraft.⁸¹

After considering the information that had been supplied by MAC, Secretary Shrontz selected an option designed to please as many of the various CRAF constituencies as possible. For passenger aircraft that were modified and returned to passenger service, he offered both mobilization value award points and the \$50,000 annual incentive fee. This would satisfy the large carriers, such as Pan American, whose aircraft largely fell into that category. By denying award credits (and therefore government business) to the cost-sharing aircraft that would be employed as cargo carriers, he wooed the support of the supplemental carriers such as World, Trans International and Overseas National, who already owned convertibles and would not be acquiring more, and who had at first opposed the program when it appeared that additional cargo haulers would be competing with them for a share of the government market.⁸²

The MAC staff raised objections, but Shrontz was adamant. "I realize you have reservations about parts of the program," he wrote to MAC's principal staff, "but I can assure you that it was developed after careful consideration of all the factors." He then directed them to make the appropriate amendments to the RFP.⁸³ In a letter to the carriers, Secretary Shrontz called the changes "an effort to structure the proposed CRAF modification program to be fair and equitable to all carriers." "Our goal," he wrote, "was to reward carriers that have supported and will continue to support the needs of the DOD...[and] to provide some advantages for the carrier who provides added capability through the modification program."⁸⁴

On July 1, 1975, MAC dispatched a message to the CRAF carriers making the required modifications to the RFP, and requesting revised proposals by July 25. New proposals were received from American, Pan American, Flying Tiger, Seaboard, TWA, and United, now offering a total of 81 Boeing 747 aircraft for the modification program. The modifications (and cost-sharing) were projected to cost \$253.7 million. The associated costs—payments for downtime during modification, ferrying expenses, recertification, modification kit storage, reimbursement for increased operating expense, and the per annum incentive of \$50,000 per aircraft—added another \$217.5 million to the cost, bringing the program total to \$471.2 million.⁸⁵ (See Table 7.6)

Table 7.6

**CRAF Modification Proposals
(as of July 28, 1975)**

Carrier	Type Aircraft	Type Modification	Total Estimated Cost ¹ 10 Yr Basis (\$M)	
			Assoc Cost	Mod Cost
American	8 B-747	M-2B ²	\$ 10.8	\$ 45.0
	2 B-747	M-2B ³		6.2
Pan American	30 B-747	M-4 ⁴	93.9	84.0
	2 B-747	M-2B ⁵		6.2
Flying Tiger	7 B-747	M-2B ⁶		21.6
Seaboard World	4 B-747	New ⁷		12.3
TWA	10 B-747	M-4 ⁸	59.1	28.0
United 50.4	18 B-747	M-4 ⁹	53.7	
	<u>81 B-747</u>		<u>\$ 217.5</u>	<u>\$ 253.7</u>
			Grand Total ---	\$ 471.2

Source: Background Paper, Brig Gen John W. Collens (DCS/Plans, MAC), Subject: Status of CRAF Modification Program, March 29, 1979, CRAF Papers, Box 11, Folder: CRAF Modification & Enhancement 1970 (I), AMC/HO.

¹ In CY 1975 dollars.

² Side cargo door and permanent freighter floor, to be operated in civil passenger service.

³ Side cargo door and permanent freighter floor, including power loading system. Cost-share aircraft to be operated in civil cargo service.

⁴ Nose cargo door with minimal floor reinforcement and treadway kit for vehicle transport.

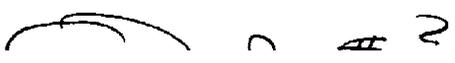
⁵ See note 3.

⁶ See note 3.

⁷ New cost-share freighter aircraft with nose and side door.

⁸ See note 4.

⁹ See note 4.



At first, Boeing balked at contracting or subcontracting directly with the government for the modifications. A long time government contractor, the company was hesitant, in this case, to accept the normal DOD procurement procedures and pricing policies. Boeing pointed out that the full modification had already been offered and sold commercially. The company worried that to offer the modifications to CRAF carriers at a reduced government price would jeopardize their relationship with other customers. They could only provide it now on a straight commercial contract at their cataloged price. It was late August 1975 before the two sides came to an agreeable, if tentative, solution. The Air Force consented to sign contracts with the individual airlines which, in turn, would subcontract with Boeing for the modification work, and agreed to pay the commercial catalogue price for the full modification (\$6,168,226 per aircraft), obviating the need for cost and pricing data. For the mini-modifications, which were not available commercially, Boeing then assented to all normal government contract pricing practices (including the provision of cost and pricing data). That price was estimated to be \$2.8 million per aircraft. To protect the commercial customers who paid full price for their modifications, Boeing also insisted on prohibiting the use of the "mini-mod" aircraft as commercial freighters until the owner had paid a one-time surcharge of \$400,000 for the plane in question—an obligation that would flow with the title.⁸⁶

Having defined the program through the RFP process and contract negotiation, there remained only the problem of gaining congressional authorization and funding. That, however, was to prove a major undertaking; the Congress had refused to fund the program in 1974 (FY 1975) and refused again in 1975 (FY 1976) and 1976 (FY 1977).⁸⁷ The total cost of the program (over five years) had been estimated at \$471.2 million in 1975, but, by 1976, that had risen to \$492.4 million.⁸⁸ (See Table 7.7)

It was the U.S. commitment to a rapid and sizeable reinforcement of NATO in the first days of a war in Europe, that generated the most significant airlift requirements. It was against this scenario that U.S. strategic airlift was most deficient in cargo capability. And, it was this requirement that drove CRAF's managers in the Military Airlift Command to expand the program's cargo airlift through the bonus award program and the CRAF enhancement effort. It had also prompted them to consider other alternatives. Among these were a NATO sponsored reserve air fleet and a makeshift solution that would allow existing U.S. passenger aircraft to be quickly and cheaply converted for limited cargo duty.

Table 7.7
CRAF Modification Project Budget Proposal
Fiscal Year 1977¹
(millions \$)

Fiscal Year	1977	1978	1979	1980	1981	1982	Total
Budget	\$29.3	97.9	61.6	254.1	49.5	0	492.4
Full Mods	2	5	1	10	1	0	19
Mini Mods	2	14	8	30	4	0	58
New Aircraft	2	2	0	0	0	0	4
Total	6	21	9	40	5	0	81

Note:

¹ CRAF Enhancement first appeared in the defense budget in the FY74 supplemental (\$19 million). In FY75 defense asked for \$155 million for the program. In FY76 defense asked for essentially the same program as in FY77 (above), except that the FY77 budget figures were adjusted upward "for economic escalation" which, presumably, meant inflation.

Source: Background Paper, Brig Gen John W. Collens (DCS/Plans, MAC), Subject: Status of CRAF Modification Program, March 29, 1979, CRAF Papers, Box 11, Folder: CRAF Modification & Enhancement 1970 (I), AMC/HO.

It was the shortfall in the strategic airlift necessary to support fully the U.S. commitment to NATO, and the continuing difficulty in getting Congress to fund the CRAF enhancement program, that prompted Air Force and Defense officials to look to our NATO allies for assistance.⁸⁹ In late 1975, serious interest in a "NATO CRAF" began to develop in Europe. At the NATO level, action was initiated through an Ad Hoc Working Group of the NATO Civil Aviation Planning Committee (CAPC) which coordinated emergency civil aviation planning actions.⁹⁰ In 1977, the NATO Council directed the CAPC to establish a civil airlift pool that would be available to help in the deployment of U.S. forces to Europe in an emergency.⁹¹ (See Table 7.8) Still, by the end of 1979, only the Netherlands, the Federal Republic of Germany, Greece, and Denmark were committed to the program.⁹²

Table 7.8

**NATO Long-Range Commercial Aircraft
(July 1, 1978)¹**

<u>Country</u>	<u>B-747</u>	<u>DC-10/L-1011</u>	<u>DC-8/B-707</u>	<u>Other</u>	<u>Total</u>
Belgium	2	3	12	-	17
Canada	15	23	45	-	83
Denmark/Norway	4	5	16	-	25
France	28	6	44	4	82
Germany (FRG)	14	16	22	-	52
Greece	2	-	6	-	8
Iceland	-	-	6	-	6
Italy	5	8	10	-	23
Luxemborg	1	-	7	-	8
Netherlands	12	11	18	-	41
Portugal	2	-	12	-	14
Turkey	-	2	-	-	2
United Kingdom	26	24	56	21	127
Totals	111	98	254	25	488

Source: Illustration III-4, "NATO Long-Range Aircraft Potential," in Hist, MAC, History of MAC, January - December 1978, p. 214, AMC/HO.

Notes:

¹ Figures include known aircraft on hand and firm orders.

Similarly, frustrated by the possibility of an indefinite Congressional refusal to fund the CRAF modifications, General Carlton, in late 1975, began to consider an "El Al" option (or "Plywood CRAF") to achieve at least an interim increase in U.S. cargo capability. The airlift by Israel's El Al airline, during the October 1973 war between Israel and Egypt and Syria, had shown that large quantities of bulk cargo could be moved on passenger aircraft with little or no alterations. The so-called "El Al" modification had involved merely removing passenger seats and conveniences, putting plywood on the floor, and using the seat tracks to secure hand-loaded cargo with standard cargo nets.⁹³ "If we accept the premise that additional civil bulk cargo capability will be required in scenarios calling for strategic airlift resources," wrote Carlton to the Air Staff, "such an interim modification is one avenue of enhancing, at relatively small cost, our emergency bulk cargo airlift capability."⁹⁴

Air Force Chief of Staff Gen. David C. Jones had suggested this approach in 1974 after Congress had failed to appropriate money for CRAF modifications when the program was first presented. In April 1975, General Carlton contacted the Air Force Vice Chief of Staff, General Ellis, to see if the chief was still interested in such a proposal. He laid out several scenarios suitable for the "El Al" modification and asked if the Air Force was really interested in developing this as a short-term solution to the cargo airlift shortfall.⁹⁵ In August 1975, MAC forwarded a draft concept paper entitled "Plywood CRAF" to the Air Staff. It called for twenty-five "Plywood CRAF" sets (plywood, cargo nets, straps, and fasteners) to be installed

in B-747 passenger aircraft during CRAF Stage III—essential for situations in which national survival might be threatened.⁹⁶

Headquarters Air Force approved the "Plywood CRAF" solution for limited application in 1976. Both United and American Airlines offered aircraft, and a total of twenty-six kits were produced—eighteen for United and eight for American. After some debate, the Air Staff decided that the job of fabricating the kits could be done "in-house." The task was turned over to the base wing at Travis AFB, California, which produced twenty-six kits. All of this was done at a total cost, for the twenty-six kits, of less than \$240,000, which was paid out of Operating and Maintenance funds without the necessity of going to Congress.⁹⁷

In 1977, as MAC celebrated the 25th Anniversary of CRAF, the fortunes of the CRAF enhancement program seemed to improve. The FY 1978 Defense budget contained a request for a modest \$15 million to modify CRAF aircraft. At the same time, they requested another \$15 million for FY 1979. That amount, based on earlier cost estimates (\$7.5 million for a full modification, and \$3.8 million for a partial conversion), was to provide for cost-sharing modifications (the government and the airlines would share the cost equally) for four new aircraft each year. The Congress preferred a more cautious approach and cut the appropriation to \$7.5 million—earmarked for a single government funded prototype to verify cost and contracting concepts. It was a modest start indeed; still, program officials seemed to have reason for celebration.⁹⁸

Any elation was short-lived, however. When MAC went back to Boeing, it discovered that the \$7.5 million would not even begin to cover the cost of modifying a single aircraft. The earlier estimates had assumed a continuing modification program that would include scores of aircraft. In those calculations, Boeing had amortized the start-up and other one-time costs over a large number of aircraft. In early 1978, Boeing was asked to confirm the cost of modifying a single aircraft. With appropriations for the modification of any additional aircraft uncertain, Boeing included all of the nonrecurring program costs in their estimate. In addition, inflation of fuel costs had increased operating costs—a lump sum payment included in the final estimate. In March, the airplane builder calculated the single plane cost at between \$19.9 and \$23.0 million.⁹⁹

The high estimated cost of the modification, a resurgence of new aircraft orders by commercial carriers, and pressure from both the staff of the Senate Armed Services Committee and DOD, caused MAC, in mid-1978, to restructure the program—adding the desired military cargo features only to new wide-body passenger aircraft while they were under construction. Not only would this avoid the costs associated with down-time of working aircraft, it would put program money into aircraft with a longer remaining life span, substantially increasing the cost effectiveness of the program.¹⁰⁰

In the FY 1979 appropriations, however, the CRAF enhancement program got only another \$7.5 million to be combined with the appropriation of the year before—a total of \$15.0 million which was now to be spent on a new production aircraft.¹⁰¹ But, with just \$15 million, MAC could not even complete the prototype, and the program languished for another year. Then, in 1979, Congress added another \$38.6 million for the program, bringing the total available for CRAF enhancement to \$53.5 million.¹⁰²

In January 1979, with the \$15 million in hand and brighter prospects for continued funding, MAC had issued an RFP for the first CRAF enhancement contract. In response, Braniff immediately offered a Boeing 747, and others showed interest, assuming added funds became available. The program stalled again, however, when the carriers decided that with the volatility of fuel prices, they could not accept a lump-sum payment for the future additional operating costs.¹⁰³

On June 13, 1979, Deputy Secretary of Defense Charles W. Duncan wrote to Senator John Stennis (D-Miss.) advising him of the airlines reluctance to agree to the lump sum payment—a provision his committee had insisted upon. Stennis replied on August 21, 1979, saying that it was premature to abandon the one-time payment idea. "It was and still is the Committee's view not to bind the Defense Department to large annual subsidy payments for this capability," he noted. Then he added: "Something should be done with reasonable funding, voluntarily or involuntarily if necessary, to ensure this new civil air fleet can be reasonably used for emergency military cargo purposes." Even that none-too-subtle threat failed to move the carriers, however.¹⁰⁴ W. Graham Claytor, Jr., who had recently replaced Duncan as Deputy Secretary of Defense, wrote to Stennis in September 1979, reiterating the department's concern "that the continued requirement that participating carriers accept a lump-sum payment without recourse for unpredictable future fuel cost escalations may seriously handicap our ability to induce industry participation in these contracts." Fuel costs had risen over 500 percent since 1970, and that rate of increase showed no signs of abating. "We need the latitude to investigate other fuel compensation options, such as Government-provided fuel, with the potential airlines participants," he added. "We urge you to reconsider the restrictive language in your Report with a view to permitting the Department of Defense flexibility in resolving this fuel pricing problem with industry."¹⁰⁵

Senator Stennis referred Claytor's letter to the Subcommittee on Procurement Policy and Reprogramming, which held hearings on November 30, 1979. Gen. Robert E. Huyser, who had assumed command of the Military Airlift Command from Gen. William G. Moore, Jr. in July 1979, testified concerning the deadlock over compensation for added fuel costs. Huyser, like most of his predecessors, had a bombardment background. He had entered the Army Air Corps in 1943 and had flown B-29s in the Southwest Pacific until the war's end. Through the years, he served in many capacities in Strategic Air Command and in the numbered bombardment wings. In 1972, he became Director of Plans, and later Deputy Chief of Staff for Plans and Operations, at Headquarters, USAF. Immediately before coming to MAC, General Huyser had served as Deputy Commander in Chief of the United States European Command.¹⁰⁶ In his testimony before the subcommittee, Huyser enumerated three alternatives to rectify the fuel cost dilemma. First, DOD could reimburse the airlines annually for the actual cost of the extra fuel. Second, the government could give the companies enough fuel each year to compensate for the extra consumption. Or, finally, the Air Force could pay the airlines a lump sum for the projected cost for the entire sixteen years of the contract and adjust the payment based on actual fuel prices during the life of the agreement.¹⁰⁷

In December 1979, the impasse was broken. "Given the testimony that we have recently received on this matter," wrote Stennis to Claytor, "it appears necessary to modify the lump-sum approach to contracts.... Accordingly, the Air Force should be allowed to obtain contracts for the CRAF Enhancement program within the bounds of the three specific options that General Huyser presented."¹⁰⁸

Nearly seven years had passed since the inception of the CRAF enhancement concept, and yet, by the end of 1979, MAC had not modified a single wide-body passenger aircraft as a result of the program. Still, by the end of December 1979, the CRAF Enhancement Program had finally been defined in a way that seemed acceptable to the airlines, the Congress, and the Air Force. Furthermore, the prospects for getting the program underway in the immediate future were more promising than ever before.

Summary and Analysis

If, in the 1970s, MAC's goal concerning the Civil Reserve Air Fleet was to increase the emergency wartime capacity, then the efforts toward that end must be judged a failure. In fact, between 1970 and 1979 the cargo airlift capability of CRAF actually declined some 2 percent, from 14.79 million ton-miles per day (MTM/DA) to 14.45 MTM/DA.¹⁰⁹ (See Table 7.2) CRAF had always been short of cargo aircraft, but strategy-driven increases in requirements had, by the early 1970s, made the situation critical. Despite substantial increases in the MAC fleet, with the introduction of the C-141 in the 1960s, it was essential to increase the cargo-capability of CRAF.

From 1973 to 1979, two major programs were proposed by the Military Airlift Command to encourage the airlines to purchase cargo-capable wide-body aircraft. The first was a bonus award plan designed to offset the extra cost of those aircraft through the profits on the additional MAC airlift business. The second program to enhance CRAF proposed simply to pay outright the cost of adding convertibility to aircraft—either existing or under construction—which were to be used subsequently in passenger service. It also proposed to pay a share of the cost of other cargo-capable aircraft—both freighter and convertible—which were to be used in cargo service. Both programs had their champions and their opponents among the important CRAF constituencies—the airlines, the Congress, and the Pentagon. Moreover, both programs became entangled in internal Air Force politics.

The bonus awards package that was announced in August 1972 was put into place on July 1, 1974 and continued through August 1, 1979.¹¹⁰ It did not, however, produce the desired results. There is no evidence that the bonus award program prompted any airline to purchase either cargo aircraft or convertibles that they would not have otherwise ordered.¹¹¹

MAC's CRAF modification or enhancement plan seemed to have more promise. It was designed to encourage the CRAF airlines, through direct government payments, to purchase wide-body convertibles instead of passenger-only aircraft. Still, it was all that the Military Airlift Command could do—in the years from 1973 through 1979—to structure a CRAF enhancement program that would satisfy MAC, the Air Staff and secretariat, the Congress, and the air transport industry.¹¹²

The difficulties that MAC experienced—with Headquarters, Air Force, with the Congress, and with the air transport industry—in coordinating CRAF programs, suggested that the decade ahead might be a difficult one. Still, the CRAF enhancement project—which was the most important element in MAC's plan to increase the emergency airlift capability of the airlines—was poised to move from concept to execution, and that seemed to bode well.

Endnotes

1. Ltr, Lewis E. Turner (Acting Asst Sec AF for Installations and Logistics) to Melvin Price (Chair Mil Airlift Sbcmtc HASC), Feb. 22, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
2. Hist, MATS, "Military Air Transport Service, Jul. 1972-Jun. 1973," I: 213-14, AMC/HO.
3. Futrell, II: 467-68; Henry Kissinger, *White House Years* (Boston: Little, Brown & Co., 1979), p. 391. Cited hereafter as Kissinger.
4. Futrell, II: 468; Kissinger, pp. 392-94.
5. Kissinger, pp. 402, 938-48.
6. Futrell, II: 494-508. These prepositioned stocks, or POMCUS—Prepositioned Overseas Material Configured to Unit Sets, are maintained in climate-controlled warehouses and packaged to provide units with everything they would need except individual equipment and individual weapons. POMCUS stocks would be issued to units as they arrived by air, usually in CRAF passenger jets. A tank battalion, for example, would find a "unit set" with everything from mess trucks, stoves and garbage cans, to tanks and tank retrievers. A maintenance organization would find all the trucks, tools, test sets, and tentage it might require to perform its particular mission.
7. Testimony, Harold Brown, FY 1979 DOD Appropriations Hearings, 1978, quoted in Futrell, II: 507.
8. *Ibid.*, II: 507-8.
9. The Department of Transportation was created by Department of Transportation Act in 1966. The first Secretary of Transportation was Brockman Adams who took office in Jan. 1967. The new department absorbed transportation related activities from throughout the government, including the Federal Aeronautics Agency (which became the Federal Aeronautics Administration), the Federal Railroad Administration, the Coast Guard, and the activities in the Department of Commerce that had been assigned to the Under Secretary of Commerce for Transportation. The new Department of Transportation also assumed the responsibilities that had previously fallen to the Defense Air Transport Administration and then to the Office of Emergency Transportation. Under DOT the Office of Emergency Transportation, within the Office of the Secretary, continued to coordinate CRAF related activities.
10. BP, John F. Shea (Asst DCS/Plans, MAC), Subj: Summary of Actions, Emergency Cargo Airlift Capabilities Study, Nov. 5, 1973 in Hist, MAC, "Military Airlift Command, Jul 1973-Jun 1974," Vol. VI (Supporting Documents) , AMC/HO.
11. The only exception to this has been the phenomenal growth of the package express market. Federal Express started operations on Apr. 17, 1973, guaranteeing overnight delivery service to any part of the United States. Still, most of this growth occurred in the decade of the 1980s. United Parcel Service and others which joined Federal Express, were relative late comers. The relationship that developed between CRAF and this sector of the air freight market is explored in Chapter 8.
12. Briefing, John F. Shea (Asst DCS/Plans MAC), FY 1974 CRAF Policies, Jan. 10, 1973, CRAF Papers, Box 27, Folder CRAF Policies FY 1974, AMC/HO.
13. Davies, pp. 443-46; Derek Avery, ed., *Modern Civil Aircraft* (Stamford, Conn: Longmeadow Press, 1988), pp. 100-1. The Canadair CL-44s were represented in CRAF from 1961 through 1969: 1961 (1), 1962 (18), 1963 (21), 1964 (21), 1965 (23), 1966 (22), 1967 (21), 1968 (17), 1969 (2). [Rpt, MAC, Airlift Service Industrial Fund, Commercial Augmentation, c. Jun. 1970, Hist, MAC, "Military Airlift Command, Jul. 1969-Jun. 1970, Vol. IX (Supporting

Documents), AMC/HO.]

