

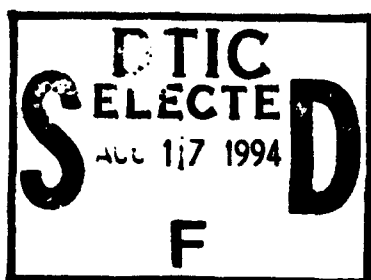
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Newport, R.I.

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CIVIL RESERVE AIR FLEET PERFORMANCE IN DESERT SHIELD/DESERT STORM
- A MEASURE OF FUTURE EFFECTIVENESS?



by

G. E. Mayer
CDR USN

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Joint Military Operations Department.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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- A MEASURE OF FUTURE EFFECTIVENESS?

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TABLE OF CONTENTS

CHAPTER	PAGE
ABSTRACT	ii
I INTRODUCTION	1
II BACKGROUND	3
Origins of CRAF	3
CRAF Contracts	4
CRAF Requirements	4
Route Segments	5
Stages	6
Results of Mobility Study	7
III CRAF PERFORMANCE IN DESERT SHIELD/DESERT STORM ...	9
CRAF Activation	9
CRAF Contributions	10
Problems Encountered	11
Proposed Solutions	13
IV CRAF'S FUTURE	17
Proposed Incentives	18
CRAF's Future	19
V CONCLUSIONS	20
APPENDIX A -- JOINT VENTURE CARRIERS	22
B -- AIR CARRIER VOLUNTEERS PRIOR TO STAGE I	23
C -- CRAF AIRLINES AND MISSIONS IN GULF WAR	24
D -- CRAF CAPABILITY SUMMARY FY-94	25
BIBLIOGRAPHY	26

**CIVIL RESERVE AIR FLEET PERFORMANCE IN DESERT SHIELD/DESERT STORM
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**CHAPTER I
INTRODUCTION**

In light of the changes in the world situation and reduced resources devoted to the national defense, the Department of Defense is moving to a smaller but highly trained, well-equipped and mobile military force. The national security strategy depends heavily upon our ability to transport personnel and materiel.¹

The Civil Reserve Air Fleet (CRAF) was established to augment the Military Air Command (now known as the Air Mobility Command (AMC)) in transporting military troops and equipment when required. Though the program has been in existence since 1952, it was untested before Desert Shield/Desert Storm. While CRAF performed exceptionally well during that operation some problems were encountered. Since the end of the Gulf War, AMC and the U.S. airline industry have worked hard at correcting these problems and at making CRAF an attractive venture for the airlines.

In view of the nation's current military strategy that calls for U.S. response to any global crisis in which U.S. citizens or property may be endangered and, because U.S. military presence overseas continues to decrease, it is apparent that the need for

¹. Honorable Dick Cheney, "Memorandum from the Secretary of Defense, Subject: Strengthening Department of Defense Transportation Functions", (Washington D.C., 14 February 1992.) p.1.

rapid deployment of U.S. forces to remote locations is increasing. As mentioned in the opening quote to this chapter, our national security depends on how well we do this.

This paper deals with the contribution that can be expected of the CRAF to the deployment of United States military forces in future conflicts. It begins by examining the origins of CRAF and its organization. Next, it looks at CRAF's performance during the Desert Shield/Desert Storm deployment, and at the lessons learned from that massive undertaking. Finally, it looks at the current issues affecting CRAF, including the results of the latest Strategic Mobility Requirements study, and at initiatives designed to encourage continued CRAF participation by U. S. airlines. The paper concludes with the author's opinion of the present and future health of the CRAF.

CHAPTER II

BACKGROUND

The Civil Reserve Air Fleet was established in 1952. Its creation resulted from a compromise between the military and the airlines for augmentation of long range military air transportation during airlift emergencies without the need to nationalize the nation's commercial air fleet. The program was initiated by President Truman because of shortfalls in strategic airlift during World War II and the Korean War.

Despite the formal establishment of CRAF, problems remained between the military and civil aviation concerning military logistics transportation. A study published in 1960 and titled The Role of Military Air Transport Service in Peace and War ended the airlift debate by clarifying the role of commercial airlines in the CRAF and by directing the modernization of the military airlift fleet. This study established the framework for what turned out to be a very successful partnership lasting over twenty years with little controversy and little change.

