Summary of:

Civil Reserve Air Fleet: Economics and Strategy

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David R. Graham

Deputy Director, Strategy Forces and Resources Division

Institute for Defense Analyses

4850 Mark Center Drive, Alexandria, VA 22311, 703 845 2000

Hearing on the Economic Viability of the Civil Reserve Air Fleet Program

before the

Aviation Subcommittee of the Committee on Transportation and Infrastructure

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The Institute for Defense Analyses (IDA) was asked to review the economic health of the Civil Reserve Air Fleet (CRAF) program in view of likely trends in the national security environment as well as in the airline industry.[1] The study describes the current status of the Civil Reserve Air Fleet program, identifies the major areas for concern or potential improvement, and recommends a number of initiatives to address emerging issues. I will summarize a few key points today.

The CRAF Program and Status

CRAF is a voluntary program through which the Nation's airlines serve the military's routine passenger and cargo needs, and provide stand-by commitments to support mobilization. The CRAF program represents an effective partnership between DoD and industry. The availability of reliable civilian capacity greatly reduces the need to buy and maintain DoD aircraft for airlift. The continued success of the CRAF program is an essential underpinning of a cost-effective air mobility capability.

In the IDA study, we defined the "viability" of CRAF in terms of the program's ability to meet three classes of military needs: 1) the nation's mobilization requirements in support of major military operations, 2) the military's routine, planned day-to-day requirements, and 3) unexpected contingency requirements, such as might be associated with a humanitarian operation or a smaller contingency operation.

Today, the program is robust and is meeting DoD's needs. Since 2001, driven by the demands of Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), the CRAF airlines have supported a nearly five-fold increase in DoD's day-to-day cargo and passenger airlift needs, at a cost to DoD of about $2.5 billion annually.

The mobilization commitments in the CRAF contract include 230 long-range cargo aircraft and 449 long-range passenger aircraft—a commitment that is almost twice the DoD's planned use of civil airlift in its largest global war plans. CRAF has been successfully mobilized twice in its history: once in support of Operation Desert Storm and again in 2003, in support of Operation Iraqi Freedom. (See the Attachment for Airline Commitments.)

Viability of CRAF

To evaluate the future viability of CRAF, the IDA study constructed hypothetical scenarios to capture trends in both the military and commercial markets affecting the CRAF program. The following scenarios highlight four major factors that will determine the future viability of CRAF.

- **Trends in major airline markets and U.S.-owned aircraft inventories:** There are over 1,000 long range international (LRI) aircraft in the U.S. passenger fleet, and over 500 LRI aircraft in the domestic cargo fleet. Both fleets are greatly in excess of currently planned DoD needs for these kinds of aircraft, and will remain so under plausible scenarios for the size of future U.S.-owned

[1] This study was mandated by Congress in the FY08 DoD Authorization Act (Sec. 356, Independent Assessment of Civil Reserve Air Fleet Viability; Conference Report 110-477, pp. 73, 886).

aircraft fleets. Consequently, the issue facing the CRAF program is not whether there is enough total U.S. capacity to meet DoD's mobilization requirements, but how to obtain that capacity in the most efficient and least disruptive manner possible.

- **The DoD business base:** The total DoD revenues flowing to the program are a key determinant of the viability of the CRAF program, as these revenues underwrite the formation of the CRAF teams. We postulated a planning case for 2012 that assumed DoD's annual payments for both passenger and cargo charter airline services were 50 percent lower than 2006 levels, due to declines in OEF and OIF demands. This would result in annual CRAF revenues of about $1.2 billion in 2012. At this level, revenues would still be more than twice the revenues that sustained the CRAF program at the beginning of this decade, prior to OEF and OIF. Thus, though the amount of annual DoD spending on CRAF merits careful watching, we do not forsee a problem sustaining the health of the CRAF program in the near term.
- **Commercial markets for the CRAF charter passenger airlines:** An area where there is a potential concern is the limited numbers of charter passenger aircraft. The commercial passenger charter segment has been in long-term decline, as tour-group business has shifted to scheduled airlines. DoD already accounts for more than half of the business for the charter passenger segment, and in the scenario postulated in the IDA study, the inventory of charter passenger aircraft could shrink by as much as one-third as DoD demand falls. If this happened, there would be a risk that the passenger charter fleet would eventually become too small to meet peak demands resulting from the normal variability in DoD's day-to-day activities. It would be unweildy to address such cases with frequent mobilizations, so we believe the CRAF program will need to work out a voluntary, contractual approach to meet future DoD needs for passenger aircraft, using both the charter and scheduled passenger airline fleets. This situation requires careful monitoring and planning and may require the formation of separate passenger teams to ensure actual CRAF capabilities are adequate to fulfill the contractual CRAF commitments.
- **Commercial markets for the CRAF charter cargo airlines:** The charter cargo segment does not pose the same risks, because DoD uses only about one-third of the industry's capacity today.