14. Davies, pp.445-46; Briefing, John F. Shea (Asst DCS/Plans MAC), FY 1974 CRAF Policies, Jan. 10, 1973, CRAF Papers, Box 27, Folder CRAF Policy FY 1974, AMC/HO.

15. MFR, Maj. Clarence Black (DCS/Air Trans Staff MAC), Subj: Bonus Award for Wide-Bodied Cargo-Capable Aircraft, Jun. 5, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

16. Those carriers who did not wish to seek peacetime airlift contracts with MAC, could provide aircraft for Stage III CRAF by means of a CRAF call contract.

17. Easy to acquire passenger aircraft had an incentive factor of 40 percent (0.4). More scarce cargo aircraft were given an incentive factor of 80 percent (0.8). Convertible aircraft were scored at 100 percent (1.0). The preference for convertibles over

freighters was straight forward. Convertibles that were purchased instead of passenger aircraft (and used in passenger service) actually added cargo-capacity to the fleet. By contrast, the purchase of pure-cargo aircraft, was generally governed by the economics of the freight hauling business (including the business MAC provided), and, given the slow growth of the airfreight business, new freighters usually replaced older ones.

18. There was one additional restriction in calculating a carriers share of the airlift business. No more than 10 percent of a carrier's total mobilization value awards could be earned from passenger aircraft. [Briefing (slides), Lt. Col. Kenneth W. Durham (DCS/Plans staff MAC), CRAF Aircraft Mobilization Values, Oct. 6, 1972, CRAF Office, AMC; BP, John F. Shea, Subj: CRAF Planning Concepts, Oct. 30, 1973, CRAF Papers, Box 14, Folder IV-13, AMC/HO.]

19. BP, John F. Shea, Subj: CRAF Planning Concepts, Oct. 30, 1973, CRAF Papers, Box 14, Folder IV-13, AMC/HO; AWC Research Rpt, Lt. Col. Ronald K. Sable, "Civil Reserve Air Fleet (CRAF): A Primer for Defense and Industry," Apr. 1979, pp. 34-35, M-U43117 S117c, Air Univ Lib.

20. Rpt, [MAC], Award Incentive for Cargo-Capability, [c. Apr. 1972], attached to Memo, John F. Shea (Asst DCS/Plans MAC) to Comd Sec, Subj: Mr. Whittaker's (SAF/IL) Ltr, 24 Mar, Apr. 5, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Award), AMC/HO.

21. Biography, Dir of Info MAC, "Mr. John F. Shea, SES-4," Aug. 1979, AMC/HO. Shea continued as Assistant DCS/Plans, MAC, until his retirement in 1980.

22. BP, John F. Shea, Subj: Alternative Procurement Policy, Feb. 9, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

23. *Ibid.*

24. Ltr, Arthur W. Purkel (Chief Contract Airlift Div, Dir Procurement MAC), to DCS/Logistics, MAC, Subj: Alternative Procurement Policy, Feb. 29, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

25. Memo, Col. Gordon C. Preller (Dir, Studies and Anal MAC) to XPR [Plans MAC], Subj: Alternative Procurement Policy, Mar. 7, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

26. Ltr, Gen. Jack J. Catton (COMAC) to Philip N. Whittaker (Asst Sec AF I&L), Apr. 11, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Ltr, Gen. Jack J. Catton (COMAC) to Lt. Gen. Harry E. Goldsworthy (DCS/Sys and Log USAF), Apr. 11, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

27. MFR, [John F. Shea], Subj: CRAF Incentives Study—Mr. Whittaker's Comments, Aug. 3, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

28. TP, John F. Shea, Subj: Carrier Incentives, Jul. 31, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
29. Ltr, Gen. Jack J. Catton (COMAC) to [CRAF airlines], Aug. 18, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
30. Ltr, R[obert] W. Prescott (Pres, Flying Tiger Line) to Gen. Jack J. Catton (COMAC), Aug. 25, 1972, P. K. Carlton Papers, Folder 168.7100-540, AFHRA.
31. Ltr, H. K. Howard (Pres, Saturn Airways) to Gen. Jack J. Catton (COMAC), Sep. 5, 1972, CRAF Papers, Box 28, Folder Bonus Policy Comments, AMC/HO.
32. MFR, Maj. Gen. Ray M. Cole (CofS MAC) [Copies furnished to these MAC staff offices—DCS/Plans, DCS/Logistics, and Staff Judge Advocate], Subj: MAC Interpretation of the Letter to the Carriers on CRAF Incentives, Aug. 31, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
33. Ltr, William T. Seawell (Pres Pan Am) to Gen. Jack J. Catton (COMAC), Sep. 6, 1972, CRAF Papers, Box 28, Folder Bonus Policy Comments, AMC/HO; Ltr, Richard M. Jackson (Pres Seaboard) to Gen. Jack J. Catton (COMAC), Sep. 7, 1972, CRAF Papers, Box 28, Folder Bonus Policy Comments, AMC/HO.
34. Memo, Maj. Gen. Ray M. Cole (CofS MAC) to XP [DCS/Plans, MAC], Oct. 11, 1972, CRAF Papers, Box 28, Folder Bonus Policy Comments, AMC/HO.
35. *Illustrated Hist of MAC*, p. 234. Catton's replacement was to have been Lt. Gen. George B. Simler. Simler would have been promoted to general upon taking command on Sep. 12, 1972, but he was killed in the crash of a T-38 Talon on Sep. 9, while en route to Scott AFB. While a new MAC commander was being selected, Lt. Gen. Jay T. Robbins, MAC Vice Commander, assumed temporary command after Catton's retirement. Gen. Paul K. Carlton, the new designee, assumed command of MAC on Sep. 26, 1972.
36. Ltr, Robert W. Prescott (Pres Flying Tiger) to Gen. Paul [K.] Carlton, Nov. 22, 1972, P. K. Carlton Papers, Folder 168.7100-540, AFHRA.
37. Study, [MAC], "Consolidated Analysis of Carrier Comments on the Alternative Procurement Policy," [c. Nov. 6, 1972], CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
38. Memo, Maj. Gen. C. T. Ireland (DCS/Plans MAC) to Cmd Sect, Subj: Letter from Mr. Prescott, The Flying Tiger Line, to General Carlton, Dec. 6, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Rpt, [MAC], "Analysis of Carrier Comments," [late Dec. 1972], CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Ltr, Peter T. Craven (VP Continental), J. W. Bailey (Pres Overseas National), Clayton L. Burwell (Counsel, Trans International), and Jerrold Scutt, Jr. (Counsel, World) to Robert C. Seamans, Jr. (Sec AF), Subj: Procurement Incentives for Continued Modernization of CRAF, Feb. 8, 1973, P. K. Carlton Papers, Folder 168.7100-540, AFHRA.
39. Memo, [DCS/Plans, MAC], Subj: General Carlton's Questions, Jan. 4, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
40. Memo, Maj. Morris (MAC/XPRC), Subj: Summary [of General Carlton's comments], Jan. 8, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
41. BP, John F. Shea (Asst DCS/Plans MAC), Subj: FY 1974 CRAF Policies, Jan. 9, 1973, P. K. Carlton Papers, Folder 168.7100-540, AFHRA; Briefing, John F. Shea, "FY 74 CRAF Policies," Jan. 10, 1973, CRAF Papers, Box 27, Folder CRAF Policies FY 74, AMC/HO.
42. At the time, much of the attention of the defense establishment was drawn to events in Southeast Asia. Following the Paris signing, on Jan. 22, 1973, of a cease-fire that was to end

hostilities in Vietnam, the Military Airlift Command began a sixty-day operation (COUNTDOWN) to withdraw all American and allied personnel and equipment from the country. Although CRAF was not activated, commercial transports did play an important role. The movement of more than 34,000 Republic of Korea troops out of Vietnam was conducted entirely by civil carriers—a total of 162 missions flown by World Airways and Airlift International. And, in the last seventy-two hours of the operation, commercial flights were utilized to remove the nearly 4,000 remaining U.S. troops. [*Illustrated Hist of MAC*, p.147.] The sequel also involved MAC and the airlines. Shortly after the American and allied forces had withdrawn from Vietnam in 1973, the North Vietnamese renewed their offensive against the government in the south. In Apr. 1975, with North Vietnamese forces probing the outskirts of Saigon, a hasty evacuation of American citizens and key supporters of the South Vietnamese government was organized. By the time Saigon fell, on Apr. 30, 1975, MAC had evacuated some 5,400 Americans and roughly 50,000 Vietnamese to staging areas in the Pacific. In all, 376 missions flown: 201 C-141, 174 C-130, and a single World Airways contract flight. In addition, commercial carriers flew 141 cargo missions related to the withdrawal. Concurrently, Operation BABYLIFT provided separately for the evacuation of Vietnamese orphans from Saigon to the United States. Four commercial flights moved 845 of the 1,749 orphans to various west coast cities. In the second phase of the refugee operation, contract carriers played a vital role in transporting the refugees to resettlement centers in the United States. Between Apr. and Sep. 1975, 121,562 persons were flown to America—including many who had escaped Vietnam by sea. Fourteen commercial carriers played a role in this phase of the operation, flying some 350 of the 600 passenger missions flown. [Article, Civil Air Division, MAC, "CRAF Carriers Participation in Cambodian and Vietnam Evacuation Airlift," *CRAF Newsletter*, Jul. 1975, p. 1, AMC/HO; *Illustrated Hist of MAC*, pp. 151-54.] When the government of Cambodia was threatened by the Khmer Rouge, in 1975, MAC contracted with five CRAF carriers—Airlift International, Flying Tiger, Seaboard, Trans International, and World—to deliver vitally needed food, ammunition, and fuel. These carriers flew 770 missions into that stricken nation between Feb. 15 and Apr. 15, 1975. [Article, Civil Air Division, MAC, "U-Tapao/Saigon-Cambodia Airlift Shuttle," *CRAF Newsletter*, Apr. 1975, p. 1, AMC/HO.]

43. TP, John F. Shea (Asst DCS/Plans MAC), Subj: Conversation with Secretary Seamans, Feb. 12, 1973, P. K. Carlton Papers, Folder 168.7100-540, AFHRA.

44. Ltr, Peter T. Craven (VP, Continental), J. W. Bailey (Pres, Overseas National), Clayton L. Burwell (Counsel, Trans International), and Jerrold Scoutt, Jr. (Counsel, World) to Robert C. Seamans, Jr. (Sec AF), Subj: Procurement Incentives for Continued Modernization of CRAF, Feb. 8, 1973, P. K. Carlton Papers, Folder 168.7100-540, AFHRA.

45. Ltr, Lewis E. Turner (Act Asst Sec AF) to Melvin Price, Feb. 22, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

46. Ltr, [C.] Melvin Price (Chair Sbcmt 1, HASC) to Lewis E. Turner (Acting Asst Sec AF, I&L), Mar. 20, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

47. For example see: Ltr, John T. Logan (Dir Charter Plan TWA) to Arthur W. Purkel (Contract Off MAC), May 15, 1973, CRAF Papers, Box 28, Folder CRAF Carriers, AMC/HO; Ltr, James O. Leet (Exec VP, Pan Am), to Arthur W. Purkel (Contract Off MAC), May 10, 1973, CRAF Papers, Box 28, Folder CRAF Carriers, AMC/HO.

48. Ltr, Brig. Gen. Warner E. Newby (DCS/Log MAC) to Air Staff, Jul. 18, 1973 cited in BP, John F. Shea, Subj: Bonus Award Policy Review, Jan. 3, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Fact Sheet, [MAC], Bonus Award

Policy, [1977], CRAF Papers, Box 28, Folder Bonus Policy Comments, AMC/HO.

49. Memo, H. H. D. Heiberg, Jr. to [Maj. Gen. William A. Dietrich (DCS/Plans MAC)], Subj: Air Staff Action of Bonus Award Policy, Sep. 11, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

50. Ltr, Gen. George S. Brown (CofS USAF) to Gen. Paul K. Carlton (COMAC), Oct. 19, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Award), AMC/HO.

51. Kissinger, pp. 491-96, 501; Futrell, II: 641.

52. Futrell, II: 641-45; K. L. Patchin, *Flight to Israel* (Scott AFB, Ill: Office of MAC History, 1974), pp. 40, 202-03.

53. BP, John F. Shea (Asst DCS/Plans MAC), Subj: Bonus Award Policy Review, Jan. 3, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

54. McLucas had been Act Sec AF since May 15, 1973, and was made Sec AF on Jul. 18, 1973. Shrontz had taken office in late 1973.

55. Margin Note, [Gen] P. K. C[arlton] (COMAC) to [John F.] Shea (Asst DCS/Plans MAC), [Jan. 7, 1974] on the margin of BP, John F. Shea, Subj: Bonus Award Policy Review, Jan. 3, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

56. A Determination and Finding (D&F) also provides the authority for MAC to negotiate airlift contracts with the airlines. Pursuant to 10 USC 2304(a)(16), a D&F [document] is required when the government finds it advantageous to negotiate contracts rather than solicit competitive bids. For example, a 1974 D&F reads: "I hereby determine that it is in the interest of national defense that contracts for airlift in FY 75...be consummated so as to assure availability to the DOD of a commercial airlift augmentation best adapted to DOD needs in case of national emergency; that negotiation is necessary to that end; and that the interests of industrial mobilization in case of national emergency would otherwise be subserved by negotiation with air carriers as defined by the Federal Aviation Act of 1958. [D&F, Frank A Shrontz (Asst Sec AF I&L), Subj: Class Determinations and Findings, Authority to Negotiate, [mid-Mar. 1974], CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.]

57. BP, Col. E. Scott Minnich (Dir Studies & Anal, DCS/Plans MAC), Subj: Bonus Award Policy, Jan. 31, 1974, CRAF Papers, Box 9, Folder Bonus and Direct Subsidy, AMC/HO.

58. MFR, Lt. Col. Constantine Evgenides (XPRC), Subj: Bonus (Taped Conversation—XPR-XPRC), Jan. 25, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

59. Ltr, Frank A. Shrontz (Asst Sec AF I&L) to Gen. Paul K. Carlton (COMAC), Feb. 5, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

60. A "request for proposal" (RFP) is a common form of formal government solicitation of commercial firms—requesting bids (including cost and technical specifications) for the services or materiel which the government seeks, as indicated in the document.

61. Ltr, Frank A. Shrontz (Asst Sec AF I&L) to F. Edward Hebert (Chair HASC), Mar. 12, 1974, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

62. D&F, Frank A. Shrontz (Asst Sec AF I&L), Class Determinations and Findings, Authority to Negotiate Contracts, [Mar. 1974], CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

63. MFR, Maj. Clarence Black (DCS/Air Trans staff MAC), Subj: Bonus Award for Wide-Bodied Cargo-Capable Aircraft, Jun. 5, 1979, CRAF Papers, Box 27, Folder Alternative

- Procurement Policy (Bonus Awards), AMC/HO; MFR, Col. John E. Griffith (Asst DCS/Air Trans MAC), Subj: D&F for FY 1980 Airlift Contracts, Jun. 5, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; PP, Col. Gerald E. Cozart (DCS/Plans Staff, MAC), Subj: Bonus Award and Mobilization Value Policy, Jun. 6, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Ltr, Peter T. Craven (VP, Continental Airlines), to Mr. Arthur W. Purkel (Contracting Officer, MAC), May 10, 1973, CRAF Papers, Box 28, Folder CRAF Carriers, AMC/HO.
64. Ltr, John W. Perry (Dep for Trans & Comm to Asst Sec AF), to John F. Shea (Asst DCS/Plans, MAC), Aug. 3, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
65. Ltr, Jack J. Catton (COMAC) to [Airline CEO's], Aug. 18, 1972, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Ltr, Richard C. Seamans, Jr. (Sec AF) to Melvin Price (Chair Subcom 1 HASC), Apr. 4, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
66. BP, John F. Shea (Asst DCS/Plans MAC), Subj: FY 74 CRAF Policies, Jan. 9, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Hist, MAC, "Military Airlift Command, Jul. 1972-Jun. 1973," I: 222; Briefing, John F. Shea, FY 74 CRAF Policies, Jan. 10, 1973, CRAF Papers, Box 27, Folder CRAF Policies FY 1974, AMC/HO.
67. Memo, [DCS/Plans, MAC], Subj: General Carlton's Questions, Jan. 4, 1973, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO. This was hardly the first time the conversion of wide-bodies had been considered, but the cost had seemed prohibitive. Asst Sec AF Philip Whittaker has suggested to General Jack Catton that "the DOD might offer to pay the cost of building convertibility into at least a modest number of the new aircraft being delivered to U.S. commercial carriers," but Catton was not interested. [BP, Roger J. Stevens (DCS/Plans MAC), Convertible B747 Study, [late Dec. 1971], CRAF Papers, Box 8, Folder B747 Utilization, AMC/HO; Ltr, Philip N. Whittaker (Asst Sec AF for Installations and Logistics), to General Jack J. Catton (COMAC), Mar. 10, 1973, Hist, MAC, "Military Airlift Command, Jul. 1972-Jun. 1973," Vol. VIII (Supporting Documents), AMC/HO. Concerning the more recent such suggestions see: Ltr, Philip N. Whittaker (Asst Sec AF I&L) to Gen. Jack J. Catton (COMAC), Mar. 10, 1972 in Hist, MAC, "Military Airlift Command, Jul. 1972-Jun. 1973," Vol. VIII (Supporting Documents), AMC/HO; Memo, Maj. Gen. Ray M. Cole (DCS/Plans MAC), Subj: CRAF Incentives Study, May 31, 1972 in Hist, MAC, "Military Airlift Command, Jul. 1972-Jun. 1973," Vol VIII (Supporting Documents), AMC/HO; Air Command and Staff College Study, Maj. Carol D. Hughes, "The Role of Commercial Augmentation of Military Airlift in Peacetime," May 1972, M-U35582-7 H8932r, Air Univ Lib; PP, [DCS/Plans Staff, MAC], Subj: CRAF Incentives, [c. Aug. 10, 1972], CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.
68. BP, Col. E. Scott Minnich (DCS/Plans, MAC), Subj: Bonus Award Policy, Jan. 31, 1974, CRAF Papers, Box 9, Folder Bonus and Direct Subsidy, AMC/HO; Newsletter, Civil Air Division MAC, "'Crisis Convertible' Aircraft Questionnaire," *CRAF Newsletter*, Jan. 1974, p. 2, AMC/HO; Newsletter, Civil Air Division MAC, "US Emergency Airlift Capability Questionnaire," *CRAF Newsletter*, Apr. 1974, p. 2, AMC/HO.
69. Hist, MAC, "Military Airlift Command, Jul. 1973 to Jun. 1974," I: 289, AMC/HO.
70. Hist, MAC, "Military Airlift Command, Jul. 1974 to Jun. 1975," I: 345, AMC/HO.
71. Intvw of Gen. Carlton, by Maj. Scottie S. Thompson, Aug. 13-15, 1979, Denver, Colo., USAF Oral History Program, pp. 276-77, General Collections, Folder 329.0512-1141, AFHRA.
72. If the aircraft was converted to cargo operations any time from the second through the

seventh year, the owner would have to reimburse the government according to a fixed payback schedule. Its use in hauling civilian cargo was prohibited during the first year.

73. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO.

74. *Ibid.*

75. BP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Modification Program, Jan. 31, 1975, CRAF Papers, Box 11, Folder Modification & Equipment 1970 (II), AMC/HO.

76. Msg, CofS USAF to COMAC, Subj: CRAF Mods, [201944Z Jan. 75] Jan. 20, 1975, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1975-1976, AMC/HO; BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Logistics MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO.

77. BP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Modification Program, Jan. 31, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (II), AMC/HO; BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Logistics, MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO.

78. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO.

79. In addition to the problem of bonus award policy two years earlier, General Carlton and the Air Staff had recently been at odds over the issue of making MAC a specified command—a change that would place it directly under the JCS rather than the Air Force. Just a month before, on Mar. 13, 1975, Sec AF John L. McLucas had accepted an Air Staff recommendation that MAC should not be designated as a specified command but should remain an Air Force major command. MAC had strongly asserted the contrary view. [Futrell, II: 647; Miller, pp. 348-52.]

80. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO.

81. Message, [Maj. Gen. Paul F. Patch] (Dir of Trans USAF) to MAC Staff, Subj: CRAF Mod Program, Apr. 16, 1975, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1975-76, AMC/HO; BP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Modification Program, Jan. 31, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (II), AMC/HO.

82. BP, Brig. Gen. W. H. Spillers (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO; BP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Modification Program, Jan. 31, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (II), AMC/HO.

83. Ltr, Frank A. Shrontz (Asst Sec AF I&L) to Brig. Gen. Willum H. Spillers, Jr. (DCS/Logistics, MAC), Jun. 19, 1975, CRAF Office, MAC. An identical letter was sent to Maj. Gen. Thomas A. Aldrich, the MAC DCS/Plans.

84. Ltr, Frank A. Shrontz (Asst Sec AF I&L) to [CRAF carriers], Jun. 20, 1975, CRAF Office, MAC.

85. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO. Costs varied by carrier due to differing rates for return on investment, overhead, downtime, and crew salaries.

86. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO; BP, [DCS/Plans MAC], Subj: CRAF Modification Program, [c. Oct. 1, 1977], CRAF Papers, Box 1, Folder CRAF History, AMC/HO.
87. BP, Brig. Gen. W. H. Spillers, Jr. (DCS/Log MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Aug. 18, 1975, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO; Memo, Col. George A. Cavalli (Asst DCS/Log MAC) to MAC Comd Sec, Subj: LG Significant Events During Gen. Carlton's Absence, 27 Jul-5 Aug. 75, Jul. 29, 1975, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1975-76, AMC/HO; BP, Deane B. Buning (DCS/Air Trans staff MAC), Subj: Civil Reserve Air Fleet (CRAF) Modification Program, Jul. 8, 1976, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO; Hist, MAC, "Military Airlift Command, Jan-Dec 1976," I: 193-205, AMC/HO.
88. Hist, MAC, "Military Airlift Command, Jul 1974 to Dec 1975," I: 351, AMC/HO.
89. Ltr, Gen. Paul K. Carlton (COMAC) to Maj. Gen. Robert W. Huyser (Asst DCS/Plans and Ops USAF), Oct. 12, 1973, CRAF Papers, Box 14, Folder NATO-CRAF, AMC/HO; Ltr, Lt. Gen. Robert E. Huyser (DCS/Plans and Ops USAF) to Gen. Paul K. Carlton (COMAC), Nov. 1, 1973, CRAF Papers, Box 14, Folder NATO-CRAF, AMC/HO; Hist, MAC, "Military Airlift Command, Jul. 1974-Dec. 1975," I: 355, AMC/HO.
90. Hist, MAC, "Military Airlift Command, Jul 1974-Dec 1975," I: 355, AMC/HO.
91. Hist, MAC, "Military Airlift Command, Jan-Dec 1978," I: 215, AMC/HO. The immediate goal for the pool was twenty-three cargo-capable NATO wide-body aircraft. That requirement was based upon the rationale that, in a confrontation between NATO and the Warsaw Pact, there was a shortfall in U.S. cargo airlift capability of 110 B-747 equivalent aircraft. The U.S. CRAF modification program was expected to eventually supply eighty-seven aircraft toward that deficit.
92. Hist, MAC, "Military Airlift Command, Jan-Dec 1979," I: 413-16, AMC/HO. In the years after 1979, the United Kingdom and Italy also committed aircraft to the NATO Civil Airlift Augmentation program, and the number of aircraft grew. Canada entered the program briefly, then withdrew, favoring a bilateral agreement with the United States. [Hist, MAC, "Military Airlift Command, Jan-Dec. 1983," I: 482, AMC/HO.] While working to implement the NATO Civil Air Augmentation Program, the MAC staff was also involved in efforts to establish a Korean CRAF to improve the United States' capability to respond effectively to a military emergency in that peninsula. In Sep. 1979, the Joint Chiefs of Staff directed MAC and the Pacific Command to reach an agreement with the Korean government for use of Korean Airlines' assets in the event of war. Progress toward an agreement, however, was impeded by opposition to wartime use of the aircraft by the banks which had made loans to the airline. One possible solution was to limit the Korean CRAF to those planes which Korean Airlines owned outright, but that would limit the program dramatically. It was not until 1981 that an agreement was reached in principle, and not until 1983 than an implementation agreement was signed. [Hist, MAC, "Military Airlift Command, Jan-Dec 1980," I: 459-60, AMC/HO; Hist, MAC, "Military Airlift Command, Jan-Dec 1983," I: 482-84, AMC/HO.]
93. BP, Maj. Gen. Thomas A. Aldrich (DCS/Plans MAC), Subj: Civil Wide-Body Aircraft Modification Proposals, Sep. 3, 1974, CRAF Papers, Box 11, Folder CRAF-Modification & Equipment 1970 (I), AMC/HO; Hist, MAC, "Military Airlift Command, Jul 1974-Dec 1975," I: 353, AMC/HO.
94. Ltr, Gen. Paul K. Carlton (COMAC) to Gen. R. E. Hails (DCS/Sys and Log USAF), Subj: Plywood CRAF, Nov. 14, 1975 in Hist, MAC, "Military Airlift Command, Jul. 1974-Dec. 1975,"

Vol. VI (Supporting Documents), AMC/HO.

95. *Ibid.*

96. Hist, MAC, "Military Airlift Command, Jul 1974-Dec 1975," I: 353, AMC/HO.

97. AWC Research Rpt, Lt. Col. Ronald K. Sable, "Civil Reserve Air Fleet (CRAF): A Primer for Defense and Industry," (MS025-79), Apr. 1979, pp. 37-38, (M-U43117 S117c) AU Lib; Document, Boeing, Subj: Boeing Bulk Cargo Configuration M-1, Jan. 15, 1977, P. K. Carlton Papers, Microfilm # 33124, Frame 451+, AFHRA.

98. BP, [MAC], Subj: CRAF Modification Program, [c. Oct. 1, 1978], CRAF Papers, Box 1, Folder CRAF History, AMC/HO.

99. Hist, MAC, "Military Airlift Command, Jan-Dec 1978," I: 211, AMC/HO.

100. Ltr, Graham Claytor, Jr. (Dep Sec Def) to John C. Stennis (Chair SASC), Sep. 26, 1979, General Collection, Folder K14401 Jul-Dec 1979, v. 5, AFHRA; Hist, MAC, "Military Airlift Command, Jan-Dec 1978," I: 211-12, AMC/HO.

101. Hist, MAC, "Military Airlift Command, Jan-Dec 1978," I: 213, AMC/HO.

102. PP, John F. Shea (Asst DCS/Plans MAC), Subj: FY 80 Five-Year Defense Program (FYDP) for the Civil Reserve Air Fleet (CRAF) Enhancements, Feb. 2, 1979, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; PP, John F. Shea (Asst DCS/Plans MAC) Subj: CRAF Enhancement Program, Jul. 2, 1980, Point Papers Collection, Folder CRAF, AMC/HO.

103. PP, Maj. Gen. Robert F. Coverdale (DCS/Plans MAC), Subj: CRAF Enhancement Program, Apr. 24, 1979, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO.

104. Ltr, John C. Stennis (Chair SASC) to Charles W. Duncan (Dep Sec Def), Aug. 21, 1979, General Collection, Folder K144.01 Jul-Dec. 1979 v.5, AFHRA. Duncan's letter of Jun. 13, 1979 is cited in Stennis' reply above.

105. Ltr, W. Graham Claytor, Jr. (Dep Sec Def) to John C. Stennis (Chair SASC), Sep. 26, 1979, General Collection, Folder K144.01 Jul-Dec 1979, v. 5, AFHRA. The fuel price index rose from 15.3 in 1970 to 82.8 in 1980. [Dept of Commerce, Bur of Econ Anal, *Survey of Current Business*, Jul. 1991.]

106. *Illustrated Hist of MAC*, p. 235.

107. Hist, MAC, "Military Airlift Command, Jan-Dec 1979," I: 407-8, AMC/HO.

108. Ltr, John C. Stennis (Chair SASC) to W. Graham Claytor (Dep Sec Def), Dec. 21, 1979, General Collection, K144.01 Jul-Dec 1979 v. 5, AFHRA.

109. Hist, MAC, "Military Airlift Command, Jul 1972-Jun 1973," I: 213-14, AMC/HO.

110. MFR, Maj. Clarence Black (DCS/Air Trans staff MAC), Subj: Bonus Award for Wide-Bodied Cargo-Capable Aircraft, Jun. 5, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO.

111. *Ibid.*; MFR, Col. John E. Griffith (Asst DCS/Air Trans MAC), Subj: D&F for FY 1980 Airlift Contracts, Jun. 5, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; PP, Col. Gerald E. Cozart (DCS/Plans staff MAC), Subj: Bonus Award and Mobilization Value Policy, Jun. 6, 1979, CRAF Papers, Box 27, Folder Alternative Procurement Policy (Bonus Awards), AMC/HO; Ltr, Peter T. Craven (VP, Continental) to Mr. Arthur W. Purkel (Contract Off MAC), May 10, 1973, CRAF Papers, Box 28, Folder CRAF Carriers, AMC/HO.

112. PP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Enhancement Program, Jul. 2, 1980, Point Papers Collection, Folder CRAF, AMC/HO.

CHAPTER VIII

MANAGEMENT CHALLENGES IN A NEW ERA, 1980-1987

The Civil Reserve Air Fleet faced its greatest challenges in the years 1980 to 1987, a period that one MAC study characterized as a "New Era." This was a period in which new, larger commitments of troops to NATO levied even greater demands on strategic airlift assets, CRAF included. And, it was a period when airline deregulation wreaked havoc on the economics of air transport, and therefore with CRAF.

The Military Airlift Command had been trying since 1974 to enlarge CRAF's cargo capability through the CRAF enhancement program that would modify wide-body passenger aircraft by strengthening the floors and installing cargo handling systems and cargo doors. By 1980, only one aircraft had been modified under the program—a single United DC-10-10. The program was not creating the required new cargo capability. In fact, between 1980 and 1985, the number of cargo-capable aircraft committed to CRAF dropped from 110 to 62 and cargo capability dropped from 15.8 MTM/D to 8.5 MTM/D.¹ By 1983, the CRAF enhancement program was in serious trouble. But just as the program, and the money appropriated for it, seemed lost, MAC convinced Pan American World Airways to modify a number of its older Boeing 747s, making them capable of handling cargo as well as passengers. Those modifications began in February 1985, and the first CRAF-enhanced B-747 rolled out of the Boeing facility three months later.

Despite hopes to the contrary, however, the Pan Am contract did not signal significant new interest in the CRAF enhancement program on the part of other carriers. By the end of 1987, only one additional wide-body aircraft (a Federal Express DC-10-10) was committed for modification—for a program total of twenty-one aircraft. As a consequence, MAC began to look elsewhere to expand further the cargo-capability of CRAF.²

The fast-growing parcel express segment was a logical candidate. Federal Express, the first to be targeted, committed three planes to CRAF in 1983 and added more as time went on. But, it was not until late 1986 that MAC could devise a workable arrangement that would bring United Parcel Service into CRAF. That arrangement was a joint venture by which two or more firms could pool their assets—planes, crews, maintenance facilities, and more—to meet CRAF requirements. The value of this approach soon became clear. By mid-1987, such joint ventures were contributing over half of CRAF's cargo capability.

Nonetheless, economic distress and turmoil in the air transport industry in the early 1980s and again in 1986 triggered new difficulties for CRAF and prompted a series of reexaminations of CRAF policy within the Air Force. What emerged was a new statement of national airlift policy and a new MAC program—CRAF PLUS. Unfortunately, the only truly new feature put forward—the suggestion that Congress pass legislation requiring all new wide-body aircraft be adaptable to cargo service—put the Air Force and the commercial airlines on a collision course.

Airlift Shortfall—Strategic Demand and Economic Reality

The commitments that the United States had made to NATO in the 1970s—particularly the pledge to deploy to Europe five additional army divisions immediately in a war emergency—placed an arduous demand on U.S. airlift resources.³ This was true despite the stockpiling of materiel in Europe that would equip these U.S. units. A number of airlift studies in the late 1970s concluded that even with a CRAF call-up, the United

States would have an airlift capability deficit.⁴ That, however, was where consensus among the studies ended. They could not even agree on what the airlift requirements would be in case of war.⁵ In September 1980, the Congress asked the Department of Defense to resolve the requirements issue, and it directed the Secretary of Defense to conduct an analysis of the mix of aircraft, sealift, and equipment stockpiles required overseas.⁶

This "Congressionally Mandated Mobility Study" (CMMS), as that report was called, evaluated the airlift requirement for four scenarios: a regional conflict in the Persian Gulf, a Soviet invasion of Iran, a NATO-Warsaw Pact conflict, and a conflict in the Persian Gulf accompanied by a precautionary reinforcement of Europe. The CMMS evaluated airlift needs in each scenario, and documented an airlift requirement of from 73 to 125 million-ton-miles per day (MTM/D) against projections of barely 40 MTM/D of available capacity (including CRAF) through the mid-1990s.⁷ Recognizing that political and fiscal constraints would preclude reaching a higher goal, the study recommended increasing U.S. airlift capability to 66 MTM/D. The CMMS was forwarded to Congress by Secretary of Defense Casper Weinberger on April 30, 1981.⁸

On September 29, 1983, after more than two years of analysis and study, Secretary of the Air Force Verne Orr and Air Force Chief of Staff General Charles A. Gabriel jointly released the "U.S. Air Force Airlift Master Plan"—a force structure proposal designed to meet the 66 MTM/D target. This plan called for the retention of the C-5s in both the active and reserve units, the procurement, by 1998, of 180 of the proposed new C-17s to replace the older C-130s and C-141s, and the continuation of the CRAF program and the CRAF enhancement effort. CRAF was to provide a minimum capability of 11.8 MTM/D of cargo and 144.9 million-passenger-miles per day (MPM/D).⁹ On the surface this seemed well within CRAF's capability, which in July 1983 stood at 15.6 MTM/D (cargo) and 144.8 MPM/D (passenger). However, that cargo capability was in rapid decline. By 1985 it stood at only 8.5 MTM/D.¹⁰ (See Table 8.1)

The master plan's call for a constant CRAF cargo capability was problematic at the levels desired. In part, this reflected the failure of the CRAF enhancement program, which was to have added cargo capability to wide-body B-747 and DC-10 passenger craft. By 1983 only one aircraft had been modified and no more were in the offing.¹¹ To an even more significant degree, however, it was the 1978 deregulation of the air transport industry, a worldwide recession, and new noise pollution standards that accounted for the decline in cargo capability. The years 1981 through 1983 proved among the worst in the industry's financial history. Although the industry's performance in 1984 and 1985 was better, difficult years still lay ahead.¹² In March 1983, as if a harbinger of the future, Continental Airlines advised MAC that it would be unable to participate in CRAF, and a few months later entered Chapter 11 bankruptcy proceedings.¹³ Other carriers cut back their operations and sold or leased a portion of their aircraft.

While the industry's poor economic performance also cut into the wide-body fleet, the new noise abatement standards took their toll of narrow-body aircraft. In 1981, there had been fifty-four wide-body cargo aircraft in CRAF. By 1985, that number had been reduced to forty-three. CRAF lost thirty-two narrow-body freighters from 1980 to 1985 (from fifty-one to nineteen), and eight wide-bodies (from fifty-one to forty-three) in the same period. Even before the reengining requirement finally drove the older narrow-body freighters almost completely out of the U.S. marketplace, their numbers in CRAF had begun to decline—from sixty in 1983 to fifty-one in 1984 (and then to nineteen in 1985 as the new noise abatement standards took effect). The net result was a nearly 50 percent loss in cargo capability for CRAF from 1981 (16.2 MTM/D) to 1985 (8.5 MTM/D).¹⁴ (See Table 8.1)

Table 8.1

**Civil Reserve Air Fleet
Long-Range International Segment (Stage III)
(c. July 1 annually)**

Year	1979	1980	1981	1982	1983	1984	1985	1986	1987
Number of Airlines Participating									
Airlines	16	15	15	15	18	20	22	21	22
Number of Aircraft Allocated									
Passenger Aircraft									
Narrow-body									
B-707	91	58	15	0	0	0	0	*	*
DC-8	9	0	7	7	6	9	14	17	12
Wide-body									
DC-10	51	53	65	76	73	64	75	53	78
L-1011	6	10	18	22	26	27	40	34	46
B-747	100	111	115	110	110	105	111	97	101
B-767	0	0	0	0	0	0	0	5	16
Total Pax	257	232	220	215	215	205	240	206	253
MPM/D	144.2	144.1	144.3	144.3	144.8	142.9	153.4	129.8	151.6
Cargo Capable Aircraft									
Narrow-body									
B-707	9	6	3	10	10	12	2	2	3
DC-8	63	53	48	48	50	39	17	17	19
Wide-body									
DC-10	17	19	17	16	14	12	14	14	16
B-747	23	32	37	36	34	35	29	32	39
Total Crgo	116	110	105	110	108	98	62	65	77
MTM/D	14.5	15.8	16.2	16.2	15.6	11.2	8.5	8.9	10.4
Passenger and Cargo Aircraft									
Total Acft	373	342	325	325	323	303	302	271	330
Year	1979	1980	1981	1982	1983	1984	1985	1986	1987

Source: Monthly MAC HQ Forms O-312/312, CRAF Office, AMC.

Notes:

MPM/D = Million Passenger Miles per Day.

MTM/D = Million Ton-Miles per Day.

* B-707 and DC-8 combined into one figure (See DC-8).

The Airline Deregulation Act of 1978 established a radically different market environment. On December 31, 1981 the Civil Aeronautics Board gave up its control over domestic routes, and, a year later, surrendered control over fares. With that, the airlines gained free entry and exit to markets and air routes, and the right to set fares. And, new airlines could join the ranks. By the end of 1982, nearly thirty new carriers had joined the regional airline ranks. With deregulation, the airline map was redrawn. Old and new airlines alike now invaded spheres of influence that had been closely guarded privileges of established U.S. carriers for decades—both in the domestic and international markets.¹⁵

In response to this new market environment, the airlines underwent significant structural changes that had serious implications for the future of the Civil Reserve Air Fleet—changes in the numbers and types of aircraft, airline operations, and the airlines' adaptability to CRAF requirements.¹⁶ Although CRAF's passenger requirements could still be met, the future was less certain as a result of the way the airlines modified their operations. After deregulation, it became more important than ever to get a passenger and hang on to him. "Don't give him to anyone else," wrote H. Carl Munson of the Air Transport Association. "You must get him wherever he originates—large or small cities—and you must carry him wherever he wants to go—large or small cities." The way to do that was to move the passenger through a company "hub" where the airline could disperse the passengers to another of their aircraft for the next leg of the journey. "This," said Munson, "is the reason there are so many little airplanes today." These "little airplanes" included, of course, aircraft such as the shorter-range versions of the B-737s, B-727s and DC-9s. On the domestic scene, the only major exception to this trend was the continued dominance of the wide-body aircraft—the B-747, DC-10, and L-1011—on the high density, transcontinental routes. There was a similar trend in the international passenger segment of the industry. Only on the denser, transoceanic routes did the wide-body jets—particularly the B-747—continued to predominate.¹⁷

As early as 1980, market analysts concluded that deregulation had signaled the end of wide-bodied passenger aircraft except on long-haul intercontinental and international routes, and that enough wide-bodies existed to meet future needs for some time to come. This meant that few wide-body jets would be built in the immediate future. This had clear, adverse implications for the CRAF enhancement program that still focused on modifying aircraft being built. Moreover, analysts held out no particular hope that as the wide-body fleet aged, it would be replaced one-for-one with newer wide-bodies.¹⁸

The situation for commercial cargo operations was no more encouraging for CRAF. In the ten years from 1975 to 1985, the U.S. airlines' share of the international cargo traffic dropped from 46 to 33 percent. Disappointing profitability in cargo hauling had made American companies loath to chase the business. When some foreign international carriers began innovative "combi" operations—providing compartments on the main deck of B-747s for cargo as well as for passengers—U.S. firms declined to copy them. Increasingly, the U.S. international airlines seemed satisfied to haul what they could in the lower lobes of their scheduled passenger jets. Domestically the cargo picture was different, but still not encouraging from a CRAF perspective. Although there was some growth in domestic freight operations, the lower lobe capacity of passenger jets was growing at a sufficient rate to handle this added business. Common carrier freighter operation was growing at the discouraging pace of only 1.4 percent per year. The net result was that, except for the all-freight lines, freighters were gradually being dropped from airline fleets and were not being replaced.¹⁹

In 1983, in the midst of this turmoil, the Air Force decided to purchase a number of KC-10s and C-5Bs—a total of ninety-four new cargo aircraft—as a near-term solution to the strategic airlift shortfall. That move had an unintended consequence for CRAF. Because of this increase in cargo carrying capability, MAC projected an almost immediate decrease in the airlift business it could offer the commercial carriers.²⁰ Already reeling from the impact of deregulation and difficult economic conditions, the airlines protested vigorously. In the face of new competitive challenges and declining airline income from other sectors, the ATA argued that the industry could not be expected to maintain adequate participation in CRAF if MAC could not maintain a stable level of airlift business.²¹

Headquarters MAC addressed these issues in a June 1983 study, entitled "Airlift Management in a New Era." In it MAC strongly urged that a "reasonable level" of spending for peacetime commercial cargo airlift be maintained and funded, if necessary, as a readiness line item in the Defense budget.²² MAC and the Air Staff calculated that "reasonable level" of spending—the minimum amount necessary to adequately support the CRAF program and its carriers—to be \$85 million. They suggested that when annual airlift requirements fell short of this figure the balance be paid out of funds appropriated specifically for the CRAF readiness.²³ There was, however, significant opposition to the CRAF readiness initiative, both in the Office of the Secretary of Defense and in Congress, and it never was funded. As a result, to maintain a reasonable level of routine channel airlift business given to the CRAF carriers, MAC made an effort to shift military flights into training, joint exercises, or hazardous and classified missions that only the military could fly.²⁴

Advancing CRAF Enhancement

New strategic requirements and new economic realities combined to create an airlift shortfall in CRAF—particularly in terms of cargo operations. MAC's CRAF managers faced a particularly difficult challenge. One of their tools was the CRAF enhancement program that had been conceived in 1974, to increase the airlift capability of CRAF carriers. The program called for the modification of wide-body passenger aircraft by strengthening the floors, and installing cargo handling systems and cargo doors.²⁵ At first, the intent of the enhancement program was to modify existing airframes, but in 1978 the focus was shifted to aircraft under construction. By the end of 1979, Congress had appropriated a total of \$53.5 million for the program, but MAC had not yet convinced the airlines to modify even a single aircraft.²⁶

On March 4, 1980, while MAC awaited responses to yet another CRAF enhancement solicitation, Headquarters USAF advised the command that unless the funds appropriated for CRAF enhancement were obligated it would use the money for other purposes.²⁷ In late March, after the airlines showed no interest in the new RFP, Air Force Secretary Hans Mark warned Gen. Robert E. Huyser, the Commander-in-Chief of Military Airlift Command, that the program had "deep problems." "[The] airlines...simply do not believe that we will keep our commitments," he told Huyser.²⁸ The next day, on March 26, 1980, MAC was informed that the Secretary intended to transfer \$32 million from the CRAF enhancement program to another program.²⁹