There has never been a legislative basis for the existence of the CRAF program. Airline participation is strictly voluntary. Amazingly, the program was not activated until Desert Shield because, whenever there was a need for augmentation of the military airlift system, civil airlines volunteered their

aircraft and their crews without being directed to do so.

Airline participation in CRAF is encouraged through the awarding of yearly DOD contracts for airlift services to participating airlines. These contracts vary in amount from airline to airline based on the mobility value (usefulness to AMC) of the aircraft they commit to the CRAF program. Nevertheless, even in peacetime, DOD is the biggest customer that the airlines have. In fact, DOD's budget for CRAF contracts in FY93 totaled \$439,175,000 and in FY94 it was \$420,565,000 .² Generally speaking, CRAF provides more than 50 percent of AMC's strategic airlift fleet including approximately 32 percent of the long range cargo airlift capability and 93 percent of the long range passenger airlift capability.³

To participate in CRAF, airlines need to meet the following requirements:

- Offer aircraft suitable for CRAF use. (i.e., U.S. registered; minimum range capability: 3500 NM for Long Range International; 1500 NM for Short Range International.)
- Provide resources (such as ground equipment and crews) for aircraft handling.

². LCOL Nels Wilt, Background Paper on Civil Reserve Air Fleet (CRAF) Program, (Scott AFB: HQ AMC/XOC, 11 Jan 93), p. 1.

³. LCOL Nels Wilt, Point Paper on Civil Reserve Air Fleet, (Scott AFB:HQ AMC/XOC, 25 Aug 92), P. 2.

- Follow FAA regulations.
- Maintain a cockpit crew to aircraft ratio of 4:1. (This ratio cannot include Reserve of Air National Guard crews.)
- Ensure crew members are U.S. citizens capable of obtaining a secret clearance.
- Be able to meet the response times required for each stage of the program.⁴

The CRAF is organized into five different route segments that can be activated in three different stages as follows:

ROUTE SEGMENTS:

- Long-Range International (LRI) - supports AMC's global operations. Requires passenger and cargo aircraft capable of extended over water operations such as the B747.
- Short-Range International (SRI) - provides passenger and cargo aircraft (such as a B727) to support short-haul operations from U.S. to nearby offshore locations.
- Domestic - supplies cargo aircraft such as L100 to

⁴. LTC George S. Eyster, USA., "The Civil Reserve Air Fleet: MAC's Partner in Meeting Department of Defense Strategic Airlift Requirements," Research Report, (Fort McNair, The Industrial College of the Armed Forces, April 1992), p. 6.

support Navy's domestic supply distribution system.

- Alaskan - provides cargo aircraft such as the L100 and B737 to support the 11th Air Force in Alaska.
- Aeromedical - uses B767 aircraft to supplement the global aeromedical evacuation fleet.⁵

ACTIVATION STAGES:

- Stage I (LRI only). Designed for committed airlift expansion. (30 LRI cargo, 30 LRI passenger aircraft.)
 - Activated by CINCTRANS with SECDEF approval.
 - 24 hour response required.
- Stage II (All segments). Designed for airlift emergency short of national mobilization. (75 LRI cargo, 75 LRI passenger, 29 SRI cargo, 7 Domestic cargo, 13 Aeromedical, 12 Alaskan cargo.)
 - Activated by CINCTRANS with SECDEF approval.
 - 48 hour response for aeromedical; 24 hour response all others
- Stage III (All segments). Designed to support defense oriented national emergency or national security

⁵. Wilt, p. 2.

situation. (148 LRI cargo, 262 LRI passenger, 13 Aeromedical, 29 SRI passenger, 4 SRI cargo, 12 Alaskan cargo, 7 Domestic cargo.)

