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## The Canadian Version of the Civil Reserve Air Fleet for the Royal Canadian Air Force

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THE ROYAL CANADIAN AIR FORCE**

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# **THE CANADIAN VERSION OF THE CIVIL RESERVE AIR FLEET FOR THE ROYAL CANADIAN AIR FORCE**

## **AIM**

1. The aim of this service paper is to propose to the Royal Canadian Air Force (RCAF) Commander that a Canadian version of a Civil Reserve Air Fleet (CRAF) should be implemented to augment its airlift capability during the Canadian Armed Forces (CAF) Reconstitution. This paper will provide information on the CRAF and how the U.S. is employing this program to serve as a basis for the proposal. Whilst noting that there will be some challenges in the implementation of this program, using civilian airlines to provide gap-fill airlift capability will allow the RCAF to focus on generating its force for the foreseeable future.

## **INTRODUCTION**

2. The security environment is rapidly changing which will require the RCAF to provide increased airlift capability to move personnel and equipment in support of operations in the near term. However, the current personnel crisis in the RCAF will affect its ability to effectively meet this demand. The Department of Defense (DoD) employs civilian airlines under the CRAF program to augment its airlift capability in peacetime and during the war. As one of the biggest and busiest militaries in the world, leveraging civilian airlines allows the DoD to be flexible whilst maintaining its high operational tempo. Noting the major difference in size and funding, the RCAF should look to leverage Canadian civilian airlines to provide Force Employment (FE)-related airlifts as a gap-fill as current staffing numbers would make it difficult to support all of RCAF's Force Posture & Readiness (FP&R) commitments. Augmenting this capability would allow the RCAF to concentrate on Force Generation (FG)-related activities without negatively affecting its ability to sustain its current and future operations.

## **DISCUSSION**

3. The CAF is facing an unprecedented personnel crisis which is affecting its operational effectiveness.<sup>1</sup> There are approximately 10,000 regular force vacant positions across all Services and as a relatively small military, these vacancies are felt at all levels of the organization. As a result, recruitment and retention have rightly become a top priority for the CDS, thus a priority for all of the L1s. The RCAF has developed its own Reconstitution Strategy to deal with the current personnel shortage crisis. The challenge for the RCAF is that there are conflicting priorities amongst FE (Securing home and abroad), FG (CAF/RCAF Reconstitution), and Force Development (FD) (NORAD Modernization). Though the recently published RCAF Strategy cites that the foundation of its strategy begins with the people, the requirement for the RCAF to employ its core and enabling capabilities to support Canada's political and strategic objectives cannot be overlooked.

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<sup>1</sup>Berthiaume, Lee. "Military Needs Help from Canadians Amid Personnel Crisis: Defence Chief." Global News, last modified October 15, accessed 23 February, 2023, <https://globalnews.ca/news/9201331/canadian-military-personnel-crisis/>.

4. One of RCAF's core capabilities is airlift which delivers personnel or material by air. Due to its distinct reach, speed, and payload characteristics, other component commands employ this capability to move personnel and material for deployment, sustainment, and redeployment in support of Ex/Ops at home and abroad. The RCAF currently has three transport fleets to support strategic and operational airlift requests: CC-150 Polaris, CC-177 Globemaster III, and CC-130J Hercules.<sup>2</sup> While they perform a huge force-enabling role for the CAF, the provision of this capability is resource intensive. For instance, one sustainment flight (SF) in support of Op IMPACT requires two crews consisting of, at a minimum, two pilots, two tech crewmen, and one loadmaster. One crew will be prepositioned in Europe, while the slip crew will continue its mission into the AO. Back in Trenton, the Squadron maintenance section will provide first and second-line maintenance support ensuring the aircraft is ready for operational missions. A study conducted by DRDC on the employment of these three-transport fleets concluded that a total of 51,369 Yearly Flying Rates (YFR) were expended in FY 17-18, 18-19, and 19-20.<sup>3</sup> Out of those YFRs, 54.4% were used in support of CJOC missions to sustain forces all around the world. Noting that the data is from a few years ago, it is safe to presume that the figures have not changed drastically since then. The opportunity cost of apportioning a large amount of YFR to airlift is missed opportunity in FG activities – specifically to complete specific currencies and upgrade proficiencies for aircrew. There is a limited number of currencies which can be completed on an operational (FE) flight. Depending on the level of the First Officer (FO) and the type of currencies he/she requires, the training must occur on a designated trainer flight specifically designated for FG (for CC-177, these include assault landings, and take-off and landing with NVGs).