Faced with the real prospect that the CRAF enhancement program would be canceled, the MAC staff now turned its efforts to saving it. MAC immediately approached United Air Lines, the only carrier that then had a wide-body passenger aircraft on order that could be modified, while under construction, to carry cargo.³⁰ On April 3, 1980, United agreed to offer the aircraft—a DC-10-10—for the enhancement program. After three months of additional negotiation, United made a formal proposal. In the weeks that followed, the negotiators

hammered out an agreement; MAC would pay a lump sum of \$17.5 million for the modifications. The contract was signed on August 19, 1980, and the program was saved. With that, the Defense Department rescinded the reprogramming action and restored the fiscal year 1980 funds to the enhancement project.³¹

The mobility study mandated by Congress in the fall of 1980 had finally focused the attention of the Air Force Secretariat on airlift issues.³² "Airlift is an exceedingly important function," said Air Force Secretary Hans Mark, adding that "it is one of those functions which is so all pervasive that people tend to forget about it." Suddenly airlift enhancement (of which CRAF enhancement was a major element) ranked second in importance only to the modernization of strategic nuclear deterrent forces.³³ "Both Hans [Mark] and I have placed a high priority on the development of a viable CRAF Enhancement Program before leaving office," wrote Under Secretary Antonia H. Chayes, in late November 1980. But Chayes and Mark had come too late to that conviction; Ronald Reagan's election victory two weeks before meant that a Republican regime would be taking control in January 1981. Still, they left a set of CRAF legislative proposals for the new administration that included added incentives for both procurement and participation.³⁴

In the spring of 1981, the new Reagan Defense team did forward a CRAF enhancement legislative package to Congress, although it was less far-reaching than Chayes had suggested. This followed close behind the delivery of the "Congressionally Mandated Mobility Study", on April 30, 1981, which endorsed both the Civil Reserve Air Fleet and the CRAF enhancement program as essential to meet the U.S. strategic airlift requirements. The proposed legislation would reaffirm Congressional support for the CRAF Enhancement Program and grant authority for multi-year commitments to pay carriers for extra operating costs incurred as a result of the weight added in the modification. It offered essentially the same incentive to encourage participation as had been written into earlier versions of the program—reimbursement in full for the modification of craft to be used only in passenger service, or half the cost of modifying aircraft that would then be used solely to haul freight. The proposal also provided, once more, for the modification of existing, as well as new aircraft, and it promised to indemnify the owners of modified aircraft from any loss (as a result of the modification) at the time of sale. It did not include the array of financial incentives that had been proposed by the previous administration. Upon the recommendation of the House Armed Services Committee, this CRAF enhancement package was added to the FY 1982 Defense Authorization Bill and adopted on December 1, 1981.³⁵

In mid-February 1981, United Air Lines responded to a query Chayes had issued two months earlier and expressed an interest in offering all of its wide-body passenger fleet (18 B-747s and 42 DC-10-10s) for the enhancement program. MAC then prepared another CRAF Enhancement RFP.³⁶ That RFP, released to the airlines on April 22, 1981, requested pricing and cost data from the interested airlines for the retrofit. In the RFP the government offered to pay the cost of modification of existing aircraft, the out-of-service costs while the aircraft was being modified, the cost of ferrying the aircraft to and from the place of modification, and the excess operating cost for a 16-year period. In June 1981, several carriers signaled an initial interest in the plan—tentatively offering 104 aircraft (20 B-747s and 84 DC-10s). However, when Boeing priced its work in such a way as to force the airlines to absorb the cost of any delay in the modifications, the carriers withdrew their offers. Contract negotiations finally resulted in the offer of 49 DC-10-10s and 4 DC-10-30s. MAC rejected all these—the DC-10-10s because of range limitations, and the DC-10-30s because the price asked was significantly higher than the Air Staff had projected. The CRAF enhancement program had once again come up empty.³⁷

The CRAF program, which had been implemented in 1952, had existed until 1963 solely as a full-mobilization tool. In 1963, however, the Military Air Transport Service devised a plan that would make it available across the spectrum of warfare—from contingency operations to general war. This plan became the basis for a new memorandum of understanding, between the departments of Defense and Commerce, that defined three stages of airlift emergency and CRAF mobilization: Stage I, a localized emergency (activated by Secretary of Defense); Stage II, a limited military engagement (activated by the President); and Stage III, a major military engagement (activated, after declaration of a national emergency, by Secretary of Defense). The aircraft assigned to Stages I and II, however, were decided by a contractual agreement between MAC and the individual airlines. Although none of the stages of CRAF had ever been activated, in each stage the airlines were obliged by their CRAF contracts to provide, on demand, specific aircraft and airlift services. The Commerce Department's Office of Emergency Transportation allocated civilian aircraft to Stage III based on the requirements determined by the Air Force.³⁸

In 1980, the Office of Emergency Transportation—now under the Department of Transportation—expressed concern that the contractual method of providing aircraft for Stages I and II might, upon call-up, impair the civil air carriers' ability to provide essential services for the nation's peacetime economy.³⁹ To avoid that, a new memorandum of understanding was drawn up in which Defense agreed to periodically advise the Transportation Department of "the number of aircraft committed to each stage of the CRAF by carrier, type, and segment of planned use." DOT would, in turn, notify DOD if the size of either Stages I or II would "have a significant adverse impact on the civil air carriers' capability to provide essential service." If the Department of Transportation advised that a Stage I or Stage II call-up might have an adverse effect, Defense would either "adjust the sizing within DOT-determined nonadverse limits, or provide DOT with justification for the adverse impact sizing level." The activation "of that portion of Stages I and/or II declared by the DOT to create an adverse impact" would require the prior approval of the Secretary of Transportation. The new memorandum of understanding was signed on May 7, 1981.⁴⁰

Although Defense officials of the Reagan administration had submitted and obtained passage of legislation designed to strengthen CRAF and the CRAF enhancement program, they soon began to look beyond that program for solutions to the cargo airlift shortfall. The new administration placed a high priority on rapid, worldwide projection of U.S. military power; it accorded priority to programs that promised results. Given the serious airlift shortfall projected by the 1981 CMMS, the new Air Force Secretary, Verne Orr, concluded that the service had to address that problem and adopt expeditious short-term fixes. "A significant shortfall exists now," said Orr. "Consequently, the objective is to increase airlift capability as quickly as possible. Hence, a good program soon was chosen over a somewhat better program later."⁴¹

By early 1982, some \$140 million had been appropriated for CRAF enhancement, and yet, only one aircraft had been committed to it for modification. The program was once again in trouble. In March 1982, *Air Force Magazine* reported that the Pentagon was ready to cancel the program. "One USAF spokesman said the Air Force will probably make a request to reprogram the still-unobligated CRAF [enhancement program] funds to purchase additional KC-10 cargo/tankers."⁴² In May, at a meeting of the Military Airlift Committee of the National Defense Transportation Association (NDTA), alternatives to CRAF enhancement were openly debated.⁴³ A white paper that circulated at that meeting suggested the guarantee of lease payments for cargo-capable aircraft, or the purchasing or leasing of cargo-capable aircraft that could be leased back to the air carriers.⁴⁴ The discussion that was engendered

by this "white paper" prompted Gen. James R. Allen, who had taken command of MAC a year earlier, to appoint a three-person panel to make recommendations to him on alternatives to the CRAF Enhancement Program. Allen's diversity of assignments had taught him to cast a wide net in seeking solutions. A 1948 graduate of the United States Military Academy, he had spent the first two months of the Korean War flying combat missions as a member of a volunteer squadron in the South Korean Air Force. Although he served much of his career in fighter units, his experience was actually quite broad. He had served as: Chief of Staff, Strategic Air Command (1973); Special Assistant to the Air Force Chief of Staff (1974-77); Chief of Staff, Supreme Headquarters Allied Powers Europe (SHAPE) (1977-79); and Deputy Commander in Chief, United States European Command (EUCOM) (1979-81). General Allen would command MAC from June 1981 to June 1983.⁴⁵

The panel appointed by Allen to advise him on alternatives to the CRAF enhancement program included Antonia Chayes, Charles D. Baker, President of Harbridge House, a Boston consulting firm, and Edward Driscoll, President of the National Air Carriers Association—an organization of the supplemental air carriers.⁴⁶ The group offered three different options to increase CRAF cargo-capability—leverage leasing, service contracts, and purchase-lease back. Allen immediately set the MAC staff to work examining these options. The first, leverage leasing, involved the purchase of unmodified passenger aircraft from the carrier by a trust company that would send the aircraft to the manufacturer to be modified into a convertible. The trust company would then lease the aircraft to the Air Force, which would sublease it to a carrier. Service contracts, the second option, were like the leverage lease plan except that the trust company would lease the aircraft directly to the carrier and the government would simply guarantee the lease. The third option was the purchase-lease back plan. Under this plan the Air Force would purchase the unmodified aircraft from the carriers, pay the manufacturer to modify them, and then lease them back to the carriers.⁴⁷

By early 1983, the CRAF enhancement program was in even deeper trouble. Because of the new administration's interest in the alternatives proposed and because of the program's own poor performance, CRAF enhancement again seemed likely to be canceled. Critics called it a bail-out of the troubled air carrier industry and complained that it would divert funds from purely military programs. "The long-range outlook for the CRAF modification program as it was originally structured is now very much in doubt," wrote one industry observer.⁴⁸

General Allen, however, was not so certain about the program's demise. Opposition to the alternatives was already being voiced by some in the Office of the Secretary of Defense. Allen ordered his staff to continue to study the options, but he also directed that the door to the existing program be kept open.⁴⁹ By March, he had made the decision to stay with the CRAF enhancement program—the devil he knew, so to speak. At stake was \$37.1 million that Congress had appropriated for fiscal year 1981. This appropriation had to be obligated within two years—by the end of September 1983 (the end of fiscal year 1983)—or be lost.⁵⁰

General Allen, now nearing the end of his term as MAC commander, made CRAF enhancement the number one priority in MAC, and established a tight program schedule to award a CRAF enhancement contract by September 30, 1983.⁵¹ MAC circulated a draft RFP to the airlines for comment in May and issued a final RFP in June. Responses were due a month later, but not until after Allen had departed. Source selection, which would have to be done under the eye of a new MAC commander, Gen. Thomas M. Ryan, Jr., was to be completed by August 15—leaving forty-five days in which to finish the contract award process. This schedule, given the track record of this program, seemed improbable at best.⁵² Still, General Ryan was no newcomer to the Military Airlift Command, nor to the problems and difficulties experienced by the CRAF enhancement program. He had served as MAC's

Vice Commander from October 1977 to July 1981, and this had given him a familiarity with the command and its programs that few other MAC commanders had enjoyed.⁵³

Nonetheless, confidence in CRAF enhancement was at low ebb. In July 1983, Antonia Chayes wrote Ryan that the "enthusiasm for CRAF [on the Air Staff] has suffered its seasonal downer—seasonal, when the budgetary trade-offs take place."⁵⁴ Ryan responded that "regrettably, as in the past, the enthusiasm for CRAF Enhancement does seem to fluctuate, and it's extremely difficult to get all the players pulling in the same direction at the same time."⁵⁵

Still, despite this pessimism, the CRAF enhancement program under Ryan moved steadily along—a few days ahead of the schedule his predecessor, General Allen, had established. Responses to the RFP were in hand by July 7, 1983—twenty-four aircraft were offered by three carriers. Pan American World Airways, with Boeing as their subcontractor, offered nineteen B-747s. Eastern and Capitol each offered smaller numbers of aircraft. It was Pan Am's offer of nineteen aircraft, however, that was the focus of MAC's attention. On September 23, 1983, Pan American signed a contract for the modification of the first B-747 passenger jet, with options for an additional eighteen to be completed as funds became available. Generals Allen and Ryan had finally made CRAF enhancement a reality. The skeptics were now silent, except to note that the Pan Am aircraft to be modified were among the oldest B-747s in U.S. fleets.⁵⁶

In time, Congress provided the funds necessary to exercise each of the options in the Pan American contract. (See Table 8.2) On February 1, 1985, Pan American delivered its first B-747 to Boeing's Wichita, Kansas, facility for modification. On May 31, 1985 the first of Pan Am's CRAF-enhanced planes was completed.⁵⁷ By the end of 1987 ten of the nineteen Pan American B-747s had undergone the enhancement process, and the remaining nine were scheduled for completion by March 1989. In October 1987 one additional aircraft was accepted for modification—a Federal Express DC-10-30.⁵⁸

The inability to attract additional airlines to the CRAF enhancement program was a serious concern. The twenty-one modified wide-bodies from the program would barely offset the recent loss of the narrow-body freighters. They would not begin to fill what one analyst called the "gaping shortfall" in strategic airlift capability. CRAF enhancement had seemingly run its course. Now MAC sought new means to increase participation in CRAF and to enlarge its cargo capability.⁵⁹

Table 8.2

**CRAF ENHANCEMENT PROGRAM
PAN AMERICAN CONTRACT OPTIONS**

<u>Option</u>	<u>Aircraft Modified</u>	<u>Contract Option Date</u>	<u>Total Funds (Mil\$)</u>
#1	2 thru 5	Jan 15, 1984 ¹	\$129.3
#2	6 thru 9	Jan 15, 1985 ²	\$127.7
#3	10 thru 17	Oct 15, 1985 ³	\$252.5
#4	18 thru 19	Oct 15, 1986 ⁴	\$ 64.7

Sources: History of the Military Airlift Command, January - December, 1983, p. 481, AMC/HO; History of the Military Airlift Command, January - December, 1985, pp. 433-39, AMC/HO; Rand Study, Mary Chenoweth, "The Civil Reserve Air Fleet: An Example of the Use of Commercial Assets to Expand Military Capabilities During Contingencies," A Rand Note (June 1990):21-22.

Notes:

- 1 Government exercised option #1 on January 11, 1984.
- 2 Government exercised option #2 on January 8, 1985.
- 3 In May 1985 the contract was modified, dividing option #3 into two parts. The option for aircraft 10-12 was exercised at that time. The deadline for aircraft 13-17 was postponed from Oct 15, 1985 to Feb 27, 1986. The option for aircraft 13-17 was exercised in Dec 1985.
- 4 Government exercised option #4 in October 1986.

CRAF Management—Looking Ahead

To offset the continuing loss of cargo-capability, MAC approached Federal Express and United Parcel Service in October 1983 to enlist their aircraft in the CRAF program. The immediate results were disappointing. Federal Express was interested but not ready to commit itself. UPS expressed no interest at all.⁶⁰ General Ryan wrote to Fred Smith, Chairman of Federal Express to reopen discussions.⁶¹ An increasing proportion of the long-range cargo capable aircraft were now found in the parcel express sector of the industry, and MAC wanted and needed them in CRAF. (See Table 8.3)

Table 8.3
Express Air Freight Aircraft
(as of Oct 4, 1984)

Air Express Firm	Aircraft in CRAF	Aircraft Not in CRAF	
		On Hand	On Order
Federal Express	3 DC-10-30 CF	6 DC-10-10CF 2 DC-10-30CF	5 DC-10-30F 3 DC-10-30CF
United Parcel	-	14 DC-8-73 3 B-747-100F	
Emery Air Freight	-	10 DC-8-73	10 DC-8-73
Total	3¹	35²	18³

Source: Memorandum, Brig Gen Anthony J. Bushnick (DCS/Plans, MAC), Subject: Proposed Change to Civil Reserve Air Fleet (CRAF) Contracting Legislation, October 5, 1984, CRAF Papers, Box 6, Folder: GAO/CRAF, AMC/HO.

Notes:

¹ The Express Air Freight aircraft in CRAF contributed .342 MTM/Day of cargo capability to CRAF.

² The Express Air Freight aircraft not in CRAF were capable of 3.254 MTM/D.

³ The aircraft on order by the Express Air Freight firms would offer 1.769 MTM/D.

By the end of 1983, negotiations between MAC and Federal Express were under way again, and early in 1984 an agreement was reached. Federal Express immediately committed three aircraft to CRAF and by year's end had enrolled two more.⁶² Emery Air Freight was briefly brought into the program in the spring of 1985, when it leased a plane to National Air

Lines, which in turn offered it to CRAF. That arrangement was short-lived, however, for National did not participate in CRAF the next year.⁶³ The process of bringing United Parcel Service and Emery Air Freight more fully into the fold was complicated by a provision in the Federal Aviation Act of 1958 that restricted CRAF participation to "direct air carriers"; UPS and Emery, due to their corporate organization, did not meet the requirements. (Federal Express had organized differently, and did qualify.)⁶⁴ MAC could have asked Congress to change the law, but the issue was complex and the command's legal staff strongly warned against that. "Our whole CRAF program, which has been successfully operating for years, would have to be changed if legislation were enacted permitting us to deal directly with indirect air carriers. This bothers me, as it would require a whole new learning curve to have the flexibility we have now, plus allow the opponents of CRAF to chop away at our current flexibility which now has precedent behind it."⁶⁵

While the law did preclude MAC from dealing directly with UPS and Emery, it did not preclude the aircraft from these companies from being committed to CRAF through qualifying air carriers. All that was necessary was "some innovative leasing agreements between the owners and operators of those aircraft," concluded the MAC staff.⁶⁶ "We could easily write a suitable CRAF contract for UPS and Emery," they noted. In effect, upon call-up, the aircraft would be leased to a qualified carrier who would operate them in CRAF. The only problem remaining was that neither UPS nor Emery saw any benefit in joining CRAF. Moreover, they were concerned with the risk a commitment to CRAF could incur. In case of a call-up there was, of course, physical risk to their aircraft, but more important was the risk of losing business to competitors whenever their aircraft were mobilized.⁶⁷

MAC continued to work with UPS and Emery, however, and in late 1986 agreements were reached that allowed for joint ventures in which the package freight haulers would furnish the aircraft while teamed with qualifying direct air carriers. Two such teams offered aircraft, crews, and facilities to CRAF in fiscal year 1987: Flying Tiger, Tower, and UPS; and Federal Express and World. While the package express firms had the aircraft, they usually did not have sufficient personnel to provide the required four crews per aircraft. Their partners provided the additional crews and sometimes maintenance personnel and facilities.⁶⁸

These joint ventures not only allowed several firms to combine their resources, they also allowed these companies to share in the benefits. For example, the package express firms were ill-equipped to accept all of the MAC airlift augmentation business that they might earn as a result of their CRAF contribution, for that business was often passenger service rather than cargo. By teaming with carriers that could accept the passenger business, the full benefit of participation could be garnered. The value to CRAF was equally obvious. By mid-1987 these joint ventures were contributing forty of the seventy-seven cargo aircraft in CRAF.⁶⁹ (See Tables 8.1 and 8.4)

Table 8.4

Civil Reserve Air Fleet Carriers
(Long-Range International Segment, Stage III)
 (as of July 1)

Airlines	Number of Aircraft Allocated									
	1979	1980	1981	1982	1983	1984	1985	1986	1987	
Airlift Intl	10	11	8	3	2	2	4	-	-	
American	44 ¹	42 ¹	39 ¹	34 ¹	34 ¹	30 ³	33	13	37	
American Trans	-	-	-	-	1	4	9	8	9	
Arrow	-	-	-	-	12	15	6	6	-	
Braniff	4	8	5	11	-	-	-	-	-	
Capitol Intl	2	2	3	9	4	3	-	-	-	
Continental	15	13	13	13	11	-	6	6	6	
Delta	-	-	-	-	-	-	4	4	4	
Eastern	-	-	-	-	-	-	-	1	2	
Evergreen	1	2	2	2	2	2	2	4	2	
Federal Express	-	-	-	-	-	3	5	5	-	
Flying Tiger	24	26	36	36	34	23	17	17	-	
Global	-	-	1	2	3	2	-	-	-	
Hawaiian Air	-	-	-	-	-	-	3	5	7	
Interstate	-	-	-	-	-	-	-	-	6	
Jet Charter Srv	-	-	-	-	-	1	2	-	-	
National	4	-	-	-	-	6	7	-	-	
Northwest	47	51	51	51	51	50	53	54	58	
Overseas Natl	-	-	-	-	3	-	-	-	-	
Pan American	74	74	63	68	66	62	51	37	41	
Rich Intl	-	-	-	-	1	1	3	2	-	
Rosenbalm	-	-	-	-	-	-	-	-	7	
Seaboard World	6	8	-	-	-	-	-	-	-	
Skystar	-	-	-	-	-	-	-	5	-	
Skyworld	-	-	-	-	-	-	-	2	2	
South Pacific	-	-	-	-	-	1	1	-	-	
Southern Air	-	-	-	-	-	-	1	2	3	
Total Air	-	-	-	-	-	-	-	2	3	
Tower	-	-	-	-	-	-	2	3	2 ⁵	
TransAmerica	-	-	18	18	18	15	10	10	-	
Trans Intl	15	17	-	-	-	-	-	-	-	
TWA	54	42	33	28	32	33	39	41	45	
United	44 ²	28 ²	35 ²	34 ²	34 ²	37 ²	35 ²	35 ⁴	52 ⁴	
United Parcel	-	-	-	-	-	-	-	-	-	
Western	14	-	-	-	-	-	-	-	-	
World	15	17	17	15	14	12	9	9	-	
Zantop	-	1	1	1	1	1	-	-	4	
Joint Venture 1 (Flying Tiger, Tower, United Parcel)	-	-	-	-	-	-	-	-	24	
Joint Venture 2 (Federal Express, World)	-	-	-	-	-	-	-	-	16	
L-R Intl CRAF	373	342	325	325	323	303	302	271	330	
No. Airlines	16	15	15	15	18	20	22	21	22	

Notes for Table 8.4 (Civil Reserve Air Fleet Carriers):

- ¹ Includes 8 aircraft in "Plywood CRAF."
- ² Includes 18 aircraft in "Plywood CRAF."
- ³ Includes 24 aircraft in "Plywood CRAF."
- ⁴ Includes 13 aircraft in "Plywood CRAF."
- ⁵ These aircraft are in addition to any in Joint Venture 1.
- ⁶ These aircraft are in addition to any in Joint Venture 2.