- Activated by CINCTrans with SECDEF approval.
- 48 hour response.⁶

A comprehensive study of the entire military mobility system was completed in 1982. This Congressionally Mandated Mobility Study determined that an airlift capability of 66 million ton miles per day (MTM/D) would be required to meet the anticipated threat scenarios of the 1990's. To reach that goal, a CRAF enhancement program was instituted in 1983. This program entailed the modification of existing commercial passenger aircraft (at government expense) to enable them to become cargo carriers compatible with the military cargo requirements. (Nineteen Boeing 747's were modified. Unfortunately, most of them belonged to Pan American.)⁷

In 1986 MAC set up a joint venture program that allowed carriers to share resources (mainly aircrews and maintenance crews) as required to meet airlift needs. This enabled carriers such as UPS and Emery to join CRAF greatly enhancing the cargo carrying capabilities of the program. (See Appendix (A)).

⁶. Ibid., p. 3.

⁷. Kent N. Gourdin and Richard L. Clarke, "Winning Transportation Partnerships: Learning from the Desert Storm Experience", Transportation Journal, Fall 1992, p. 33.

In 1987 President Reagan signed the National Airlift Policy solidifying the military's dependence on civilian aircraft for augmentation of the military airlift fleet. This was followed by additional enhancement programs to improve interoperability between the civilian fleets and the military including enhanced communications and navigation gear, and Identification Friend of Foe (IFF) units. Unfortunately these upgrades were in the process of being incorporated when the Gulf War began.

CHAPTER III

CRAF PERFORMANCE IN DESERT SHIELD/DESERT STORM

Following Iraq's invasion of Kuwait on 2 August 1990 the President directed the deployment of large amounts of U.S. military forces and equipment to Southwest Asia. This deployment began on 7 August 1990. For the next ten days MAC assets and CRAF volunteers carried the load. To operate at maximum efficiency, MAC stopped sending its transports into depot level maintenance and accelerated work on aircraft already at the depots. This made available 95 percent of MAC's C-5's and 90 percent of the C-141 for Desert Shield. At the same time, commercial airlines volunteered 30 aircraft and flew more than 100 cargo and passenger airlift mission before the activation of CRAF.⁸ (See Appendix (B))

By 17 August it became apparent that MAC and the volunteer airliners alone could not transport all the personnel and supplies that were needed in theater. Thus, for the first time in its 38-year history CRAF was activated at Stage I. This added 21 cargo and 17 passenger aircraft to the 30 that had already been volunteered. Stage II was activated on 16 January 1991, the first day of Desert Storm. It was deactivated on 17 May 1991 and

⁸. Major Carl D. Evans, USAF., "Maintaining Civil Reserve Air Fleet Participation," (Newport, R.I., Naval War College Operations Paper, 22 February 1993), p.15.

Stage I was deactivated the following week. (See Appendix (C)).

The CRAF program worked very well in Desert Shield/Desert Storm. Civil airliners were quickly integrated into the military airlift program, and they contributed significantly to the success of the operation. Although some airlines complained about loss of business during the CRAF activation, generally speaking, from the airline's point of view, providing aircraft to DOD was very cost effective as they were employed to near capacity during a depressed civilian travel market and were paid a rate that included a profit for them. (The rate for passengers was about \$800 per seat per mission).⁹ In fact, the airlines that participated in the CRAF call-up received a total of \$1.8 billion in FY91.¹⁰

CRAF aircraft (including the volunteers) flew 5455 missions in support of Desert Shield and Desert Storm. (See Appendix (C)). With a total of 117 aircraft, 397,300 passengers (or 80 percent of the total passengers) and 95,000 tons of cargo (or 17 percent of the total cargo) were moved by CRAF.¹¹ During the peak of the

⁹. Kent N. Gourding and LTC Robert E. Trempe, "Contingency Transportation in a Changing World: Meeting the Challenge", Logistics Spectrum, Spring 1992, p. 11.

¹⁰. Richard Mackenzie, "More Stormy Weather for the Airlines", Air Force Magazine, March 1992, p. 72.