5. The CRAF is a U.S. DoD program which is designed to provide access to commercial aircraft as a means to augment strategic and operational airlift capability during peacetime and war.<sup>4</sup> This voluntary program is a way to utilize the production economy in a government-sponsored initiative, "*saving the need to be ready with only government resources for everything*".<sup>5</sup> Participation is limited to U.S. civilian airlines and their aircraft can be employed by the DoD under the command of Air Mobility Command (AMC) and U.S. Transportation Command (USTRANSCOM) to move military cargo and personnel as necessary.<sup>6</sup> There are three segments under the CRAF which are: the international, the aeromedical (worldwide evacuation of patients), and the national segment. Due to the size of the U.S. military, the CRAF has not been used too often during wartime but is nonetheless available when required. During the Gulf War in 1990-1991, the CRAF was activated for the first time since its inception in 1952 to build up its logistics and personnel footprint in the region. The activation of CRAF was highly successful. More than 50% of personnel and material movement from the U.S. to the JOA

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<sup>2</sup>Chan, Jim. 2020. Strategic and Operational Airlift Data. Ottawa: Defence Research and Development Canada.

<sup>3</sup>Ibid.

<sup>4</sup>Lewis, Ira. "The Civil Reserve Air Fleet: Balancing Risks and Incentives." *Transportation Journal* 38, no. 2 (Winter, 1998): 32-39.

<https://login.cfc.idm.oclc.org/login?qurl=https%3A%2F%2Fwww.proquest.com%2Fscholarly-journals%2Fcivil-reserve-air-fleet-balancing-risks%2Fdocview%2F204589924%2Fse-2%3Faccountid%3D9867>.

<sup>5</sup>Baldanza, Ben. "How the Civil Reserve Air Fleet Benefits the Country and Helps Airlines." <https://www.forbes.com/sites/benbaldanza/2021/09/01/how-the-civil-reserve-air-fleet-benefits-the-country-and-helps-airlines/?sh=1b8f407c6566>. Forbes, last modified 1 September, accessed February, 2023.

<sup>6</sup>Ibid.

attributing to the biggest airlift campaign since the Berlin airlift.<sup>7</sup> In 2021, the CRAF was once again activated to aid the Department of State in the evacuation of U.S. personnel and at-risk individuals from Afghanistan. A total of 18 aircraft were volunteered from various civilian airlines to augment the airlift capability. Their efforts in transporting personnel from the safe haven to interim staging bases allowed the military to focus on military airlift in and out of Kabul Airfield Base.<sup>8</sup> The civil-military cooperation attributed to the largest NEO of passengers in history with over 420 commercial flights in support of the operation.<sup>9</sup> Afghanistan NEO operation displayed the CRAF program's flexibility and speed to support military operations.

6. Prior to the CRAF program, the U.S. military chartered commercial airlines to provide airlift capability. The bureaucracy and administration required to charter an aircraft did not give the speed and flexibility the DoD required to support military operations. As the busiest and most widely deployed military, leveraging civilian airlines provided strategic and operational-level flexibility in transporting equipment and personnel. It also gave access to bigger airframes than DoD's organic strategic airlift capability giving greater payload. This allowed the DoD to maintain a high level of operational tempo moving large numbers of passengers and equipment every week. In 2009 alone, 25,000 DoD passengers and 6,000 tons of equipment were transported which accounted for 93% of passengers and 37% of freight lifts respectively.<sup>10</sup>