Source: HQ MAC Forms O-312, CRAF Office, MAC.

On November 17, 1985 Gen. Duane H. Cassidy, who had recently taken command of MAC, proposed to the Secretary of the Air Force that a new CRAF segment be created to support MAC's aeromedical evacuation mission.⁷⁰ General Cassidy had entered the Air Force as an aviation cadet in 1954, served for a time as a navigator in MATS's weather and air rescue services, and entered pilot training in 1956. Subsequently he flew the B-47 Stratojet for the Strategic Air Command. In 1969, he took command of the 8th Military Airlift Squadron, and, except for a brief tour with the Air Staff, spent the balance of his career in MAC—including an assignment as MAC's Deputy Chief of Staff for Operations (1981-1983). On the Air Staff (1984-1985) he served as Deputy Chief of Staff for Manpower and Personnel. Cassidy assumed command of MAC on September 20, 1985, and remained until September 21, 1989—the first MATS/MAC commander since Tunner to have spent a substantial part of his career as an airlifter. On October 1, 1987, upon its activation, he also took the helm of the United States Transportation Command (USTRANSCOM).⁷¹

The idea of using CRAF to help in the aeromedical evacuation of combat casualties was not a new one; it had been considered in 1951 and 1952 as a part of the original CRAF proposal.⁷² The concept was dropped at that time for several reasons—among them, lowered estimates of medical airlift requirements, an increase in MATS's own litter lift capability, and MATS's concern that "the difficulty and expense involved in such a modification program for civil aircraft would exceed the limited gain achieved."⁷³

The notion was revived again in 1980 in an Air Command and Staff College Study that recommended that CRAF's domestic segment be augmented by aircraft equipped for aeromedical evacuation which would aid in the movement of patients within the continental United States. Although that study did not provoke any immediate action, the Joint Staff became concerned in 1982 about aeromedical evacuation from Europe in case of a war there.⁷⁴ In response, in early 1983, MAC suggested using returning wide-body CRAF passenger aircraft to move patients from Europe to points in the United States. In theory, at least, some of these aircraft would otherwise return empty from Europe. If properly equipped, they could provide a substantial aeromedical airlift capability. "In addition to their greater availability for the medevac mission, wide-bodied, passenger aircraft offer a better patient environment, operate outside the congested MAC airlift network, and can carry their own medical equipment without seriously affecting the deployment of troops."⁷⁵ This concept was approved, within MAC, for further study and development. As work on the concept continued, however, it became clear to the MAC staff that dedicated aeromedical evacuation aircraft was a more workable alternative.⁷⁶

In 1985, MAC presented a plan that envisioned using the new Boeing 767 as a dedicated medical evacuation aircraft. These B-767s had come into airline service in 1982, and had the range and navigation gear for long-range CRAF operations. Using free-standing stanchions to hold the litters and modular or containerized electrical and oxygen kits, a 767 could be reconfigured without modification in only twelve hours. The aeromedical evacuation segment would contain up to forty-eight of these aircraft in stage II and eighty-five in stage III.⁷⁷ The Department of Transportation approved the idea in March 1986 and Department of the Air Force approval followed in May. At the end of 1987, MAC was still awaiting Department of Defense approval and the completion of a DOD/DOT memorandum of understanding that would formalize the segment.⁷⁸

The year 1986 was so difficult for CRAF airlines that one observer asked, "Can the CRAF Survive Another Year Like 1986?" Deregulation and mergers were realigning the business. Texas Air absorbed Eastern, People Express, and Frontier; Delta took over Western;

TWA merged with Ozark, and United expanded its Pacific operations by purchasing Pan Am's Pacific Division. International terrorism and the Chernobyl nuclear power plant accident cut into the normally heavy summer traffic to Europe. Pan American and TWA each lost hundreds of millions of dollars on their European routes. Other CRAF carriers failed or seemed likely to fail: Transamerican Airlines discontinued operations in September, and World announced that it was withdrawing from scheduled service; Flying Tiger management said, in November 1986, that, because of a failure to obtain labor concessions, it was selling all its assets.⁷⁹

General Cassidy, who had become CINCMAC in September 1985, had watched the events of 1986 with a growing concern for CRAF. Moreover, three studies had recently critiqued the program and each had found it wanting.⁸⁰ Cassidy, a former MAC Deputy Chief of Staff for Operations (1983-1984), was not unfamiliar with CRAF and its problems. In 1986, however, trends in the air transport industry threatened to undermine the program and, with it, the nation's military readiness. A third of the long-range commercial cargo-airlift capability had gravitated away from CRAF in the years since deregulation and that number was projected to grow by half. In response, Cassidy formed a MAC working group to do a comprehensive review of the CRAF program. By mid-fall 1986, the MAC staff had reached a consensus on a policy to revitalize CRAF. On December 3, Cassidy, approved ten CRAF PLUS Initiatives.⁸¹ (See Table 8.5) Still, except for the proposal to seek the addition of military features to all long-range passenger aircraft built in the United States, there was little in this program that was new.

Using the ten proposed initiatives as a starting point, the MAC staff worked with the Military Airlift Committee of the National Defense Transportation Association throughout 1987 to determine what direction the CRAF PLUS program should take, and which of the proposed CRAF incentives should be included.⁸² Although no agreement on the CRAF PLUS program, as a whole, was reached in 1987, one proposed initiative—requiring that defense features be installed on all new U.S. built wide-body aircraft--was already beginning to stir controversy. As one observer put it, it "would be sure to set off an intense political fight between the military, on the one hand, and the air carriers and their respective supporters in Congress, on the other."⁸³

The same issue surfaced again in 1987 in a new Air Force sponsored "Statement of National Airlift Policy"—National Security Decision Directive (NSDD) 280.84. This paper was the culmination of several years' efforts to redefine the nation's airlift objectives—a combined effort of the MAC staff and the Military Airlift Committee of the National Defense Transportation Association. Although the approved version of NSDD 280 did not include all the specifics that the committee had recommended, it did contain what MAC considered "the keystone of our initial submission—that the peacetime force of MAC and the mobilization base of commercial air carrier industry must reflect wartime needs."⁸⁵ It declared that U.S. policies "shall be designed to strengthen and improve the organic airlift capability of the Department of Defense and, where appropriate, enhance the mobilization base of the U.S. commercial air carrier industry." Only one issue seemed likely to stir controversy—the provision that DOD and the Department of Transportation "shall jointly develop policies and programs to increase participation in the Civil Reserve Air Fleet and promote the incorporation of national defense features in commercial aircraft."⁸⁶ On this question, as one observer put it, "the battle lines are already being drawn."⁸⁷

Table 8.5

CRAF PLUS Initiatives

1. Research existing legislation to determine adequacy in current deregulated environment.
2. Prepare amendments to existing legislation or draft new legislation, orders, or directives to ensure responsive CRAF participation in wartime and contingency operations; in particular draft legislation to require the addition of military features--National Defense Features Program--on U.S. manufactured, long-range, international aircraft.
3. Develop plans to introduce legislation and implement supporting directives and initiatives.
4. Develop methods to increase DOD leverage with the civil air passenger and cargo industry using DOD peacetime business awards.
5. Examine innovative contracting procedures and options such as multi-year and structured contracting.
6. Develop economic data to determine an appropriate mix of various incentives.
7. Develop specific long-term goals for the level of CRAF participation needed (ton-miles and number of aircraft) in harmony with National Airlift Policy Statement goals.
8. Determine baseline National Defense Features needed, assessing their acceptability by the carriers and manufactures.
9. Initiate a comprehensive review and analysis of the MAC airlift system and worldwide route structure using a state-of-the-art algorithm to determine optimum routing, equipment, and service frequency.
10. Develop funding programs for CRAF initiatives.

Source: Memorandum, DCS/Plans Staff, MAC, Subject: CRAF Revitalization--now 'CRAF Roadmap,' December 11, 1986, History of the Military Airlift Command, January 1986 - December 1987, Vol V (Supporting Documents), AMC/HO.

Summary and Analysis

Despite the best efforts of defense planners from 1980 through 1987, not all was well with CRAF by the end of that period. A softening in the air cargo industry and a failure to convince major airlines to add defense features to their planes combined to leave CRAF in distress. "The CRAF program is facing severe problems," Deputy Defense Secretary William H. Taft, IV told the National Defense Transportation Association. "We are losing CRAF capabilities, and we have not been able to replace them."⁸⁸

Even if the major airlines went on a buying spree to replace aging wide-bodies, it would only aid CRAF if MAC could convince the carriers to include on the planes such defense features as large cargo doors and strengthened floors. So far, MAC had been largely unsuccessful in doing that. Only three air carriers had agreed to participate in the CRAF enhancement program. Of those, United Airlines and Federal Express had committed only one aircraft each. The third participant, Pan American, had offered nineteen aircraft, but all were twenty-five years old or older, and nearing the end of their service life.⁸⁹

After years of searching for an alternative to the inadequate CRAF enhancement program, the most attractive proposal seemed sure to put the military and the air transport industry on a collision course. That solution was to ask Congress to pass legislation requiring all new wide-body aircraft to have defense features. The airlines were certain to respond with what one observer labeled "a thunderous assault against the legislation, mobilizing their substantial political support in Congress."⁹⁰

For both the air carriers and the military, it was a question that went beyond economics and airlift requirements. Ironically, it was an issue akin to that which divided the military and the civilian airlines when CRAF was first debated in the late 1940s—the issue of the air carriers' independence from government control. "The idea is ridiculous," said an Air Transport Association official. "You can't mandate design features and expect us to be competitive in the world market. There's no way they would force that down the airlines' throats."⁹¹

By 1987, defense officials faced tough choices concerning the CRAF program—choices that could dictate its future. Yet, by year's end, no decisions along this line had been made. By 1987 the Civil Reserve Air Fleet program was more troubled than at any time since its inception in 1952. Increasing strategic airlift requirements in the late 1970s and early 1980s had placed a premium on airlift assets just at the time when the economic dislocation, caused by airline deregulation, and noise reduction regulations were compelling the airlines to dispose of the freighters that CRAF depended on. Strategic requirements and economic realities had contrived to produce a shortfall in cargo airlift capability that CRAF officials seemed unable to rectify.

Endnotes

1. MAC HQ Forms O-312 and 312, CRAF Office, AMC. MTM/D (million ton-miles per day).
2. The twenty-one aircraft which were modified to add cargo capability in the CRAF enhancement program included one from United (1980), and the nineteen from PAA (1983) and one from Federal Express (1987).
3. For a more complete discussion of these commitments see Chapter 7.
4. Gen. William G. Moore, Jr., "Airlifting Outlook," *Airline Pilot*, (Sep. 1979), pp. 24-25. See also: Lt. Col. George A. Pasquet, "Civil-Military Air Transportation for the Future," *Airlift Operations Review*, (Apr. 1980), pp. 19-22.
5. Miller, pp. 373-75.
6. Futrell, II: 652.
7. Miller, p. 372.
8. The classified "Congressionally Mandated Mobility Study," dated Apr. 30, 1981, was submitted to Congress on May 21, 1981. A brief unclassified summary of the study can be found in: Betty R. Kennedy, ed., *Historical Reference Papers, Major Studies Related to Military Airlift* (Scott AFB, IL: Office of History, Military Airlift Command, 1989), p. 58. Cited hereafter as *MAC Historical Reference Papers*. The study recommended that, of the 66 MTM/D goal, at least 10 MTM/D of that capability should be for outsized cargo—cargo too large to be carried by a C-141, yet small enough to fit into a C-5. The embattled C-X or C-17 promised to provide additional airlift capability for outsized equipment.
9. An unclassified summary of the classified "U.S. Air Force Airlift Master Plan" (dated Mar. 24, 1983) can be found in: *MAC Historical Reference Papers*, pp. 63-64. See also Futrell, II: 665.
10. Monthly MAC HQ Form O-312s and 312s, CRAF Office, AMC.
11. PP, Brig. Gen. Claudius E. Watts III (Asst DCS/Plans MAC), Subj: CRAF Enhancement Program, Apr. 20, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.
12. Meeting Minutes, National Defense Transportation Association, Minutes of Meeting[,] Military Airlift Committee of the National Defense Transportation Association, Nov. 13-14, 1984, CRAF Papers, Box 12, Folder NDTA-Military Airlift Committee, AMC/HO. This is from a summary of comments by ATA president, Paul R. Ignatius. The certificated air carriers lost \$1.4 billion in the years 1981-1983—\$300.8 million in 1981, \$915.8 million in 1982, and \$188.1 million in 1983. Although the industry showed profits in 1984 and 1985 (\$824.7 million and \$862.7 million respectively), it recorded a loss of \$234.9 million in 1986. [Alexander T. Wells, *Air Transportation, A Management Perspective*, 2d ed. (Belmont, Calif: Wadsworth Publishing Co., 1988), p. 185. Cited hereafter as Wells.]
13. Memo, Col. Frank J. Kelly, Jr. (Asst DCS/Plans MAC) to Comd Sec, Subj: Continental Airlines, Inc., Oct. 26, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.
14. Hist, MAC, "Military Airlift Command, Jan-Dec, 1983," I: 491, AMC/HO; MAC HQ Forms O-312 and 312, CRAF Office, AMC. Although most of this loss was due to the decrease in the number of cargo-capable aircraft available to CRAF, a part of the decline reflects a policy decision, in 1984, to stop counting the lower-lobe capacity of the wide-body jets hauling troops as a part of the overall cargo capability. Experience showed that the lower-lobes were more fully utilized by material accompanying the troops that anticipated. This meant a loss of from 2.2 to 2.4 MTM/D of capability that had been counted on prior to 1984.
15. Wells, pp. 66-77; Davies, pp. 675-77. The Civil Aeronautics Board (created originally as

the Civil Aeronautics Authority by the Civil Aeronautic Act of 1938, and renamed in 1940) had, since 1938, held regulatory powers applying to airline tariffs, air mail rates, and business practices—including statistics, mergers, and competition.

16. Brig. Gen. Anthony Burshnick (DCS/Plans MAC), "The Post-Deregulation Environment and the Civil Reserve Air Fleet," *Defense Transportation Journal*, (Feb. 1985): 73.

17. H. Carl Munson, "In the Halls of Congress Our Future Will be Determined," *Defense Transportation Journal*, (Feb. 1985):74-76; Peter W. Brooks, "The Coming of Jet Transportation," *Aerospace Historian* (Dec. 1981):218-29.

18. Memo, Lewis A. Burleigh (Off AF Gen. Counsel) to Antonia H. Chayes (USec AF), Subj: CRAF Enhancement Program, Nov. 13, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.

19. Rpt, Col. David S. Hinton (Dir of Trans USAF), "White Paper on National Airlift Policy and Future of the Civil Reserve Air Fleet," Jun. 4, 1981, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO; MAC HQ Form O-312, CRAF Office, AMC.

20. Hist, MAC, "Military Airlift Command, Jan-Dec, 1983," I: 485-86, AMC/HO.

21. Ltr, Norman J. Phillion (Exec VP ATA) to Casper W. Weinberger (Sec Def), Mar. 17, 1983, cited in Hist, MAC, "Military Airlift Command, Jan-Dec, 1983," I: 487, AMC/HO.

22. Study, MAC, "Airlift Management in a New Era," Jul. 1983, AMC/HO.

23. PP, Col. Donald Scooler (Asst DCS/Plans MAC), Subj: CRAF Readiness Funding, Nov. 21, 1984, CRAF Papers, Box 16, Folder Civil Reserve Air Fleet (Policy), AMC/HO; Memo, Col. Donald Scooler (Asst DCS/Comptroller MAC) to Comd Sec, Subj: CRAF Readiness Funding, Nov. 23, 1984, CRAF Papers, Box 16, Folder Civil Reserve Air Fleet (Policy), AMC/HO.

24. Ltr, Gen. Thomas M. Ryan, Jr. (CINCMAC) to Thomas E. Cooper (Asst. Sec AF RD&L), Nov. 24, 1984, CRAF Papers, Box 16, Folder Civil Reserve Air Fleet (Policy), AMC/HO; PP, Col. Donald Scooler (Asst DCS/Comptroller, MAC), Subj: CRAF Readiness Funding, Nov. 21, 1984, CRAF Papers, Box 16, Folder Civil Reserve Air Fleet (Policy), AMC/HO.

25. PP, John F. Shea (Asst DCS/Plans MAC), Subj: CRAF Enhancement Program, Jul. 2, 1980, Point Paper Collection, Folder CRAF, AMC/HO.

26. *Ibid*; Memo, Col. Gerald N. Cozort (DCS/Plans staff MAC) to [DCS/Plans, MAC], Subj: OSD Release of CRAF Enhancement Funds, Aug. 12, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.

27. In Jan. 1980, it had seemed that MAC was close to signing a CRAF enhancement contract with Braniff to modify a B-747. Suddenly, in mid-Feb, the airline backed away from the deal. MAC offered an additional \$500,000 incentive for their participation in the program, but Braniff still declined. Harding L. Lawrence, Braniff Chairman and Chief Executive Officer, explained that two factors drove their decision. First, the convertible aircraft would be an odd aircraft in the fleet of seven B-747s and would lack the range necessary for their Pacific operations. Second, Braniff was beginning to experience serious financial difficulty—a problem that would ultimately cause the company to fail. [Memo, Col. John E. Griffith (DCS/Air Trans MAC) to MAC Command Section, Subj: CRAF Enhancement Program - Braniff, Feb. 16, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.] Wrote Lawrence, "Capital requirements and high interest rates, the volatile fuel situation (both supply and price), as well as labor rates have upset the conventional air transport in the past two years." He did not mention Braniff's aggressive expansion in the post-deregulation era—the root cause of the company's immediate distress. [Ltr, Harding L. Lawrence (Chair and CEO Braniff) to Gen. Robert E. Huyser (CINCMAC), Mar. 28, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.]

28. Ltr, Hans Mark (Sec AF) to Gen. Robert E. Huyser (CINCMAC), Mar. 25, 1980 in Hist,

- MAC, "Military Airlift Command, Jan-Dec, 1980," Vol V (Supporting Documents), AMC/HO.
29. Hist, MAC, "Military Airlift Command, Jan-Dec, 1980," I: 449, AMC/HO.
30. PP, Col. Gerald N. Cozort (DCS/Plans staff MAC), Subj: "United Air Lines (UAL) Response to CRAF Enhancement RFP, Mar. 26, 1980 in Hist, MAC, "Military Airlift Command, Jan-Dec, 1980," Vol V (Supporting Documents), AMC/HO.
31. Memo, Col. Gerald N. Cozort (DCS/Plans staff MAC), to [DCS/Plans, MAC], Subj: OSD Release of CRAF Enhancement Funds, Aug. 12, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO; Memo, Col. Cozort to [DCS/Plans, MAC], Subj: CRAF Enhancement, Aug. 20, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO., AMC/HO. On Apr. 15, 1980, Air America submitted a proposal for the modification of four DC-10 aircraft it intended to order. After extended negotiations, however, MAC and Air America could not agree on a mutually satisfactory price. Air America protested MAC's failure to meet its price, but the General Accounting Office ruled in favor of MAC. [Memo, Lt. Col. Clarence Black (DCS/Air Trans staff MAC), Subj: Air America (AAI) CRAF Enhancement Proposal, Sep. 24, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO; DP, Milton J. Socolor (Acting U.S. Comptroller General), Subj: Air America Incorporated, Jul. 7, 1981, GAO File B-200837.]
32. Congress mandated a mobility study by the Air Force in Sep. 1980. [Futrell, II: 652.] By early Oct. the AF Secretariat was an active supporter of the CRAF Enhancement Program. [Memo, John F. Shea (Asst DCS/Plans MAC) to [DCS/Plans, MAC], Subj: CRAF Enhancement Program, Oct. 9, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.]
33. Hearings, U.S. Congress, House, *Department of Defense Appropriations for 1981: Hearings before a Subcommittee of the Committee on Appropriations*, 96th Cong., 2d Sess., part 2, p. 292.
34. Memo, Antonia H. Chayes (Under Sec AF) to [AF Vice CofS], Subj: CRAF Program Tasking, Nov. 21, 1980, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1980, AMC/HO.
35. Ltr, Verne Orr (Sec AF) to Edward J. Driscoll (Pres, National Air Carrier Association), Jun. 18, 1981, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; Study, Antonia H. Chayes and Cynthia J. Williams, "White Paper on Civil Reserve Air Fleet Enhancement Program," May 6, 1982, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO.
36. Ltr, Anthony Chaitin (VP, United) to R. W. Koeckner (DCS/Air Trans staff MAC), Feb. 18, 1981, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; Memo, Col. George E. Pitts, (Asst DCS/Air Trans MAC), to Comd Sec MAC, Subj: CRAF Enhancement (Retrofit) Program, Mar. 6, 1981, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO.
37. Ltr, Verne Orr (Sec AF) to Edward J. Driscoll (Pres, NACA), Jun. 18, 1981, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; Study, Antonia H. Chayes and Cynthia J. Williams, "White Paper on Civil Reserve Air Fleet Enhancement Program," May 6, 1982, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO. [Chayes (former Under Sec AF) and Williams, both lawyers, were in private practice with the firm of Csaplar & Bok of Boston.] A year earlier, a United Airlines DC-10 had been accepted for modification, but only because it was the only aircraft available and only because the failure to sign a modification contract risked almost certain loss of the program.
38. For a detailed discussion of the development and evolution of the 1963 three-stage plan see Chapter 5. In 1970, Stages I and II of the three-stage plan were modified, but because

these two stages were defined by contractual agreement between the Military Airlift Command and the airlines, no new memorandum of understanding was signed. In redefining Stage I, MAC examined a number of deployment requirements short of war, from show-the-flag missions to counterinsurgency operations. Phase I was now to be activated by the MAC Commander, and Phase II by the Secretary of Defense. For a full discussion of the development of the changes to Stages I and II in 1970 see Chapter 6.