¹¹. Michael M. Wyka, LCOL, USAF, "Civil Reserve Air Fleet: Critical Partner for Strategic Airlift", An Unclassified Paper, (Newport, R.I., Naval War College, 4 November 1993), p. 9.

deployment 26 commercial airlines provided as many as 70 wide-body aircraft at a time¹². In addition, "there were 127 aircraft landing in Southwest Asia each day around the clock at an average interval of one aircraft arrival every 11 minutes."¹³

But the first ever activation of the CRAF was not without problems. To begin with, there were some difficulties with call up procedures. Some carriers that were first to volunteer aircraft and crews in the pre-CRAF activation phase were not called up first when CRAF was activated. In addition, although the airlines responded within the twenty-four hour requirement, not all the aircraft that were provided were fully utilized. Long ground delays were experienced early on whether from lack of trained ground handlers, from shortages in material handling equipment, or from overscheduling at enroute bases. This resulted in a loss of profit for the airlines.

Once activated, CRAF airlines are responsible for their ground support and their logistic support at their various operating bases. If Stage III is activated the senior lodger becomes responsible for that support. (The senior lodger is that company that has the largest operation at a particular airfield.) Most CRAF participants in Desert Shield felt that if the senior lodger concept had been in effect as soon as Stage I was activated

¹². Evans, p. 17.

¹³. Ibid.

that would have greatly reduced the turnaround and other ground support problems encountered.

There was also the issue of CRAF aircraft carrying hazardous materials for which the crew members had no handling experience and no training in emergency response procedures.

Incompatibility between civilian and military communications and navigation equipment was also a problem. Commercial airliners are not UHF compatible nor do they utilize TACAN navigational equipment. Thus, enroute mission updates were not possible and in the terminal phases of flights these aircraft were unable to perform instrument approaches due to the incompatibility of the navigation equipment. Fortunately, weather conditions at terminal airports were favorable during most of the operation. Equally significant was the absence of Identification, Friend or Foe (IFF) units onboard CRAF aircraft. A lack of air superiority in theater would have made this a very serious problem.

Another problem that was significant for the airlines was the lack of adequate insurance coverage for missions in and out of the war zone. Once CRAF was activated, airlines found themselves in an insurance "Catch-22." Commercial insurance coverage for missions to/from the war zone was offered at exorbitant fees. Meanwhile, Title XIII insurance offered by the Department of Transportation did not cover domestic segments of

flights nor did it cover aeromedical evacuation missions.¹⁴ Again, this problem had little effect on the overall CRAF effort since the risk margin for the airlines was very low in this theater due to the reduced threat. However, in a future conflict this could be a show stopper for many carriers.

The lack of sufficient numbers of aircrews to meet the requirements of one aircraft requirement for CRAF affected some airlines. This was especially true for those airlines that had hired reservist and national guardsmen. American Airlines was the hardest hit in this regard. Nearly ten percent of its pilots were called up and another 400 were subject to being recalled. Partly because of this American withdrew from the CRAF in FY93.¹⁵

Another problem that surfaced after Desert Storm was the lack of urgency by AMC in processing claims submitted by CRAF carriers for lost revenues, extra crew time, rerouting costs, and other expenses. Eight months after the completion of the operation, some airlines were still waiting for action on their claims!

Realizing the need for a continued strong partnership with the civil carriers, AMC sponsored a study after the war that was

¹⁴. Point Paper "Title XIII Insurance Issues", (HQ AMC, Scott AFB, undated), p. 2.

¹⁵. Mackenzie, p. 72.

conducted by the Logistics Management Institute (LMI) to look at the Gulf War problems and to propose incentives for continued commercial carrier participation in CRAF. While not all of LMI's recommendations were adopted, many were incorporated into the CRAF program. The most significant ones are described below.

The problems involving the call up procedures were addressed in the study. AMC decided not to change the three stage activation system, but steps were taken to give volunteer airlines the opportunity to be called up before non-volunteers. In addition, call up priority will be directly related to the level of airline participation in each stage. Also, aircraft that are not utilized within 72 hours of call up will be released and will receive five days notice prior to reactivation in that stage. Carriers will receive compensation for a minimum of eight hours utilization per aircraft per day. Additionally, airlines will receive fifteen days advance notice of aircraft release from CRAF.¹⁶ As far as the Senior Lodger program, the concept was incorporated into all stages of CRAF. Finally, the problem of hazardous material handling by CRAF carriers was resolved by letting the military handle them.