7. As observed during the Gulf War and Afghanistan NEO, the CRAF provides the additional horsepower to the employment of air power. Furthermore, the CRAF is economically feasible because it provides airlift capability without having to purchase the aircraft and bear associated costs. The operational and maintenance (O&M) which includes supply and maintenance support cost the DoD \$49 billion in FY 18/19 alone.<sup>11</sup> This does not include indirect costs such as investment in infrastructure, personnel, and depreciation value of the aircraft. Leveraging civilian airlines to augment the airlift capability provides flexibility without absorbing the indirect cost of owning the fleet. During the Gulf War when the CRAF program was first activated, the AMC paid civilian airlines approximately \$1.5 billion whereas purchasing additional aircraft would have cost them \$15 to \$50 billion.<sup>12</sup> Nevertheless, the benefit of the CRAF program is mutual, as commercial airlines have a huge financial incentive to be part of the program. With the volatility of the airline industry as observed during 9/11, and the COVID-19 pandemic, having a large customer such as the DoD is hugely beneficial. According to a RAND study, the AMC spends approximately \$600 million a year for airlift services via the CRAF program.<sup>13</sup> The DoD also conducts additional operations audits apart from the ones done by FAA

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<sup>7</sup>Lewis, Ira. "The Civil Reserve Air Fleet: Balancing Risks and Incentives." *Transportation Journal* 38, no. 2 (Winter, 1998): 32-39.

<sup>8</sup>U.S. Department of Defense. "Department of Defense Activates Civil Reserve Air Fleet to Assist with Afghanistan Efforts.", <https://www.defense.gov/News/Releases/Release/Article/2741564/departement-of-defense-activates-civil-reserve-air-fleet-to-assist-with-afghanis/>.

<sup>9</sup>National Defense Transportation Association. "Refining Civilian Airlift Augmentation for Great Power Competition.", last modified 28 September, accessed February, 2023, <https://www.ndtahq.com/refining-civilian-airlift-augmentation-for-great-power-competition/>.

<sup>10</sup>Ibid.

<sup>11</sup>McCarthy, Niall. "The Mammoth Cost of Operating America's Combat Aircraft." <https://www.forbes.com/sites/niallmccarthy/2020/11/26/the-mammoth-cost-of-operating-americas-combat-aircraft-infographic/?sh=61102f2f7da7>., last modified 26 November.

<sup>12</sup>Bolkcom, Christopher. 2006. CRS Report for Congress: Civil Reserve Air Fleet (CRAF).

<sup>13</sup>Ibid.

which helps to identify potential issues that could have a negative impact if not identified sooner.<sup>14</sup>

8. Derived from Canada's Defence Policy, the FP&R outlines six key RCAF commitments which include: NORAD, SAR, CANSOFCOM, High Readiness DOMOPs, Strategic Airlift, and NATO.<sup>15</sup> Supporting all these commitments requires significant airlift capability to transport personnel and material. Currently, these commitments are at odds with the CAF-wide focus which emphasizes FG activities and recruitment. As a result, the implementation of a Canadian CRAF program will be hugely beneficial, especially during the 'Recover' phase (2022-2025) to fill the capability gap in the interim. The use of transport aircraft in support of CJOC missions accounted for more than 50% of its YFR. The problem is that there are not enough resources in personnel and aircraft to sustain both FG and FE activities. During the Reconstitution, transport aircraft should primarily be used to conduct Operational Training Unit (OTU), expedite aircrew upgrades (i.e. from FO level one to three) and strengthen the proficiencies of aircrew. These air assets can also participate in NORAD and NATO exercises to achieve an operational advantage from an alliance perspective. Exercising with other elements and allies will increase RCAF's ability to work in a pan-domain environment with "*a mission-ready and combat-capable force that can deliver precision kinetic and non-kinetic effects*".<sup>16</sup> Freeing up these RCAF assets to mainly focus on FG activities will strengthen the force. In the meantime, civilian airlines can augment airlift capabilities to deploy, sustain, and redeploy our forces abroad. A few years of concentrating on FG will widen the bottleneck and it will allow the RCAF to continue its FP&R commitments and respond to emerging threats at home and abroad.