39. The Department of Transportation (DOT) was created in 1966. Under DOT the Office of Emergency Transportation (an element of the Office of the Secretary of Transportation) continued to coordinate CRAF related activities, just as it had earlier done under the Department of Commerce.

40. MOU, Depts of Defense and Transportation, "Memorandum of Understanding Between The Department of Defense and The Department of Transportation Concerning The Civil Reserve Air Fleet Program," May 7, 1981, CRAF Papers, Box 4, Folder Memos of Understanding, AMC/HO.

41. Edgar Ulsamer, "The Airlift Master Plan," *Air Force Magazine*, (May 1984):60-61.

42. Kathleen G. McAuliffe, "CRAF to be Dropped," *Air Force Magazine*, (Mar. 1982):37.

43. The National Defense Transportation Association was created as an advisory council on transportation matters to the Secretary of Defense and was made up of transportation industry officials and others with a particular interest in and knowledge of transportation issues. The Military Airlift Committee was created in 1967, at the request of Gen. Howell M. Estes, Commander of MAC. It was made up of civilian air transportation leaders and served as a sounding board for the MAC commanders and their staffs on a broad range of air mobility problems. It is charged with examining critical issues of national airlift capability and recommending solutions. The committee hold formal meetings twice each year.

44. Study, Antonia H. Chayes and Cynthia J. Williams, "White Paper on Civil Reserve Air Fleet Enhancement Program," May 6, 1982, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO.

45. *Illustrated Hist of MAC*, p. 235.

46. Ltr, Edward J. Driscoll (Pres and CEO NACA) to Charles D. Baker (Pres Harbridge House), May 10, 1982, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO; Ltr, L. L. Waters (Prof Emeritus of Trans, Indiana Univ Sch of Bus) to Charles D. Baker, May 11, 1982, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO.

47. Hist, MAC, "Military Airlift Command, Jan-Dec, 1982," I: 399-400, AMC/HO.

48. C. F. Surba (retired AF civilian), "Key Airlift Issues to Face New Congress," *National Defense* (Mar. 1983):33-34.

49. PP, Brig. Gen. Claudius E. Watts, III (Asst DCS/Plans MAC), Subj: CRAF Enhancement Program, Apr. 20, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.

50. Message, CINCMAC, to CSAF (CC), Subj: CRAF Enhancement, Mar. 30, 1983 [dtg 302210Z] in Hist, MAC, "Military Airlift Command, Jan-Dec, 1983," Vol V (Supporting Documents), AMC/HO. In the text of this annual command history (Vol I), this message in erroneously attributed to Gen. Thomas M. Ryan, Jr. who assumed command of MAC on Jun. 30, 1983. [Hist, MAC, "Military Airlift Command, Jan-Dec, 1983," I: 479, AMC/HO.]

51. From 1977 through 1985, two-year terms as MAC commander was the norm: Gen. William G. Moore, Jr. (Apr. 1977-Jun. 1979), Gen. Robert E. Huyser (Jul. 1979-Jun. 1981), Gen. James R. Allen (Jun. 1981-Jun. 1983), and Gen. Thomas M. Ryan, Jr. (Jun. 1983-Sep. 1985).

52. Ltr, Lt. Col. Michael A. Harden (DCS/Plans Staff MAC) to [CRAF airlines], May 18,

1983, CRAF Papers, Box 28, Folder CRAF carriers, AMC/HO; Memo, Brig. Gen. Claudius E. Watts III (Asst DCS/Plans MAC), Subj: CRAF Enhancement, Apr. 14, 1983, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1983, AMC/HO.

53. Ryan's military career had begun as an aviation cadet in 1949. Prior to his first assignment to MAC, in 1977, Gen. Ryan had served primarily in Strategic Air Command organizations and at SAC headquarters, although he did fly the RF-4C *Phantom II* in Vietnam (1968-69). In 1971 he returned to bombers, commanding the 379th Bombardment Wing. Ryan served as MAC's Vice Commander from Oct. 1977 to Jul. 1981, and after a tour as commander of the Air Training Command, returned to Scott as CINCMAC in Jul. 1983. He continued in that post until Sep. 1985. [*Illustrated Hist of MAC*, p.236.]

54. Ltr, Antonia H. Chayes (former Under Sec AF), to Gen. Thomas R. Ryan, Jr. (CINCMAC), Jul. 8, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.

55. Ltr, Gen. Thomas M. Ryan, Jr. (CINCMAC) to Antonia H. Chayes (former Under Sec AF), Jul. 21, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.

56. Memo, [DCS/Plans Staff MAC], [Subject:] CRAF History (Jul, Aug, Sep. 1983), [c. Oct. 1, 1983], CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO; Oral interview, John F. Shay, interviewed by the author, May 19, 1993, tapes on file at AMC/HO.

57. Hist, MAC, "Military Airlift Command, Jan-Dec, 1985," I: 434-35, AMC/HO; PP, Col. Covert A. Soule, Jr. (Act Asst DCS/Plans MAC), Subj: CRAF Enhancement Program, Feb. 5, 1985, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO. The Air Force received an unexpected bonus when the first modified aircraft rolled out. The weight added in the modification was 3,000 pounds less than anticipated in the contract, and therefore, would cost less to operate than anticipated. That netted a savings in additional operating costs of \$2.5 million over the life of the contract. [Hist, MAC, "Military Airlift Command, Jan-Dec, 1985," I: 435, AMC/HO.] In May 1985 the Pan American contract was modified, dividing option #3 into two parts. The option for aircraft 10-12 was exercised at that time. The deadline for aircraft 13-17 was extended from Oct. 15, 1985 to Feb. 27, 1986. The option for aircraft 13-17 was exercised in Dec. 1985. [Hist, MAC, "Military Airlift Command, Jan-Dec, 1985," I: 433-39, AMC/HO.]

58. Hist, MAC, "Military Airlift Command, Jan-Dec, 1985," I: 433-39, AMC/HO; Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987," I: 442-45, AMC/HO.

59. Steve Hull, "CRAF: Tough Choices Ahead," *Military Logistics Forum* (Apr. 1987), p. 38. Cited hereafter as "Tough Choices."

60. Memo, Col. Frank J. Kelly, Jr. (Asst DCS/Plans MAC) to Comd Sec, Subj: Continental Airlines, Inc., Oct. 26, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.

61. Memo, Col. Clarence H. Lindsey, Jr. (DCS/Air Trans MAC) to [Gen. Ryan] CINCMAC, Subj: Allocation of Federal Express' DC-10-10DF Convertible Aircraft to the Civil Reserve Air Fleet (CRAF) Program, Oct. 24, 1983, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1983-84, AMC/HO.

62. MAC HQ Forms O-312 and 312, CRAF Office, AMC.

63. Memo, Col. Covert A. Soule, Jr. (Act Asst DCS/Plans MAC) to Comd Sec, Subj: Enhancement of Civil Reserve Air Fleet Cargo Capability, Apr. 5, 1985, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; Ltr, Gen. Thomas M. Ryan, Jr. (CINCMAC) to G. F. Steedman Hinckley (Chair National), Apr. 12, 1985, CRAF Papers, Box 19, Folder CRAF Augmentation/Enhancement, AMC/HO; HQ MAC Forms O-312 and 312, CRAF Office, AMC.

64. Memo, Brig. Gen. Frank J Kelly, Jr. (Asst DCS/Plans MAC) to Comd Sec, Oct. 9, 1984, CRAF Papers, Box 6, Folder GAO/CRAF, AMC/HO.
65. Memo, Anthony W. Ptacek (Off of Stf Judge Advocate MAC), to HQ MAC/XPW (Col. Louden), Subj: Legislation Affecting Non-Air Carriers (Your Ltr, 14 Aug. 84), Aug. 30, 1984, CRAF Papers, Box 6, Folder GAO/CRAF, AMC/HO.
66. *Ibid.*
67. Memo, Brig. Gen. Anthony J Burshnick (DCS/Plans MAC) to Comd Sec, Subj: Proposed Change to Civil Reserve Air Fleet (CRAF) Contracting Legislation, Oct. 5, 1984, CRAF Papers, Box 5, Folder GAO/CRAF, AMC/HO. The war risk insurance issued to CRAF carriers by the Department of Transportation was inadequate to cover the loss of aircraft.
68. PP, Col. Covert A. Soule, Jr. (Act Asst DCS/Plans MAC) Subj: Advent of Express Air Freight Phenomenon, Jun. 6, 1985, CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1984-87, AMC/HO; Memo, [MAC/XPW], Subj: HQ MAC/XPW Topics for the 1986-1987 MAC Command History, [c. Dec. 31, 1987], CRAF Papers, Box 4, Folder Civil Reserve Air Fleet 1984-87, AMC/HO; HQ MAC Forms O-312 and 312, CRAF Office, AMC.
69. Memo, Brig. Gen. Anthony J. Burshnick (DCS/Plans MAC) to Comd Sec, Subj: Proposed Change to Civil Reserve Air Fleet (CRAF) Contracting Legislation, Oct. 5, 1984, CRAF Papers, Box 6, Folder GAO/CRAF, AMC/HO.
70. Meeting Minutes, Defense Medical Standardization Board, Defense Medical Standardization Board Meeting no. 2-86, Jun. 25, 1986, p. 4, CRAF Office Files, AMC; PP, [DCS/Plans Staff, MAC], Subj: CRAF Aeromedical Segment, Aug. 18, 1987, Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987, Vol V (Supporting Documents), AMC/HO.
71. *Illustrated Hist of MAC*, pp. 189-90, 236. MAC retained its specified command status until Oct. 1, 1988, when the United States Transportation Command (USTRANSCOM), which was also headquartered at Scott AFB, became fully operational and assumed operational command of MAC's strategic aircraft and of the Air Reserve Component transport assets. (USTRANSCOM also controlled mobilized HC-130 and combat search and rescue assets—less, of course, those assigned to U.S. Special Operations Command.) MAC remained as an Air Force organization with command of 89th Military Airlift Wing (VIP aircraft, including the President's aircraft), Air Weather Service and other "service-unique" activities such as theater airlift forces.
72. Rpt, MATS, Subj: Civil Reserve Air Fleet Plan, Second Annual Report, Summary of Implementing Actions, Jan. 1954, p. 8, CRAF Papers, Box 14, AMC/HO.
73. Stf Jnl, MATS Plans Weekly Diary, Feb. 17, 1954, CRAF Papers, Box 1, Folder Civil Reserve Air Fleet 1951-54, AMC/HO.
74. CP, USCINCEUR/ECMD, Subj: A Case for Dedicated Strategic Aeromedical Evacuation Aircraft, Apr. 15, 1982, [filed with Memo, Brig. Gen. Donald D. Brown (DCS/Plans MAC), Subj: Use of CRAF in Intertheater Aeromedical Evacuation, Apr. 5, 1983] CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1983, AMC/HO. Variations on the concept of using CRAF for aeromedical evacuation from Europe had, in the meantime, been developed independently by United States European Command (USEUCOM) and at the USAF School of Aerospace Medicine. The USEUCOM Surgeon General had taken their recommendation to the Joint Staff. [CP, Col. William T. Stallings and Maj. Dennis R. McLain (DCS/Plans staff MAC), "Use of CRAF in Intertheater Aeromedical Evacuation," Jan. 1983, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1983, AMC/HO.]
75. CP, Col. William T. Stallings and Maj. Dennis R. McLain (DCS/Plans Staff MAC), "Use of CRAF in Intertheater Aeromedical Evacuation," Jan. 1983, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1983, AMC/HO.

76. Memo, Brig. Gen. Donald D. Brown (DCS/Plans MAC) to Comd Sec, Subj: Use of CRAF in Intertheater Aeromedical Evacuation, Apr. 5, 1983, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1983, AMC/HO.
77. PP, [DCS/Plans Staff MAC], Subj: CRAF Aeromedical Segment, Aug. 18, 1987 in Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987," Vol V (Supporting Documents), AMC/HO.
78. Meeting Minutes, Defense Medical Standardization Board, Defense Medical Standardization Board Meeting no. 2-86, Jun. 25, 1986, p. 1, CRAF Office Files, MAC. In late 1987, the full operational capability of the CRAF aeromedical evacuation segment was projected for Sep. 1991.
79. Kent N. Gourdin, "Can the CRAF Survive Another Year Like 1986?" *Defense Transportation Journal* (Jun. 1987), pp. 33-35. Flying Tiger's major unions and its executive and administrative employees did finally agree to pay and benefit cuts, and the company was able to hang on, but it did give CRAF officials a scare. The loss of FTL's sixteen B-747 freighters would have been a blow to CRAF.
80. The first of these was by the General Accounting Office in 1985. The GAO report was followed by a study by the Air Staff and another prepared for the Department of Defense by Harbridge House, a Boston consulting firm. Rpt, GAO, "Emergency Airlift, Responsiveness of the Civil Reserve Air Fleet Can Be Improved" [GAO/NSIAD-86-47], Mar. 1986, pp. 2, 14, 33. [In draft the title of this report was "Civil Reserve Air Fleet: More Can Be Done To Assure Responsiveness Of This Valuable Asset In A National Emergency." The report is often referred to by that title.] Study, Dir of Trans USAF, "Civil Airlift Augmentation Study," Jun. 1986, AMC/HO. Study, Harbridge House, Inc., "Study of the Future Prospects for Defense Airlift: Augmentation Options," Sep. 1986, AMC/HO.
81. Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987," I: 448-50, AMC/HO. MAC's "CRAF PLUS" effort was also known, as it was being developed, as a "CRAF revitalization" or a "CRAF roadmap."
82. Study, Maj. William J Carolan and Capt Steven D. Knott (CINCMAC Anal and Adv Gp), "CRAF PLUS Incentives: Their Expected Capability and Cost, Mar. 3, 1987, CRAF Papers, Box 9, Folder Bonus and Direct Subsidy, AMC/HO; Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987," I: 451-53, AMC/HO.
83. "Tough Choices," p. 38.
84. MAC and the Air Staff, in 1971, had drafted a unilateral Air Force statement of national airlift policy. It essentially reiterated the courses of action that had been approved by the President in 1960, but was never approved as a national policy statement. [BP, John F. Shea, Subj: Airlift Policy Issues, Mar. 4, 1971, CRAF Papers, Box 8, Folder Commercial Airlift Augmentation, AMC/HO; Ltr, Gen. Jack J. Catton (COMAC), to Philip N. Whittaker (Asst Sec AF I&L), Aug. 9, 1971, CRAF Papers, Box 9, Folder Special Subcommittee on Transportation (Sep. 1971), AMC/HO; White Paper, Col. David S. Hinton (Dir of Trans USAF), "White Paper on National Airlift Policy and Future of the Civil Reserve Air Fleet," Jun. 4, 1981, CRAF Papers, Box 3, Folder Civil Reserve Air Fleet 1981-82, AMC/HO.]
85. Memo, Maj. Gen. Richard J. Trzaskoma (DCS/Plans MAC) to Comd Sec, Subj: National Policy Statement, Jul. 30, 1987 in Hist, MAC, "Military Airlift Command, Jan. 1986-Dec. 1987," Vol VI (Supporting Documents), AMC/HO.
86. National Security Decision Directive, Ronald Reagan, A Statement of National Airlift Policy [NSDD No. 280], Jun. 24, 1987, in Hist, MAC, "Military Airlift Command, Jan 1986-Dec. 1987, Vol VI (Supporting Documents), AMC/HO.
87. "Tough Choices," p. 38.

88. *Ibid.*, p. 40. The Taft quote comes from his speech to the fall 1986 meeting of the NDTA in Tampa.
89. *Ibid.*, pp. 41-42.
90. *Ibid.*, p. 43.
91. *Ibid.*, p. 38.

CHAPTER IX

CRAF IN OPERATION DESERT SHIELD

Although the CRAF program began in 1951, no segment of it was ever activated before the Persian Gulf War of 1990-1991. The deployment of forces to bases in Saudi Arabia and elsewhere in Southwest Asia soon became known as Operation Desert Shield. The CRAF immediately became an indispensable contributor to the greatest airlift in history.

From the moment Desert Shield began on August 7, 1990, the Military Airlift Command depended heavily upon the civil airlines to help fulfill its enormous airlift requirements. Without the several thousand missions flown by the civil air carriers, MAC's organic fleet could not have moved nearly 400,000 troops and 355,000 tons of cargo to the Arabian Peninsula by the time the United Nations deadline expired on January 15, 1991. The Desert Shield airlift lasted for 165 days. The Berlin Airlift of 1948-1949, by contrast, had lasted for 463 days. The comparison with the Berlin Airlift is all the more striking in light of the distances flown. The average distance from onload point for a Berlin Airlift mission was approximately 300 miles, compared with a flight of 7,000 miles from the U.S. east coast to Saudi Arabia.¹

On August 7, when MAC launched its first organic missions, 38 aircraft were committed to the CRAF's Stage I, which the Commander-in-Chief, Military Air Command (CINCMAC), could activate unilaterally. Upon activation, the carriers committed to Stage I had twenty-four hours to respond to airlift tasking from Headquarters MAC. Stage II, with 177 aircraft enrolled, stood ready to augment MAC organic aircraft during the next higher level of emergency. The Secretary of Defense was authorized to activate Stage II. As with Stage I, the airlines belonging to Stage II had twenty-four hours to respond to airlift tasking from Headquarters MAC. Stage III would only be activated "short of a defense oriented national emergency" as determined by the President or Congress. At the end of fiscal year 1990, 506 commercial aircraft were committed to the CRAF's third and final stage.²

Activation of CRAF Stage I

On August 7, 1990, the day President Bush issued the Desert Shield deployment order, two World Airways DC-10 passenger aircraft departed Pope AFB, North Carolina, for Dhahran, Saudi Arabia, carrying 520 troops from the 82d Airborne Division at neighboring Fort Bragg. The CRAF cell of the MAC Crisis Action Team (CAT) recognized the magnitude of the airlift unfolding. On August 11, it sent an Aeronautics Radio, Inc., (ARINC) message to all CRAF airline executives, advising that CRAF Stages I or II might soon be activated.³

TABLE 9.1

**CIVIL AIR CARRIER VOLUNTEERS
PRIOR TO CRAF STAGE I ACTIVATION**

American Trans Air	Hawaiian Airlines*
Air Transport Intl	Pan American World Airways
Continental Airlines	Rosenbalm Aviation
Connie Kalitta	Southern Air Transport
Delta Airlines*	Trans Intl Airlines*
Eastern Airlines	Tower Air
Evergreen Intl Airlines	United Airlines
Federal Express	World Airways

*Volunteers not having a Stage I commitment.

SOURCE: Memo (U), MAC DCS Plans and Programs/XPXO, "Air Carrier Volunteers Prior To CRAF Stage I Activation," n.d.

As in past crises, the CRAF carriers volunteered aircraft to support MAC's escalating requirements. Between August 7 and 17, the 16 CRAF members shown in Table 9.1 volunteered nearly 30 aircraft to support the deployment.⁴

Nevertheless, by the end of Desert Shield's second week, many more civil aircraft were needed to meet the scheduled closure times in the Persian Gulf region. Consequently, Gen. Hansford T. Johnson, CINCMAC, activated CRAF Stage I on August 17, 1990, directing that the activation take effect at 0001Z the following day. Desert Shield requirements, said General Johnson, were exceeding the "joint capability of military organic assets combined with those of civil air carrier volunteers."⁵ The CRAF augmentation cell of the Headquarters MAC CAT notified the CRAF members of the Stage I activation over the ARINC and then followed up the electronic alert with secure telephone calls to the carriers.⁶ The senior airline executives from all the Stage I carriers pledged their support.⁷ Table 9.2 shows the civil air carriers included in the Stage I call up and the type and number of aircraft furnished by each airline.

Activating CRAF Stage I increased MAC's total airlift capability in several ways. The 38 Stage I aircraft actually added only about 10 airplanes above those already volunteered. Still, 12 of the 38 were the wide-body Boeing 747s that MAC most needed to transport troops. Besides making more 747s available, activating Stage I gave Headquarters MAC unilateral authority to schedule all of the 38 transports called up.⁸

Quest for Additional Commercial Airlift

Meanwhile, Headquarters MAC continued to seek volunteer commercial aircraft. On August 21, General Johnson called representatives of each CRAF airline to Headquarters MAC at Scott AFB, Illinois. He explained the progress of the airlift to date and encouraged those present to have their companies volunteer more planes.⁹ After the industry representatives departed, Lt. Gen. Anthony J. Burshnick, MAC Vice Commander in Chief, began making daily telephone calls to CRAF carriers' senior executives to solicit additional, voluntary aircraft¹⁰ and continued making the calls for the remainder of the year.¹¹

TABLE 9.2

**CIVIL AIR CARRIERS FURNISHING PASSENGER AND CARGO
AIRCRAFT AT ACTIVATION OF CRAF STAGE I
AUGUST 17, 1990**

Passenger Aircraft		
<i>Carrier</i>	<i>Aircraft Type</i>	<i>Number</i>
American Airlines	DC-10-30	1
American Airlines	B-747B-SP	1
American Trans Air	L-1011	1
Continental Airlines	B-747-100	1
Northwest Airlines	B-747-100	3
Pan American World Airways	B-747-100	3
Tower Air	B-747-100	1
Trans World Airlines	B-747-200	2
United Airlines	B-747-200	2
United Airlines	B-747-400	2
Total: 8 Carriers		17 Aircraft

Cargo Aircraft		
<i>Carrier</i>	<i>Aircraft Type</i>	<i>Number</i>
Air Transport Intl	DC-8-62F	1
Connie Kalitta	DC-8-73F	1
Emery/Rosenbalm Aviation	DC-8-73F	4
Evergreen Intl Airlines	B-747-200CF	1
Evergreen Intl Airlines	DC-8-73CF	1
Federal Express	B-747-200F	4
Federal Express	DC-10-30F	3
Northwest Airlines	B-747-200F	2
Southern Air Transport	B-707-300C	1
United Parcel Service	B-747-100F	2
World Airways	DC-10-30CF	1
Total: 9 Carriers		21 Aircraft

SOURCE: Memo (U), MAC DCS Plans and Programs/XPXO, "CRAF Stage I," Aug 90.