The issue of Title XIII insurance coverage on missions to/from war zones was corrected when a new Title XIII law was

¹⁶. LCOL Nels Wilt, USAF, "CRAF Lessons Learned During Operation Desert Shield/Storm" Internal Point Paper, (Scott AFB:AMC/XOC, 5 November 1992), p. 1.

passed by Congress and signed by the President retroactive to 1 October 1992.¹⁷

Enhancements to the communications equipment is being made by way of STU III and secure facsimiles to carriers with facility clearances. In addition, AMC is working to develop interfaces between military and civilian communication systems.¹⁸ Also, AMC is reviewing plans to install standard communications and navigation equipment packages including IFF in CRAF aircraft.¹⁹

As far as the crew manning problems, the airlines and AMC are still discussing ways to better track information about crew availability. While the airlines are currently required to provide information on Reserve and Guard crew commitments to AMC, the airlines feel that it should be the military who provides the information to the airlines. So, this is an issue that has not yet been resolved.

The issue of slow processing of CRAF carrier claims by AMC was addressed and resolved by improvements and simplification of

¹⁷. LCOL Nels Wilt, USAF., "CRAF Incentives", Attachment to Internal Point Paper, (Scott AFB, AMC, 1 December 1992), p. 1.

¹⁸. Col. Donn P. Kegel USAF, "Improving the Civil Reserve Air Fleet (CRAF) Program", An Individual Study Project, (Carlisle Barracks, 15 April 1993), p. 20.

¹⁹. James Ott, "Foreign Ownership of U.S. Carriers Feared as Limit to Future Military Airlifts", Aviation Week & Space Technology, April 22, 1991.) p. 97.

CRAF contracts.

Although not significant during Desert Storm, the fact that the Aeromedical segment of CRAF was not available until Stage III activation was identified as a potential problem for future conflicts. This problem was addressed and AMC has moved portions of the Aeromedical segment to Stage II.²⁰

Another problem that has surfaced since Desert Storm is the increase in foreign ownership of U.S. airline stocks. In 1991 the policy of restricting foreign stock interest to less than 25 percent was relaxed to 49.9 percent in an attempt to bolster the financial situation of the airlines. But, since CRAF participation is voluntary it is hard to predict whether an airline will be allowed to participate in a CRAF activation if half the ownership is opposed to the crisis that is causing the CRAF activation. Obviously, this is a problem which cannot be resolved by the military, but which should be floated up to Congress regularly until it is resolved.

²⁰. LCOL, Nels Wilt, USAF, "CRAF Lessons Learned During Operation Desert Shield/Storm" Internal Point Paper, (Scott AFB:AMC/XOC, 5 November 1992), p. 1.

CHAPTER IV

CRAF'S FUTURE

"Contingency plans often fail to give due consideration to transportation and logistics. It is assumed that troops and equipment will be there when needed, and that . . . airheads . . . will be available and secure from interdiction. These assumptions are dangerous. Today much of the core airlifter fleet is degraded or non-operational . . . and commercial airliners are pulling out of the Civil Reserve Air Fleet."²¹

The above quotation taken from a recent article by General Fogleman, Commander in Chief of U.S. Transportation Command seems to suggest that CRAF and our entire airlift fleet is in serious trouble and is facing a bleak future. I disagree! While there are structural problems with the C-141 wings, while the C-17 buy is in serious jeopardy, and while support of CRAF by some airlines is uncertain, all these problems are being addressed and solutions are in the works.

As far as the future of CRAF is concerned, the decrease in the size of the Armed Forces and the reduction in the number of

²¹. General Ronald R. Fogleman, USAF, "Reengineering Defense Transportation," Joint Forces Quarterly, Winter 93/94, p. 75.

forces stationed outside the United States has resulted in a decline in the size of the DOD contract for international passenger service with the CRAF airlines. This, could greatly affect CRAF participation in the future. As a result AMC has looked for incentives to keep U.S. air carriers participating in CRAF.

Short term incentives include:

- All DOD contracts and agreements should be linked to CRAF.
- Maintain a \$100 Million goal for CRAF long range cargo carriers.
- Make DOD domestic travel a CRAF function
- Use CRAF airlines for domestic logistics distribution.
- Allow CRAF airlines to use military airfields.