In summary, expected DoD use of CRAF aircraft should keep the program healthy for the foreseeable future. However, things can change rapidly in the passenger industry and trends should be monitored carefully.

Recommendations

The recommendations offered in the IDA report are designed to address the potential risks to passenger service due to the decline of the commercial charter passenger aircraft fleet described previously, and to improve the efficiency and effectiveness of the program.

Principal Recommendation. Our principal recommendation is to implement an "assured supply" approach in contracting for CRAF.

The underlying rationale for the "assured supply" approach is described below.

- The main goal is to create new contractual provisions that would establish expectations and commitments to meet DoD needs in all circumstances. Along with peacetime and mobilization requirements, USTRANSCOM would ask the airline industry to partner in meeting a range of potential surge requirements through the normal charter contract, so as to avoid too rapid a move to CRAF activation in the event of an unexpected, relatively minor, military contingency. CRAF participants would need to back up their obligations for "assured supply." It would be up to the teams to figure out how best to meet these contractual commitments.
- In return for these commitments, DoD would adopt proven management practices that would strengthen the government-industry partnership.
    - First, multi-year contracts would allow both USTRANSCOM and its industry partners to plan, invest, and organize their operations in a more efficient fashion. Congress permits this under the Performance Based Logistics (PBL) program in selected areas. Extending these authorities to include airlift would provide DoD with the ability to strengthen the partnership with key CRAF participants.
    - Second, the sharing of relevant DoD planning information with the airline industry would enable suppliers to make efficient and effective investment decisions. This is consistent with commercial practice in other industries. Such assurances, done prudently, can improve confidence in DoD's planning information and enhance its value for airline planning and investment decisions, and should help with the financing of needed capacity.

The features of the "assured supply" approach also address other efficiency and investment incentives. The two most important of these are:

- USTRANSCOM should foster the efficient utilization of airlift. For a variety of reasons, DoD's cargo charters obtain average utilization rates of 195 hours per month per aircraft, as compared with 360 hours per month average utilization in commercial cargo operations. Similarly, DoD's passenger charter airlines achieve average utilization rates of 204 hours per month per aircraft, as compared with an average of 295 hours per month for commercial passenger operations. Lower utilization rates lead directly to higher costs. In addition, lower utilization rates make it more economical to use older aircraft, whose high hourly operating costs are more than offset by low capital costs. If higher utilization rates could be obtained, carriers would have improved incentives to use more modern aircraft that cost less to operate and whose higher capital costs could be spread over a larger number of flight hours. There are good reasons why DoD cannot achieve commercial utilization rates, but there is still room for improvement.
- DoD should revise its charter service ratemaking to level the playing field for modern and classic aircraft. Under the current rate setting approach, airlines can earn the greatest rates of return on the older, fully depreciated "classic" aircraft. So, most of the service is being provided with aircraft in the FAA's aging aircraft program. Over time, DoD needs to set rates that will allow for the gradual transition to the employment of more modern aircraft. The IDA report proposes establishing separate rate classes for modern and classic aircraft as one way to achieve this.

60/40 Rule. DoD's current policy is to require that every airline obtain no more than 40 percent of their revenues from DoD business. This is known as the "60/40 rule." The IDA report recommends suspending the 60/40 rule, both because it has outlived its original intent and because it likely will not be enforceable as the commercial passenger charter segment shrinks.
The theory behind the 60/40 rule is that carriers with a majority of their revenues generated from the commercial market are more efficient and safer. One of the key initial motivations, in the 1960s, was a concern that "non-existent" ("fly-by-night") firms with no aircraft could win a government contract, then use the contract to obtain aircraft and start flying. Today, however, DoD has simple and effective mechanisms to ensure that only qualified airlines bid on DoD contracts.[2] At present, the Department is waiving this rule whenever necessary to meet contingency requirements.

As a fact-of-life, the effect of enforcing this rule could be to put carriers out of business and force USTRANSCOM to scramble to fill in the void left by the departing airlines.[3] Given the historically high current DoD demands on CRAF, the granting of waivers to this rule is sensible and necessary to permit the carriers to devote their fleets to meeting DoD's needs. As discussed earlier, with a shrinking commercial charter market, it may not be possible for every passenger charter carrier to meet the 60/40 rule, even as DoD draws down forces in Iraq and Afghanistan.

Other Recommendations. We also recommend that DoD reconsider the structure of the Aeromedical Evacuation program and the balance of the employment of commercial and organic airlift in support of current operations.