As General Burshnick worked to secure more volunteer aircraft, Headquarters MAC recruited four new airlines as CRAF members. The carriers were America West Airways, Buffalo Airlines, Florida West Air, and U.S. Air. During the Phase I deployment, which continued until mid-November, additional passenger airlift was MAC's greatest requirement. America West Airways pledged four 747s for passenger airlift, while U.S. Air contributed two B-767s and two MD-80s, the latter to support aeromedical evacuation. Buffalo Airlines and Florida West Air volunteered, respectively, four and seven B-707 air freighters to the aggregate pool of cargo aircraft.¹²

Desert Shield's Phase II deployment began on November 12. Its purpose was to place an offensive force on the Arabian Peninsula to augment the defensive force already in place. The increased force buildup created the requirement for another intensive airlift of troops. General Burshnick responded to the new requirement by sending an ARINC message to the CRAF executives on December 21, asking them once more to volunteer planes. The Department of Defense, he said, was planning to deploy more than 125,000 troops from the continental United States and Europe to the Arabian Peninsula in the next twenty-five days. The accelerated troop deployment created a daily requirement for an additional 1,000 seats from the United States and 500 seats from Europe.¹³

Should the CRAF not volunteer more aircraft, MAC would have to reconfigure C-141s to carry passengers and sacrifice much critical cargo carrying capability. As an additional prod to the industry, Headquarters MAC agreed on December 22 to guarantee the U.S. civil carriers "an advanced service order for any wide body passenger capability offered from the continental United States to the Saudi Peninsula" through January 15, 1991, the date when the offensive force deployment was scheduled to end. The airlines were asked to provide the MAC CAT a schedule of availability dates and departure times for each aircraft they declared eligible for an advanced booking.¹⁴ The twin initiatives of direct appeal and advanced booking obtained enough additional CRAF airplanes to support MAC's expanding passenger requirements.

By the first week of January 1991, the airlines had more than thirty long-range passenger aircraft committed to airlifting troops. Headquarters MAC also contracted another thirty-four long-range commercial cargo to fulfill Desert Shield cargo requirements.¹⁵ The CRAF carriers supporting the airlift during the first week of January 1991 are shown in Table 9. 3.

TABLE 9.3

**CRAF CARRIERS COMMITTED TO
OPERATION DESERT SHIELD
(JANUARY 4, 1991)**

Passenger	Cargo
American Airlines	Air Transport Intl
American Trans Air	Arrow Air*
America West Airways*	Buffalo Airways*
Continental Airlines	Connie Kalitta
Delta Airlines*	Evergreen Intl Airlines
Eastern Airlines*	Federal Express
Federal Express	Florida West*
Hawaiian*	Hawaiian (Combi)*
Northwest Airlines	Northwest Airlines
Pan American World Airways	Rosenbalm Aviation
Sun Country*	Southern Air Transport
Tower Air	US Air
Trans World Airlines	United Parcel Service
United Airlines	World Airways
World Airways*	

*Carriers not having a Stage I commitment.

SOURCE: Memo (U), MAC DCS Plans and Programs/XPXO, "CRAF Carriers Committed to DESERT SHIELD, as of 4 Jan 91," n.d.

When combat aircraft of the U.S.-led coalition began bombing Iraqi targets began on January 17, 1991 (at 0300Z), Desert Shield became Operation Desert Storm. Also on January 17, the lingering backlog of cargo at Dover AFB, Delaware, prompted activation of CRAF's Stage II, thus initiating another historic milestone. Secretary of Defense Richard B. Cheney ordered the Stage II call-up on General Johnson's recommendation. Headquarters MAC advised the Stage II carriers that only long-range, international (LRI) cargo aircraft need respond to the activation order. (Stage II passenger aircraft, however, participated in the redeployment airlift that began in early March 1991.) Stage II activation brought the total number of aircraft called up in both stages to 76 LRI passenger and 40 LRI cargo aircraft.¹⁶

In the U.S. and Europe, civil airline crews learned from media reports of the Scud missile attacks on Israel and Saudi Arabia. The missiles, the commentators said, might be equipped with chemical warheads. Some airlines even refused to send their aircraft to airfields that were in Scud range, citing their aircrews' unfamiliarity with chemical warfare protective gear.¹⁷ MAC, which had planned to distribute chemical warfare gear to the CRAF crews after they landed on the Arabian Peninsula, had not anticipated the airlines' concerns.¹⁸

MAC dealt with these apprehensions by sending teams to the airlines' en route stops at Frankfurt, Rome, Brussels, and other locations. There the teams gave the CRAF aircrews

intelligence briefings, distributed chemical warfare gear, and showed the civilian pilots how to use it.¹⁹ MAC also ceased scheduling commercial missions to land in Saudi Arabia between 1600Z and 2100Z, the time when Scud launches most likely to occur.²⁰ Although the Iraqis never used chemical weapons against Israel or Coalition forces, General Johnson later reflected that the apprehensions of the CRAF aircrews' should have been anticipated and dealt with sooner.²¹

Coalition aircraft and artillery bombarded military targets in Iraq and Kuwait for 43 days, and on February 24 allied ground forces commenced a land war that lasted for approximately 100 hours. Hostilities ceased on February 28, 1991 at 0445Z. Desert Storm officially ended when a formal cease-fire took effect on April 11, 1991.²² With the redeployment of troops nearly completed by late May 1991, the CRAF's Stage II was inactivated on May 17, followed by the inactivation of Stage I on May 24.²³

From August 1990 through May 1991, the civil air carriers completed more than 5,400 missions.²⁴ CRAF aircraft moved over 60 percent of the troops and 25 percent of the cargo.²⁵ Since the CRAF had never been activated before August 1990, a lingering question had always been, "How well will the CRAF perform if called upon to support wartime requirements?" Everything considered, the CRAF had worked well, even though some broad questions, such as streamlining procedures for indemnity insurance, remained. For their contribution to victory in the Persian Gulf War, General Johnson paid the CRAF carriers a much deserved compliment when he referred to them as "tremendous heroes." "I couldn't be more pleased with the system," he said.²⁶

Endnotes

1. PP, AMC/HO, "Overview of the Desert Shield/Desert Storm Airlift," Jun. 22, 1993.
2. Rpt, MAC DCS Comptroller/ACIB, "MAC Airlift Services Management Report, FY 90," n.d., pp. 15-16.
3. PP, MAC DCS Plans and Programs/XPXO, "Civil Airlift Support in Operation DESERT SHIELD," Jan. 14, 1991.
4. *Ibid.*
5. *Ibid.*
6. Msg, ARINC/BLVXPMC, "CRAF Stage I Activation Notification," 171755Z Aug 90.
7. PP, MAC DCS Plans and Programs/XPXO, "Civil Airlift Support in Operation DESERT SHIELD," Jan. 14, 91.
8. Intvw, John W. Leland, MAC History, with Col. R. N. Priddy, MAC DCS Plans and Programs/XPXO, Apr. 17, 1991.
9. *Ibid.*
10. Memo, MAC DCS Plans and Programs/XPXO, n.s., 240740Z Aug. 1990.
11. PP, MAC DCS Plans and Programs/XPXO, "Civil Airlift Support in Operation DESERT SHIELD," Jan. 14, 1991.
12. PP, MAC DCS Plans and Programs/XPX, "More Civil Cargo," Sep. 2, 1990; Memo, MAC DCS Plans and Programs/XPXO, "Civil Carriers Added to CRAF Since 1 Aug 90," n.d.
13. ARINC Msg, MAC Vice CINCMAC to Carriers, n.s., 211730Z Dec. 1990.
14. ARINC Msg, MAC CRAF Cell/MAC CAT to Passenger Carriers Only, n.s., 221835Z Dec. 1990.
15. PP, MAC DCS Plans and Programs/XPXO, "Civil Airlift Support in Operation DESERT SHIELD," Jan. 14, 1991.
16. Hist, USTRANSCOM/HO, "Desert Shield/Desert Storm: 7 Aug 90—10 Mar 91," Vol I, May 18, 1992, p. 10.
17. Intvw, James K. Matthews, USTRANSCOM Historian, and J. H. Smith, MAC Command Historian, with Gen. H. T. Johnson, CINCUSTRANSCOM/CINCMAC, Dec. 1992, p. 24, hereafter cited as Interview with Gen. H. T. Johnson.
18. Rpt, Maj. Gen. V. J. Kondra, MAC DCS Operations, "Notes for Operation Desert Shield/Storm," Apr. 7, 1992, edited by Clayton Snedeker, 21 AF Historian, hereafter cited as Notes, Maj. Gen. V. J. Kondra.
19. Msg, MAC CAT to 1610 ALDP/COMALF, "CRAF Chemical Warfare Defense (CWD) Operations Guidance," 111400Z Feb. 1991; Msg, MAC CAT to USCENTAF Rear, "Request for Assistance Expanding CRAF Chemical Defense (CWD) Equipment Issue," 140744Z Feb. 1991.
20. Notes, Maj. Gen. V. J. Kondra, p. 114.
21. Intvw with Gen. H. T. Johnson, p. 24.
22. *Ibid.*
23. PP, AMC/HO, "Overview of the Desert Shield/Desert Storm Airlift," Jun. 22, 1993.
24. Rpt, MAC Financial Management, "Commercial Contract Support for Desert Shield/Storm," Sep. 11, 1991.
25. PP, AMC/HO, "Overview of the Desert Shield/Desert Storm Airlift," Jun. 22, 1993.
26. Intvw with Gen. H. T. Johnson, p. 24.

CONCLUSION

AN ASSESSMENT OF CRAF

The Civil Reserve Air Fleet had its roots both in the joint mobilization planning done by the Air Transport Association and the Air Corps in the late 1930s and in the World War II role of the civilian airlines. Drawing on that experience, in mid-1947, the Air Transport Association proposed the establishment of a reserve of transport aircraft for use in times of national emergency. In 1948, the President's Air Policy Commission echoed the call for such an organization. Four years of planning and coordination between the Air Force and the airlines was necessary, however, before a civil air mobilization concept was agreed upon. Then, on December 15, 1951, a memorandum of understanding between the Department of Defense and the Department of Commerce called for the establishment of the Civil Reserve Air Fleet.

CRAF began to take shape in 1952, when it was allocated 300 of the airlines' four-engine aircraft. It was not until 1958, however, that the Air Force and the airlines agreed to a formal CRAF wartime organization—the operations boards—and not until 1959 that a major carrier signed the standby contract that obligated it to provide crews and aircraft in case of a major war or national emergency.

In 1963, in response to the new national strategy of Flexible Response, MATS offered a plan that called for the use of CRAF resources across the spectrum of warfare—from contingency operations and other emergency situations short of general war to general war itself. CRAF employment was divided into three phases: Stage I was defined as a period of airlift emergency when CRAF carriers would be required to perform airlift services for DOD operations in support of, but not confined to, counterinsurgency activities and localized emergencies. Stage II was a period marked by an airlift emergency short of general war—essentially a limited war. Stage III involved support for a general war, either imminent or in progress. CRAF would be activated completely, and the airlines would be directed to respond to the general war plan, including dispersal. The determination of aircraft in Stage III would continue to be the role of the Defense Air Transport Administration (and later, the Office of Emergency Transportation) of the Department of Commerce (and later, of the Department of Transportation.) The aircraft assigned to Stages I and II were based on a contractual agreement between MATS and the individual airlines.

The years from 1952 through 1963 were largely devoted to defining and organizing the Civil Reserve Air Fleet; the years after were dedicated to maintaining or expanding the reserve fleet, particularly the long-range international segment which was the essence of the program. In its effort to expand or maintain CRAF, MAC at first relied on offering peacetime military airlift business to the airlines as a reward for participation in the program. This business was allocated on the basis of the number and capability of the planes provided by an airline for each mobilization stage. A premium was often offered for the commitment of cargo-capable aircraft which were always in short supply.

At about the same time, the Air Force began to divide the CRAF fleet into functional segments for better management. In 1962, CRAF was divided into international and domestic segments. In 1967, the international fleet was split into long-range and short-range segments. The next year a separate segment was created to serve Alaskan requirements. And, in 1986, MAC began the process of adding an aeromedical evacuation segment.

Often, however, other MAC programs flew in the face of the CRAF efforts. That was particularly true of the periodic efforts to increase the use of military aircraft in handling

peacetime airlift requirements—thereby cutting into the business given to the civilian carriers. In 1957, the Air Transport Association raised that issue, complaining that while the Air Force had more than doubled the volume of passengers and cargo moving in foreign and overseas transport on military aircraft, the air carriers' share had declined substantially. The issue was soon raised in Congress, and there were repeated calls for MATS to turn over to the airlines the transportation of passengers and conventional military cargo. In 1960, the Air Force issued a report, *The Role of the Military Air Transport Service in Peace and War*, which, although ambiguous, did order the progressive transition of MATS's regularly scheduled and fixed routes from military to airline contract operation. The use of commercial airlift for both passengers and cargo grew dramatically in the early 1960s, and then, later in that decade, doubled and redoubled as a result of the war in Southeast Asia. Also, beginning in 1960, the Air Force offered this business only to airlines in CRAF. The role of the civilian carriers in handling MAC's passenger traffic was soon firmly rooted; cargo traffic, however, was a different story.

In the early 1970s, the United States committed itself to the extensive and rapid reinforcement of NATO in case of war or the threat of war there. That required a dramatic increase in airlift capability. When growth of the MAC fleet, with the addition of the C-141s and C-5s, met only a part of that increased need, the expansion of the CRAF was sought for both passengers and cargo. The expansion of the CRAF passenger fleet was relatively simple for CRAF had never required the commitment of all of the airlines' passenger aircraft. Enlarging the cargo segment was a different matter; CRAF had traditionally enrolled all available freighters, and, even then, fell short of the capability required.

To solve that problem, MAC, in 1972, initiated efforts to persuade the airlines to modify their wide-body passenger jets in such a way that they could, in an emergency, be converted to haul freight. This meant, as a minimum, reinforcing the floors and adding cargo doors. The first effort involved offering bonus awards of peacetime business for those aircraft modified. In theory, airlines would recoup the cost of the conversions (and the added fuel cost that resulted from the weight added) through the profit from the additional (bonus) business they would receive. The bonus award program was proposed in 1972 and put into operation in late 1974. The plan was not popular, however, in any circle.

To replace the bonus award plan, MAC began, in 1973, to structure a program that would satisfy all the players—the Air Staff and Secretariat, the Congress, and the air transport industry. The CRAF enhancement program that they finally put forward offered to pay directly for the modifications, to compensate the airlines for revenue lost in the process, and to pay the additional operating cost of these aircraft. At first, the airlines expressed some enthusiasm for the plan; 141 aircraft were tentatively committed to it in early 1974. But, delays in Congressional funding, and some unpalatable details of the plan generated second thoughts. The first CRAF enhancement contract—to modify a single United Airlines DC-10—was not signed until 1980. No others were forthcoming until 1983 when Pan American signed a contract to modify one B-747, with an option to modify an additional eighteen as funds became available.

Two external conditions have shaped the Civil Reserve Air Fleet. The first was the nation's military strategies. These dictated airlift requirements that CRAF was expected to fulfill. Evolving strategies entailed an ever growing requirement for CRAF airlift. By the late 1950s, the strategy of flexible response promised the ability to respond across the spectrum of aggression, and then, two decades later, a new NATO strategy required the increasingly rapid deployment of forces to Europe.

The second condition was the economics of the air transportation marketplace.

Despite MATS/MAC's efforts to influence the make-up of airline fleets—in particular attempts to encourage the airlines to increase their cargo capability—it was the commercial marketplace that drove those decisions.

In some respects the Civil Reserve Air Fleet was an ideal federal program, for it cost practically nothing to operate. Moreover, it had seemed to do the job asked of it. But, by 1987 it was clear to observers in and out of the program that not all was well with CRAF. For years the Air Force had been offering financial incentives to get the airlines to buy wide-body planes with a cargo capability, but the airlines, with a few exceptions, showed no interest. Moreover, what successes there were had their down-side. Of the twenty-one aircraft committed to the CRAF enhancement program by the end of 1987, nineteen were Pan American B-747s—the oldest B-747s in U.S. fleets, averaging twenty-five years, with but a short life-expectancy remaining.

As a tool to manage the mobilization of airline assets in case of war or a national emergency CRAF was a seeming success, although in 1987 it had yet to be tested. However, efforts by CRAF managers to influence the make-up of the reserve fleet—efforts to convince the airlines to add capabilities the military needed—proved largely ineffectual.

BIBLIOGRAPHICAL ESSAY

Published Sources

General Literature: On the history of American military aviation a number of works proved particularly useful. Maurer Maurer's four volume *The U.S. Air Services in World War I* (Washington, D.C.: GPO, 1979) was helpful in understanding the various roles of air power in that war. Even more important to this study was the same author's *Aviation in the U.S. Army, 1919-1939* (Washington, D.C.: Office of Air Force History, 1987), covering the important inter-war years. For World War II the multi-volume *The Army Air Forces in World War II* (Chicago: University of Chicago Press, 1958) by Wesley Frank Craven and James Lea Cates is an indispensable guide. For reference to post-World War II events and for general reference, Robert Frank Futrell's two volume *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force* (Maxwell AFB, Ala.: Air University Press, 1989) was invaluable. Alfred Goldberg's *A History of the United States Air Force, 1907-1957* (Princeton: D. Van Nostrand Co., 1957) was also helpful, as was Bill Yenne, *History of the U.S. Air Force* (Stamford, Conn: Longmeadow Press, 1992). As reference tools, two works deserve particular note: Enzo Angelucci, *The Rand McNally Encyclopedia of Military Aircraft, 1914 to the Present* (New York: Gallery Books, 1980 [updated 1990]), and Charles D. Bright *Historical Dictionary of the U.S. Air Force* (Westport, Conn.: Greenwood Press, 1992). Also useful was: Betty R. Kennedy, comp., *Historical Reference Papers, Major Studies Related to Military Airlift* (Scott AFB, Ill.: Office of History, MAC, 1989).

On issues dealing with military air transport aviation, two sources stand out. The first is *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command, 1941-1991* (Scott AFB, Ill.: Headquarters Military Airlift Command, 1991) which was written by the historians of the Military Airlift Command's Office of History and edited by Betty R. Kennedy of that office. Its broad, if uncritical, coverage of the command's history was particularly helpful. That volume also contained a number of useful appendices—including brief biographies of the commanders, listings of key staff officers, and tables on the command's manning levels (by year) and aircraft (by type and number). The second work, Charles E. Miller's *Airlift Doctrine* (Maxwell AFB, Ala.: Air University Press, 1988), is a useful guide to the numerous debates concerning airlift throughout the history of U.S. military aviation. (The latter work would be much improved, however, with the inclusion of an index.) Two other works deal specifically with air transport in World War II: Reginald M. Cleveland's *Air Transport at War* (New York: Harper & Brothers, 1946), and *The Eagle in the Egg* (Boston: Houghton Mifflin Co., 1949) by Oliver La Farge who had been the Air Transport Command's chief historian.

On general civil aviation the preeminent source is R. E. G. Davies, *Airlines of the United States Since 1914* (Washington, D.C.: Smithsonian Institution Press, 1972 [Reprinted and expanded in 1988]). Also important were two works by Henry Ladd Smith: *Airways; The History of Commercial Aviation in the United States* (New York: Alfred Knopf, 1942); and *Airways Abroad, the Study of American World Air Routes* (Madison: University of Wisconsin Press, 1950). Other helpful items included: Alexander T. Wells, *Air Transportation, A Management Perspective* (Belmont, Calif: Wadsworth Publishing Co., 1989); Kenn C. Rust, *Early Airlines*, [Fourteen chapters serialized in] *Journal of the American Aviation Historical Society* (Winter 1985 to Summer 1987); Richard K. Smith, "Fifty Years of Transatlantic Flight," [in two parts in] *Journal of the American Aviation Historical Society* (Summer 1990, Fall 1990); Peter W. Brooks, "The Coming of Jet Transportation," *Aerospace Historian*

(December 1981). For general reference: Civil Aeronautics Board, *Handbook of Airline Statistics* (Washington, D.C.: GPO, 1973); Air Transport Association, *Air Transport Facts and Figures*, [annual editions] (Washington, D.C.: ATA, [annually]); and Derek Avery, *Modern Civil Aircraft* (Stamford, Conn.: Longmeadow Press, 1988).

Monographic Literature: On the military side I have profitably consulted a number of monographs, including those listed here. Herman S. Wolk, *Planning and Organizing the Postwar Air Force* (Washington, D.C.: Office of Air Force History, 1984). On the Berlin Blockade: Frank R. Donovan, *Bridge in the Sky* (New York: McKay, 1968); Roger D. Launius and Coy F. Cross II, *MAC and the Legacy of the Berlin Airlift* (Scott AFB, Ill.: Military Airlift Command, 1989); and Mary Anna Kaufer, comp., *Historical Reference Papers, A Register of Berlin Airlift Documents* (Scott AFB, Ill.: Office of History, MAC, 1990). Korean War airlift: Roger D. Launius, "Forty Years Ago: MATS and the Korean War Airlift," *Airlift: The Journal of the Airlift Operations School* (Summer 1990); Robert Frank Futrell, *The United States Air Force in Korea, 1950-1953* (Washington, D.C.: Office of Air Force History, 1983); and [MAC historians], *Significant Airlift Events of the Korean Conflict* (Scott AFB, Ill.: Office of MAC History, 1990). The unclassified portions of K. L. Patchin, *Flight to Israel* (Classified) (Scott AFB, Ill.: Office of MAC History, 1974) proved helpful in relation to the 1973 airlift to Israel.