Long term incentives include:

- Conduct all government airlift business with CRAF airlines.
- Support tax incentives to promote upgrade of U.S. fleet capability.
- Continued CRAF enhancement funding.²²

²². LCOL Nels Wilt, "CRAF Incentives" Point Paper, (Scott AFB; AMC/XOC, 1 Dec 92), p. 1.

While most of these incentives are still under consideration and have not yet been adopted, they address the concerns that the CRAF participants have had since Desert Storm. Moreover, they focus on the airlines' bottom line and, as a result, should help to keep CRAF viable. In addition, they show the airlines that TRANSCOM and AMC are genuinely interested in their participation and are willing to work with them for a mutually beneficial partnership.

The CRAF Capability Summary sheet is included as Appendix (D) and it shows no decrease in CRAF capability since Desert Storm. Given the positive relationship between AMC and the airlines, given AMC's willingness to continue looking for incentives to attract carriers to CRAF, and in view of the capabilities shown in Appendix (D), it is safe to say that CRAF is in excellent shape now, that it has a promising future, and that AMC can count on CRAF's full capabilities during its next activation.

CHAPTER V

CONCLUSIONS

The operating environment during Desert Shield/Desert Storm was conducive to a successful participation by civil aviation in the deployment of troops and equipment to the theater. For one thing, the airports used in theater were those with the highest quality of facilities and with superb infrastructure. Moreover, they were not affected by combat operations in their vicinity. Also, the lack of demand for air travel in the civilian sector during the time of the Gulf crisis made it easier for the airlines to commit their equipment and people to CRAF.²³ In addition, the coalition had a significant amount of time available to move the forces and equipment to the operating theater before hostilities began.

Obviously, the next conflict in which the U.S. will participate will be very different. Moreover, the continued decline of the U.S. merchant fleet will lead to additional demands on the CRAF program. Thus, it is imperative that the lessons learned from Desert Shield/Desert Storm be incorporated into the CRAF program. It is also vital that the incentives being

²³. Kent N. Gourdin and Richard L. Clarke, "Winning Transportation Partnerships: Learning from the Desert Storm Experience", Transportation Journal, Fall 1992, p. 34.

proposed by AMC be given full consideration and be incorporated to the greatest extent feasible. After all, CRAF is a matter of national security.

APPENDIX A

JOINT VENTURE CARRIERS

1. Federal Express/Northwest/Tower/United Parcel Service.
2. American/Emery Worldwide/Evergreen/Key/World.
3. American Trans Air/American International.

Source: Lacey, p. 3.

APPENDIX B

AIR CARRIER VOLUNTEERS PRIOR TO CRAF STAGE I ACTIVATION

American Trans Air	Hawaiian Airlines
Air Transport International	Pan American Airlines
Continental Airlines	Rosenbalm Airlines
Connie Kilitta	Southern Air Transport
Delta Airlines*	Trans International Airlines*
Eastern Airlines*	Tower Airlines
Evergreen International Airlines	United Airlines
Federal Express	World Airways

* Volunteers who did not have Stage I commitments.

Source: Eyster, Appendix 4.

APPENDIX (C)

CIVIL RESERVE AIR FLEET MISSIONS FLOWN IN OPERATIONS DESERT SHIELD AND DESERT STORM

Carrier	Passenger Missions	Cargo Missions
US carriers		
America West	39	0
American	98	0
American Trans Air	494	0
Arrow	0	119
ATI	0	156
Buffalo	0	22
Connie Kalitta	0	370
Continental	91	0
Delta	26	0
Eastern	33	0
Emery Worldwide	0	152
Evergreen International	0	347
Federal Express	0	576
Florida West	0	54
Hawaiian	263	0
Northwest	268	117
Pan Am	335	69
Rich International	14	0
Rosenbalm	0	249
Southern Air Transportation	0	252
Sun Country	30	0
Tower Air	242	1
Trans Continental	5	0
TWA	236	0
United	177	0
United Parcel Service	0	123
World	188	149
Foreign carriers		
Alitalia (Italy)	0	27
Cargolux (Luxembourg)	17	0
KAL	0	70
Kuwait Airways	0	1
Martinair Holland	0	16

Total missions	2,585	2,870
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Source: Mackenzie, p. 72.