9. There are likely some challenges to turning this concept into implementation. Firstly, it will require political support to leverage the civilian airlines to provide augmented airlift capability. From a political perspective, using airlines to provide airlift capability in support of operations may signal to the public that the Canadian military is incapable of conducting airlift capability on its own. It may raise criticism of military spending and question the allocation of 1.32% of its GDP to the CAF. Secondly, Canadian airlines are significantly smaller than the U.S. Reserving a number of its fleet for military use can have an adverse effect on its ability to transport civilian passengers. There are also only a handful of airlines (i.e. Air Canada) that has the aircraft to match C-17's payload. Despite its limitations, there may be some interest from civilian airlines to provide airlift capability as nearly three years of the pandemic have negatively affected their profit margin. In 2020 alone, Air Canada reported a net loss of \$4.647 billion whereas, at the same time the previous year, the company reported a net income of \$1.476 billion.<sup>17</sup> The CRAF poses risks as well as these aircraft may be used to transport passengers and equipment in a contested environment in the near future (i.e. Indo-Pacific region). This will likely increase the insurance premium as its aircraft and aircrew will be used to transport military

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<sup>14</sup>Baldanza, Ben. "How the Civil Reserve Air Fleet Benefits the Country and Helps Airlines." <https://www.forbes.com/sites/benbaldanza/2021/09/01/how-the-civil-reserve-air-fleet-benefits-the-country-and-helps-airlines/?sh=1b8f407c6566>. Forbes, last modified 1 September, accessed February, 2023.

<sup>15</sup>Canada. Department of National Defence. "Strong, Secure, Engaged: Canada's Defence Policy." Ottawa: DND Canada, 2017.

<sup>16</sup>Canada. Department of National Defence. "RCAF Strategy." Ottawa: DND Canada, 2023.

<sup>17</sup>Travelweek Group. "Catastrophic Impact of COVID-19 Leads to \$4.6 Billion Net Loss in 2020 for Air Canada." <https://www.travelweek.ca/news/catastrophic-impact-of-covid-19-leads-to-4-6-billion-net-loss-in-2020-for-air-canada/>, last modified 12 Feb.

assets to areas that they do not have much experience operating out of. Lastly, from a military perspective, solely focusing on using these transport fleets for FG activities could have a negative effect on aircrew training. Operational aircrew could slowly lose their proficiency in conducting complex SF missions which require intricate flight planning, astute problem-solving skills, and crew management.

10. As evidenced by the FP&R, the RCAF is always involved in operations. There is always a high demand for airlift from all Force Employers and the RCAF does not have the resources (i.e. personnel and aircraft) to keep up with the demand. Over the next few years, under the RCAF Reconstitution Strategy, the focus will be on recovering and building its force. During this time, civilian airlines could provide an airlift capability gap so these assets (and associated personnel) could be primarily used to conduct FG-related activities. This is not without precedence as Canadian airlines have provided airlift capability via the contracting process. During Ex TRIDENT JUCTURE 2018, personnel deployed to Norway via Air Transit so that military aircraft could be used to transport equipment and material into the AO. Further, during Canada's involvement in Afghanistan under Op ATTENTION, Air Canada reserved some of its aircraft to provide additional airlift in support of the Op.<sup>18</sup> A Canadian CRAF program will be based on a standing agreement amongst participating airlines to provide airlift capability at a pre-negotiated rate circumventing the contracting process for every Ex/Op needing airlift. Through a standing agreement, civilian airlines can be quickly employed to provide airlift capability in support of select Ex/Ops. It will also guarantee that a certain amount of airlift requirement from the RCAF will go to the civilian airlines with smaller airlines taking on sustainment missions in support of NORAD and/or DOMOPS. From a cost perspective, utilizing civilian airlines will be more cost-effective and faster than procuring additional air assets.

## CONCLUSION

11. The RCAF is a critical point where it needs to focus on FG activities in order to recover in order to build a future force. However, there is still an operational requirement to provide airlift capability to enable operations. A Canadian version of the CRAF program could bridge the airlift capability gap whilst the air mobility community utilizes its fleet for mostly FG-related activities. The use of civilian airlines to augment its airlift capability will allow the RCAF to continue its FE activities whilst concentrating on training, upgrading, and building a healthy number of aircrews. At the same time, civilian airlines will be guaranteed business to increase their operating income.

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<sup>18</sup> Based on anecdotal from previous CJOC J4 Mov, LCol Dave Cameron's experience.

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