Also useful were: James L. True and William E. Nawyn, *The Airlift Service Industrial Fund, 1958-1988: The Evolution of an Effective Management Approach* (Scott AFB, Ill.: Military Airlift Command, 1989); and Betty R. Kennedy, *An Illustrated History of Scott Air Force Base, 1917-1987* (Scott AFB, Ill.: Military Airlift Command, 1987).

On the civilian air transport industry, numerous works on a variety of subjects provided helpful, including: William A. M. Buarden, *The Struggle for Airways in Latin America* (New York: Council on Foreign Relations, 1943); Nick A. Komons, *Bonfires to Beacons: Federal Civil Aviation Policy under the Air Commerce Act, 1926-1938* (Washington, D.C.: U.S. Department of Transportation, Federal Aviation Administration, 1978); John R. M. Wilson, *Turbulence Aloft: The Civil Aeronautics Administration amid War and Rumors of War* (Washington, D.C.: U.S. Department of Transportation, Federal Aviation Administration, 1979); Stuart I. Rochester, *Takeoff at Mid-Century: Federal Civil Aviation Policy in the Eisenhower Years, 1953-1961* (Washington, D.C.: U.S. Department of Transportation, Federal Aviation Administration, 1976); George E. Hopkins, *Flying the Line: The First Half Century of the Air Line Pilots Association* (Washington, D.C.: Air Line Pilots Association, 1982).

Some of the numerous histories of the airlines also proved quite helpful. Pan American: Robert Daley, *An American Sage: Juan Trippe and His Pan Am Empire* (New York: Random House, 1980); and Marilyn Bender and Selig Altschul, *The Chosen Instrument* (New York: Simon and Schuster, 1982). Flying Tiger: Frank Cameron, *Hungry Tiger: The Story of the Flying Tiger Line* (New York: McGraw-Hill, 1964). Delta: David W. Lewis and Wesley Philips Newton, *Delta—The History of an Airline* (Athens: University of Georgia Press, 1979). Continental: Robert J. Serling, *Maverick: The Story of Robert Six and Continental Airlines* (Garden City, N.Y.: Doubleday, 1974). Eastern: Robert J. Serling, *From the Captain to the Colonel: An Informal History of Eastern Airlines* (New York: Dial, 1980). TWA: Robert J. Serling, *Howard Hughes' Airline: An Informal History of TWA* (New York: St. Martin's, 1983). United: Frank L. Taylor, *High Horizons; Daredevil Flying Postmen to Modern Magic Carpet: The United Airlines Story* (New York: McGraw-Hill, 1955). Transocean: Richard Thruelsen, *Transocean: The Story of an Unusual Airline* (New York: Henry Holt, 1953).

In reference to the relationship between the air transport industry and national security, two works were particularly useful: Oliver James Lissitzyn, *International Air Transport and National Policy Studies in American Foreign Relations*, No. 3 (New York: Council on Foreign Relations, 1942); and Frederick C. Thayer, Jr., *Air Transport Policy and National Security, A Political, Economic, and Military Analysis* (Chapel Hill: The University of North Carolina Press, 1965). Also important in this area is the periodical literature, including: T. B. Wilson, "The Air Transport Industry in the National Defense," *The Military Engineer* (May-June 1941); Donald W. Nyrop, "Civil Aviation's Preparations for Defense," *U.S. Air Services* (January 1951); Benjamin F. Schemmer, "MAC's Private Airline? Ironic Conflict Between Military and Civil Sectors Could Prove Costly for Both...And for the Nation," *Armed Forces Journal* (September 21, 1970); MG Maurice F. Casey, "The Military-Civilian Airlift Partnership," *Translog* (March 1971); Paul R. Ignatius, "Let the Airlines Play an Optimum Role in Supporting National Defense," *Defense Management Journal* (April 1975); George A. Pasquet, "Civil-Military Air Transportation for the Future," *Airlift Operations Review* (April 1980); Phil Lacombe, "The Air Force and the Airlines," *Air Force Magazine* (February 1985); and Steve Hull, "CRAF: Tough Choices Ahead," *Military Logistics Forum* (April 1987).

Biographical Literature: Two sources were particularly important in identifying persons encountered in the research. For persons in ATC/MATS/MAC, the appendices listing staff officers and command biographies in *Anything, Anywhere, Anytime: An Illustrated History of the Military Airlift Command, 1941-1991* (previously cited) were indispensable. For the identification of key persons in the Office of the Secretary of the Air Force or on the Air Staff the annual *Air Force Magazine* photo-chart (1951-present) proved equally invaluable.

Numerous biographical or autobiographical works concerning military men were consulted: Walter T. Bonney, "Chiefs of the Army Air Force, 1907-1957," *The Airpower Historian* (July 1960); John F. Shiner, *Foulois and the U.S. Army Air Corps, 1931-1935* (Washington, D.C.: Office of Air Force History, 1983); John F. Shiner, "General Benjamin Foulois and the 1934 Air Mail Disaster," *Aerospace Historian* (December 1978); Harold L. George, "Aerospace Profile, [Robert Olds] the most outstanding leader," *Aerospace Historian* (Summer 1968); Haywood S. Hansell, Jr., "Harold L. George: Apostle of Air Power," in John L. Frisbee, ed., *Makers of the United States Air Force* (Washington, D.C.: Office of Air Force History, 1987); Henry H. Arnold, *Global Mission* (New York: Harper & Brothers, 1949); William H. Tunner, *Over the Hump* (New York: Duell, Sloan, and Pearce, 1964; reprinted Washington, D.C.: Office of Air Force History, 1985).

Also helpful were accounts of public events by government officials in mufti. Some important details of Juan Trippe's (Pan Am) ground-breaking contributions to trans-Atlantic military routes in 1941 are found in Edward R. Stettinius, Jr., *Lend-Lease, Weapon for Victory* (New York: The Macmillan Co., 1944). Henry Kissinger's second volume of his two volume account of his years in government was very useful in sorting out the details of the airlift to Israel in October 1973: *Years of Upheaval* (Boston: Little, Brown and Co., 1982).

Biographical sketches of leaders in the air transport industry were also useful: W. B. Courtney, "Don't Call Me [Edgar S. Gorrell] Napoleon," *Collier's* (August 7, 1937); Jack Alexander, "Just Call Me C. R. [Smith]," *Saturday Evening Post* (February 1, 1941). Important to understanding the role of Edgar S. Gorrell, first president of the Air Transport Association, is a four-part article: Fowler Barker, "Obliques: Airline Association President," *Air Transport* (April-July, 1944).

Government Reports: Numerous reports from various agencies of the government—executive and legislative—are critical to understanding the origin and evolution of the Civil Reserve Air Fleet. The footnotes that accompany the text identify them fully. Only the most important can be noted here.

Concerning the pre-World War II period: *Final Report of War Department Special Committee [Baker Board] on Army Air Corps*, July 18, 1934 (Washington, D.C.: GPO, 1934); U.S. Congress, Senate, *Safety in Air, Hearings before a Subcommittee of the Committee on Commerce*, [in 3 parts], 74th Cong., 2d Sess., Part 1, February 10 to April 6, 1936, Part 2, April 28 to June 5, 1936; 75th Cong., 1st Sess., Part 3, January 13, February 2 and 16, 1937; U.S. Congress, House, *Air Safety, Hearings before the Committee on The Post Office and Post Roads*, 74th Cong., 2nd Sess., April 14, 21, 30, and May 7, 13, and 14, 1936; U.S. Congress, House, *Air Mail, Hearing before a Subcommittee of the Committee on the Post Office and Post Roads*, 75th Cong., 1st Sess., April 7, 9, 13, 14, 15, 20, and 21

World War II era: The numerous command histories and documents relating to the Air Transport Command is discussed in the section on manuscripts below.

Immediate Post-World War II period (1946-1951). Executive Office of the President, *Report of the Air Coordinating Committee* (annually 1947-1955); National Military Establishment (later Department of Defense), *Report of the United States Air Force Military Air Transport Service* (annually or semi-annually 1947-1958); *Survival in the Air Age, A Report by the President's Air Policy Commission [Finletter Commission]*, January 1, 1948, (Washington, D.C.: GPO, 1948); U.S. Congress, *National Aviation Policy, Report of the Congressional Aviation Policy Board [Brewster Board]*, March 1, 1948 (Washington, D.C.: GPO, 1948); Executive Office of the President, National Security Resources Board, *Report on Utilization of Airlines for Wartime Airlift and Proposals to Aid Expansion of the Civil Air Fleet [Douglas Report]*, December 6, 1950, Washington, D.C. [mimeograph].

The years of CRAF's evolution and development (1952-1987). *Annual Reports* of various agencies, including: U.S. Department of Commerce (1952-1966); U.S. Department of Transportation (1967-87); U.S. Department of Defense (1948-87), Department of the Air Force (1948-87). The actual titles of these reports vary from year to year.

In addition see: The President's Air Coordinating Committee, *Civil Air Policy* (May 1954); Executive Office of the President, *Report of the Commission on Organization of the Executive Branch of the Government [Hoover Commission]* (March 1955); U.S. Congress, House, *Military Air Transportation, Twenty-eighth Report by the Committee on Government Operations [Holifield Committee]*, 85th Cong., 2d Sess. (Washington, D.C.: GPO, 1958); Department of the Air Force, *The Role of Military Air Transport Service in Peace and War* (February 1960); Department of the Air Force, *Reed Committee Report on MATS* (April 1960) [mimeograph]; U.S. Congress, House, *Report of Special Subcommittee on National Military Airlift of the Committee on Armed Services [Rivers Committee]*, 86th Cong., 2d Sess., [Hearings March 8 to April 22, 1960] (Washington, D.C.: GPO, 1960)

U.S. Congress, House, *Military Air Transportation--1963, Tenth Report by the Committee on Government Operations*, [July 17, 1963] (Washington, D.C.: GPO, 1963); U.S. Congress, House, *Report of Special Subcommittee on National Military Airlift of the Committee on Armed Services*, 88th Cong., 1st Sess., [Hearings July 29 to August 8, 1963] (Washington, D.C.: GPO, 1963); U.S. Congress, House, *Military Airlift, Report of the Special Subcommittee on Military Airlift of the Committee on Armed Services*, 89th Cong., 2d Sess., May 16, 1966 (Washington, D.C.: GPO, 1966); Military Airlift Command, *CRAF Newsletter* (Published quarterly [January, April, July, October], 1967-78).

U.S. Congress, House, *Military Airlift, Report by the Subcommittee on Military Airlift*

of the Committee on Armed Services, 91st Cong., 2d Sess., June 24, 1970 (Washington, D.C.: GPO, 1970); Congressional Budget Office, Background Paper, *U.S. Airlift Forces: Enhancement Alternatives for NATO and Non-NATO Contingencies* (April 1979); General Accounting Office, *Emergency Airlift, Responsiveness of the Civil Reserve Air Fleet Can Be Improved* (March 1986); General Accounting Office, *Military Airlift, Improving Management of Aircraft Loading Operations* (October 1986); Executive Office of the President, National Security Decision Directive Number 280, *National Airlift Policy*, June 24, 1987.

Journals: The starting point for any search of the journal literature related to military airlift is the *Air University Library Index* (Maxwell AFB, Ala.: Air University Library. Begun in 1949 as a quarterly index to twenty-three periodicals (formerly titled *Air University Periodical Index*), the publication has been enlarged over the years and now indexes the articles in some seventy-five journals--domestic and foreign. For periodical articles related to the civilian air transport industry, the ubiquitous *Reader's Guide to Periodical Literature* (New York: H. W. Wilson, 1901-) is quite adequate.

Aviation Week and Space Technology [various earlier titles] (1916-) proved essential to this work, for the authors of its articles often penetrated the veil of corporate secrecy that surrounded most of their decisions. (Without access to corporate documents this was one of the few means of peering into that world.) The following periodicals were also useful in detailing events: *Aero Digest* (1921-40); *Air Force Magazine* [numerous name changes] (1918-); *Air Force Times* [section of *Army Times* or Air Force edition of *Army Times*, 1940-1947] (weekly since 1940); *Air University Review* (1947-); *Armed Forces Journal* [formerly *Army and Navy Journal*] (1863-); and *Army, Navy, Air Force Register* [formerly *Army and Navy Register*] (1879-1962); *Defense Transportation Journal* (1944-); *Military Forum* [formerly *Military Logistics Forum*] (1983-).

Two other journals provide a useful historical perspective of events: *Air Power History*, [formerly *Aerospace Historian* and *Airpower Historian*] (1954-); *Journal of the American Aviation Historical Society* (1956-).

Bibliographies: A number of published bibliographies proved useful. Foremost among these were: Samuel Duncan Miller, *An Aerospace Bibliography* (Washington, D.C.: Office of Air Force History, 1978); Dominick A. Pisano and Cathleen S. Lewis, *Air and Space History, An Annotated Bibliography* (New York: Garland Publishing, 1988); Raymond Estep, *An Air Power Bibliography* (Maxwell AFB, Ala.: Research Studies Institute, Air University, 1956); and Richard P. Hallion, *The Literature of Aeronautics, Astronautics, and Air Power* (Washington, D.C.: Office of Air Force History, 1984). Also useful was the *Special Bibliography Series, Strategic Mobility* (Maxwell AFB, Ala.: Air University Library, 1990).

Unpublished Sources

Manuscript Collections: In addition to the traditional National Union Catalog of Manuscript Collections (NUCMC), the locating of useful manuscript collections was also aided by: Lawrence J. Paszek, *A Guide to Documentary Sources [on Air Force History]* (Washington, D.C.: Office of Air Force History, 1986); and Cloyd Dake Gull, et al., *A Directory of Sources for Air and Space History: Primary Historical Collections in United States Repositories* (Washington, D.C.: National Air and Space Museum, 1989).

Two repositories proved to be key to the research for this work: the United States Air Force Historical Research Agency at Maxwell AFB, and the Office of MAC History at Scott AFB.

The collections of the United States Air Force Historical Research Agency at Maxwell AFB were indispensable to this study. Helpful in accessing this collection is *Personal Papers in the United States Air Force Historical Research Center*; also helpful in the computerized catalog to the collection. Numerous collections of personal papers yielded valuable material: Henry Harley Arnold Papers, Paul K. Carlton Papers, Benjamin Delahauf Foulois Papers, Harold Lee George Papers, Hugh Johnston Knerr Papers, Laurence Sherman Kuter Papers, Oliver Hazard Perry La Farge Papers, W. G. Moore, Jr. Papers, Aubry Lee Moore Papers, and the William H. Tunner Papers.

Other collections and records of the AFHRA yielded helpful materials relating to: Edgar S. Gorrell, John F. Shea, the Reed Board, Pan American Airways, the Civil Reserve Air Fleet, American Airlines, and Mobilization Planning (1930s),

The collections of the Office of MAC History provided, by far, the most fruitful source of material for this study. These holdings include: Air Transport Command Papers, Civil Reserve Air Fleet Papers, Point Papers Files, End of Tour Report Files, Commanders Correspondence Files, Berlin Airlift Files, and MATS Annual Reports Files. This repository also contains an extensive collection of Air Transport Command unit histories (World War II), the annual unit histories of the Military Air Transport Service and Military Airlift Command. Of these, of course, the Civil Reserve Air Fleet Papers was the foundation on which this work was based. This collection holds not only the papers generated at MAC Headquarters, but copies of correspondence from and between other agencies: Air Force headquarters, Department of Defense, the Congress, air transport industry organizations, and the airlines. The collection is particularly strong for the period from 1952 through 1977, and is reasonably competed for the years when the creation of CRAF was being contemplated—1948-1951. It is weakest in the more proximate period, particularly the decade of the 1980s.

To supplement the CRAF Papers held by the Office of MAC History, particularly the weaker holdings for the 1980s, I was allowed access to some of the files of MAC's CRAF office at Scott AFB.

Searches of the collections at the National Archives proved disappointing in the sense that the available records of the War Department General and Special Staffs (1930s), of the Office of Secretary of the Air Force, and of the USAF Air Staff (1948-) yielded little or nothing relating to CRAF that was not also found in collections at the USAF Historical Research Agency at Maxwell AFB or in the CRAF papers at the Office of MAC History. Nonetheless, papers of the President's Air Coordinating Committee and of the National Security Resource Board in Record Group 340 (Office of the Secretary of the Air Force) and Record Group 341 (Records of Headquarters USAF) did yield useful material concerning events of 1947-1952.

At the Library of Congress, the Henry H. Arnold Papers contained important information for the period 1941-1945. The Carl Spaatz Papers yielded interesting material on the immediate post-World War II period. The Library of Congress also provided access to many Congressional documents.

The Library of the Air Transport Association in Washington, DC, provided access to materials not available at any other location. (For example, a 1936-1937 Congressional document, which I had been unable to locate in any of the various repositories of the Library of Congress, was found on the shelves of the ATA Library.) The early records of ATA

activities and documents produced by the ATA also proved helpful. The ATA library also houses a useful collection of Edgar S. Gorrell correspondence.

The Manuscript Archives of the United States Air Force Academy Library held several useful collections: the Laurence Sherman Kuter Papers, the Hugh Johnson Knerr Papers, and the "Hap" Arnold Files in the Murray Green Collection.

The Harry S. Truman Library, in Independence, Mo., yielded a number of items from the Records of the President's Air Policy Commission, from the "Official File," from the General File of the Papers of Harry S. Truman, and from the President's Secretary's Files.

The periodical holdings of the Aviation History Collection of the University of Texas, Dallas, was particularly valuable in that it contained copies of many of the company magazines published by the airlines through the years. These provided a unique insight into the activities of these companies, particularly in times of war or crisis when the airlines had been called upon to contribute men and equipment.

Finally, the Archives of the Military History Institute, at Carlisle Barracks, Pa., provided access to studies made in the 1930s by the U.S. Army War College dealing with the military use of civilian air transport.

Staff College/War College Research Reports: Two guides to the research reports at the Air University are available: *Guide to Air War College Theses, 1947-1956* and *Air University Abstracts of Research Reports [1957-]*. Both are prepared by the Air University Library.

Over the years a large number of studies were conducted dealing with various aspects of CRAF by students of the Air Command and Staff College and the Air War College—too many to list here. Two, however, deserve mention: Ronald K. Sable, "Civil Reserve Air Fleet (CRAF), A Primer for Defense and Industry," Air University Report No. MS025-79, April 1979; and Kirk L. Brown, "History of the Civil Reserve Air Fleet (1952-1986)," Air Command and Staff College Report No. 87-0360, 1987.

Also deserving note are two studies from the Industrial College of the Armed Forces: Doyle D. Baker, *et al.*, "Contemporary Issues Affecting the Ability of Commercial Air Cargo Carriers to Support the Civil Air Reserve Fleet [sic]," ICAF Mobilization Studies Program Report, May 1983; and Claire J. Gilstad, "The Effect of Airline Merger Activity on the Civil Reserve Air Fleet," ICAF Executive Research Project F-15a, 1987.

Dissertations: By their very nature dissertations tended to focus so narrowly on subjects that they were of minimal use in this study. Still a few were helpful. Kent Neill Gourdin, "An Analysis of National Aviation Policy with Respect to America's Strategic Airlift Capability," Doctor of Business Administration Dissertation, The University of Tennessee, Knoxville, 1984. Gourdin argues that the dramatic changes in the business environment since deregulation (1978) raise serious questions regarding the continued policy of relying on the civil sector for so much contingency airlift support.

Hiram C. Caroom, "Management Responsibilities and National Interests: An Analysis of the Practicability of the U.S. Flag International Passenger Airlines' Transporting More Military Traffic in Peace and War," PhD Dissertation, Harvard University, 1958. This work was useful largely because it gave some insight into the thinking of airline executives in the mid- to late-1950s.

Robert Charles Owen, "Creating Global Airlift in the United States Air Force, 1945-1977: The Relationship of Power, Doctrine, and Policy," PhD Dissertation, Duke University, 1992. His chapter covering the mid-1950s was helpful in sorting out the attitudes and positions, relative to CRAF, of several members of Congress.

Oral Histories: The starting point in locating relevant oral histories is: Maurice Maryanow, *Catalog of the United States Air Force Oral History Collection* (Maxwell AFB, Ala.: USAF Historical Research Center, 1989). Several of the oral histories done as a part of that program proved useful: "Interview of Lt. Gen. Joseph Smith," by Dr. James C. Hasdorff, July 22-23 and November 16, 1976; "Interview of Gen. Paul K. Carlton," by Maj. Scottie S. Thompson, August 13-15, 1979; "Interview of Honorable James H. Douglas, Jr.," by Hugh N. Ahmann, [date unk]; "Interview of Lt. Gen. William H. Tunner," by Dr. James Hasdorff, October 5-6, 1976; "Interview of General William G. Moore, Jr.," by Lt. Col. Arthur W. McCants, Jr., March 23-25, 1981; and "Interview of Maj. Gen. Thomas M. Sadler," by Lt. Col. Richard C. McCoy, December 30, 1987.

The Aviation History Project of Columbia University, Oral History Research Office, yielded: "C. R. Smith Oral Interview," by Kenneth Leish, December 1960.

In addition to these, the author conducted two oral interviews in the process of the research. The tapes of those interviews have been deposited with the Office of MAC History at Scott AFB. These interviews were with: Ramsay D. Potts, former president of the Independent Air Transport Association and publisher of *Air Power History*, May 1, 1992; and John F. Shea, long-time Air Force civilian at MAC (Asst. DCS/Plans for many years) who is currently retired, May 19, 1992.