CIVIL RESERVE AIR FLEET (CRAFT CAPABILITY SUMMARY)									
14 SEP 1 October 1993									
WQ AHC/DOC									
AIRLINE AND CRAFT STAGE	Domestic Segment			North Atlantic Segment			Transatlantic Segment		
	So Air Trm (SJR)	Continental (COA)	Delta Airline (DAL)	North Atlantic (NAT)	Transatlantic (TAT)	World Airways (WAW)	Transatlantic (TAT)	World Airways (WAW)	World Airways (WAW)
CRAFT STAGE	Domestic Segment			North Atlantic Segment			Transatlantic Segment		
	So Air Trm (SJR)	Continental (COA)	Delta Airline (DAL)	North Atlantic (NAT)	Transatlantic (TAT)	World Airways (WAW)	Transatlantic (TAT)	World Airways (WAW)	World Airways (WAW)
DCB-43	1	1	1	1	1	1	1	1	1
A310-324	1	1	1	1	1	1	1	1	1
747-100/100	1	1	1	1	1	1	1	1	1
747-200	1	1	1	1	1	1	1	1	1
747-300	1	1	1	1	1	1	1	1	1
747-400	1	1	1	1	1	1	1	1	1
747-500	1	1	1	1	1	1	1	1	1
747-600	1	1	1	1	1	1	1	1	1
747-700	1	1	1	1	1	1	1	1	1
747-800	1	1	1	1	1	1	1	1	1
747-900	1	1	1	1	1	1	1	1	1
747-1000	1	1	1	1	1	1	1	1	1
747-1100	1	1	1	1	1	1	1	1	1
747-1200	1	1	1	1	1	1	1	1	1
747-1300	1	1	1	1	1	1	1	1	1
747-1400	1	1	1	1	1	1	1	1	1
747-1500	1	1	1	1	1	1	1	1	1
747-1600	1	1	1	1	1	1	1	1	1
747-1700	1	1	1	1	1	1	1	1	1
747-1800	1	1	1	1	1	1	1	1	1
747-1900	1	1	1	1	1	1	1	1	1
747-2000	1	1	1	1	1	1	1	1	1
747-2100	1	1	1	1	1	1	1	1	1
747-2200	1	1	1	1	1	1	1	1	1
747-2300	1	1	1	1	1	1	1	1	1
747-2400	1	1	1	1	1	1	1	1	1
747-2500	1	1	1	1	1	1	1	1	1
747-2600	1	1	1	1	1	1	1	1	1
747-2700	1	1	1	1	1	1	1	1	1
747-2800	1	1	1	1	1	1	1	1	1
747-2900	1	1	1	1	1	1	1	1	1
747-3000	1	1	1	1	1	1	1	1	1
747-3100	1	1	1	1	1	1	1	1	1
747-3200	1	1	1	1	1	1	1	1	1
747-3300	1	1	1	1	1	1	1	1	1
747-3400	1	1	1	1	1	1	1	1	1
747-3500	1	1	1	1	1	1	1	1	1
747-3600	1	1	1	1	1	1	1	1	1
747-3700	1	1	1	1	1	1	1	1	1
747-3800	1	1	1	1	1	1	1	1	1
747-3900	1	1	1	1	1	1	1	1	1
747-4000	1	1	1	1	1	1	1	1	1
747-4100	1	1	1	1	1	1	1	1	1
747-4200	1	1	1	1	1	1	1	1	1
747-4300	1	1	1	1	1	1	1	1	1

This capability summary reflects the CMAF capability at the beginning of the Air Mobility Command Airlift Services Contract for FY94. Of special interest is the following air carriers are not CMAF members for FY94: Reeve Airline, Harbair, Express One Int'l, American Airlines, Florida West, United Airlines, and Burlington Air.

The following air carriers are now CMAF members for FY94: Alaska Airlines, DEL Airways, Miami Air Int'l, North American Airlines, and International Charter Airline Limited Liability.

In addition, Evergreen Int'l is no longer in the Short-Range Int'l segment.

Check this summary thoroughly for changes in numbers of aircraft.

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