Concluding Remarks

DoD possesses a number of policy and management levers that can be used to shape the available supply of airlift support from the civil sector, but congressional support will be needed, especially to implement the needed authorities for multi-year contracting.

We believe that the "assured supply" approach will sustain the CRAF program through the challenges that may arise over the next several years. But, we have learned that the situation changes rapidly in this field, so it will be important to continue to monitor developments. In particular, if DoD demands fall substantially faster and deeper than we have foreseen, consideration of more radical models for CRAF, including greater reliance on broad market competition, should also be considered and reevaluated.

[2] With respect to safety, charter airlines are required to maintain their aircraft to the same FAA safety standards as scheduled airlines. No distinction is made in the FAA safety regulations between carriers flying scheduled passengers, commercial charter passengers or CRAF passengers. The DoD has directed the Commander of USTRANSCOM to ensure the safety of air carriers supporting DoD (32CFR861).

[3] On the cargo side, DoD aggregate revenues in 2006 represented 30 percent of the market for the cargo charter airlines. On the passenger side, DoD revenues accounted for 55 percent of the total revenues across all of the passenger charter markets. Hence, in the aggregate the passenger segment was not meeting the 60/40 rule. In 2006, three airlines—World, Omni, and Evergreen—each had commercial revenues that were 40 percent or less of total business—well below the target under the 60/40 rule. (In the case of North American, the ratio is violated but the difference is quite narrow: commercial business was 58 percent of revenues versus the 60 percent target.)

Attachment: Airline Capacity and Commitments to CRAF

Charter Airline Capacity

Table 1 shows that in 2006 there were 100 long range international (LRI) aircraft owned by the cargo charter carriers. CRAF demand was the equivalent of the full-time employment of 28 cargo aircraft. Thus the ratio of total available aircraft to the number actually required, in 2006, was 3.6 to 1. In the planning scenario examined, the cargo charter aircraft fleet is expected to grow to 108 aircraft by the year 2012. (This indicates that for the charter cargo sector, the hypothesized 50 percent decline in CRAF demand from 2006 to 2012 is more than offset by projected increases in commercial demand.)

Table 1. Charter Airline Capacity to Meet CRAF Surge Requirements

				2006		2012	
Charter Segment	Steady-State (Peacetime) Activity (1/2 of 2006)	Additional LRI Aircraft Required for Surge	Target: Total LRI Aircraft Required for Surge	LRI Charter Aircraft in CRAF	Aircraft/ Target	LRI Charter Aircraft in CRAF	Aircraft/ Target
Cargo	14	14	28	100	3.6	108	3.9
Passenger	14.5	14.5	29	44	1.5	31	1.1

To provide a benchmark for evaluating the sufficiency of available charter capacity, we set a target at 2006 levels of DoD support for the charter airlines. The rationale is that if the industry has the capacity readily available to support this level of activity, then DoD can rest assured that the industry can support its needs across a wide range of possible future contingencies without requiring CRAF activation. For the cargo sector, in 2012 the ratio of total available aircraft (108) to the surge benchmark (28) is 3.9 to 1. In short, the capacity of the cargo charter market is nearly four times larger than the benchmark peacetime surge needs. This should give DoD significant confidence that sufficient charter cargo capacity is available.

For passenger charter carriers, in contrast, the ratio of available passenger charter aircraft (44) to the full-time equivalent number of aircraft needed for CRAF (29) was only 1.5 to 1 in 2006. In the planning scenario examined, the passenger charter aircraft inventory is projected to decline to 31 aircraft in 2012 (due to the projected decline in CRAF demand and weak commercial demand). The ratio of total available aircraft (31) to the surge target (29) falls to 1.1 to 1 in 2012.

The passenger charter industry is thus expected to possess a smaller fleet that will be marginal, and perhaps insufficient to meet the full range of DoD's peacetime contingency needs with a high degree of confidence. Unless DoD takes steps to secure the airlines' commitment to meet a range of future

requirements, a future sudden surge, even a small one, may necessitate a CRAF activation of passenger aircraft.

Commitments for Mobilization

The airlines have committed 40.0 million ton miles per day (MTM/D) of long-range international cargo capacity to CRAF, comprised of 230 aircraft. This furnishes almost twice the capacity required to meet DoD's mobilization target for cargo. The airlines have committed 198.0 million passenger miles per day (MPM/D) of long-range international passenger capacity, comprised of 587 long-range aircraft, which furnishes almost twice the capacity required to meet the target for passengers.

Table 2. DoD Mobilization Targets and Commitments for CRAF

CRAF Segment	CRAF Mobilization Target	CRAF Capacity Committed	CRAF Capacity Committed/Mobilization Target
Cargo	20.5 MTM/D	40.0 MTM/D	1.95
Passenger	100 MPM/D	198.0 MPM/D	1.98