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RCAF AIR POWER COMMAND AND CONTROL: AN EXPLORATION OF CENTRALIZED CONTROL, MISSION COMMAND, AND JOINTNESS

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AIM

1. This service paper will examine the Canadian Armed Forces' (CAF) approach to Command and Control (C2) of air power in order to provide a recommendation to Commander Royal Canadian Air Force (RCAF) on the most ideal approach to Force Generation (FG) and Force Employment (FE) C2 for CAF air power. Through an assessment of the tenet of centralized control and decentralized execution as well as an examination of the mission command concept, conclusions will be drawn on the most optimal C2 to provide both coordination and agility as well as unity of effort in joint operations. This analysis will not examine the North American Aerospace Defence (NORAD) Canadian Region (CANR) C2 or the role of the CANR Combined Force Air Component Commander (CFACC).

INTRODUCTION

2. The current RCAF structure began to emerge in 1997, when the various functional command groups amalgamated into the newly established 1 Canadian Air Division (1 CAD) Headquarters (HQ).¹ With Chief of Defence Staff (CDS) acceptance of centralized control and de-centralized execution for air power in 2005, the national Joint Force Air Component Commander (JFACC) authority was established and the Combined Air Operations Centre (CAOC) was stood-up.² These activities occurred in parallel to broader CAF transformation efforts, including establishing the operational level commands of Canada Command (CanadaCOM), Canadian Expeditionary Command (CEFCOM) and Canadian Operational Support Command (CANOSCOM), as well as the establishment of CANSOFCOM. A 2011 review of these transformation efforts, however, highlighted duplication of effort and excessive overhead within these new command HQs, identifying that staff positions had grown by 40% between 2004 and 2010.³ To reduce this overhead and improve efficiency and integration, the report recommended combining CanadaCOM, CEFCOM and CANOSCOM into one joint FE HQ with a consolidated planning and operations centre.⁴ This recommendation materialized with the establishment of Canadian Joint Operations Command (CJOC) in 2012.⁵

3. Today, centralized control and de-centralized execution remains the key tenet of RCAF doctrine and is largely achieved through the role of the Commander 1 CAD/JFACC.⁶ Commander 1 CAD performs an FG function, responsible to Commander RCAF for all operational Wings and FG requirements. This same commander has an FE role as the CAF's

¹ Department of National Defence, B-GA-400-000/FP-000, *Canadian Forces Aerospace Doctrine* (Ottawa: DND Canada, 2016), 10.

² Pelley, Jennifer, "Update on Air Force Transformation," *Air Force Crew Brief*, 3 no. 3 (Spring 2006): 2-3. https://publications.gc.ca/collections/collection_2017/mdn-dnd/D12-24-3-3-eng.pdf.

³ Leslie, Andrew, "Report on Transformation 2011" (Department of National Defence and Canadian Forces, 2011), xii.

⁴ *Ibid.*, 48.

⁵ Department of National Defence, *Evaluation of Canadian Armed Forces Operations* (Ottawa, ON: Chief Review Services, November 2017), 14.

⁶ Department of National Defence, *Canadian Forces Aerospace Doctrine* . . . ,16-17.

JFACC, supported by the CAOC. The JFACC is responsible to Commander CJOC for the FE of air power and is the senior air advisor to both Commander CJOC and Commander Canadian Special Operations Command (CANSOFCOM). This C2 structure will be analysed as far as the authority and role of the national level JFACC and Commander 1 CAD. Specifically, the requirements, benefits, and drawbacks of having centralized control of air power for both FG and FE will be examined. As mission command is a key concept within CAF joint doctrine⁷, the air power C2 structure will be assessed against a more distributed control approach which would better enable mission command. Furthermore, the overall C2 structure for joint air power operations will be reviewed to determine if the current C2 is conducive to the integration of air power into the planning, coordination, and execution of CAF joint operations.

DISCUSSION

Centralized Versus Distributed Control

4. The first aspect to examine is the requirement for centralizing control of air power through a single national JFACC. The argument for centralized control is clearly articulated by Lieutenant-Colonel (Retired) Pux Barnes:

Centralized control is required to ensure the most efficient use of limited air assets, permitting air power activities to be refocused quickly to exploit fleeting opportunities, to respond to the changing demands and priorities of the operational situation, and to be concentrated at the critical place and time to achieve decisive results.⁸

However, recently re-written United States Air Force (USAF) doctrine is moving away from centralized control.⁹ The USAF replaced their key tenet of centralized control with mission command, identifying a need to delegate greater control to lower levels, and now follow the approach of “centralized command, distributed control, and decentralized execution”.¹⁰ In addition to these recent changes to USAF doctrine, there is also no precedent from allied partners that a national JFACC is required. In fact, the CAF’s JFACC and CAOC is “the only system of its kind harnessing air effects for the operational employment of an entire national air force”.¹¹

⁷ Department of National Defence, B-GJ-005-000/FP-001, *Canadian Forces Joint Publication 01 – Canadian Military Doctrine* (Ottawa: DND Canada, 2009), 4-3.

⁸ Pux Barnes, “Command or Control – Considerations for the Employment of Air Power in Joint Operations,” *The Royal Canadian Air Force Journal*, 3 no. 2 (Spring 2014): 32. http://www.rcaf-arc.forces.gc.ca/assets/AIRFORCE_Internet/docs/en/cf-aerospace-warfare-centre/elibrary/journal/2014-vol3-iss2-05-command-or-control-considerations-for-the-employment-of-air_power-in-joint_operations.pdf

⁹ Department of the Air Force, *Air Force Doctrine Publication 1 – The Air Force* (Maxwell AFB, AL: Lemay Center for Doctrine, 2021), 12.

¹⁰ *Ibid.*, 13.

¹¹ 1 Canadian Air Division/Canadian NORAD Region Headquarters, *Historical Report 2012* (Winnipeg, MB: 1 CAD HQ, 2013), 11. DWAN: winnipeg.mil.ca/cms/libraries/HQ_Library/Historical_Report_2012.sflb.ashx.

Allies utilize the JFACC model, but at regional or theatre levels, not at the national level.^{12,13,14} This national JFACC approach, however, will be examined against CAF specific FG and FE requirements.

5. With respect to FE missions, RCAF doctrine provides various C2 structures which can be tailored to specific missions. Some models have the JFACC exercising Operational Command (OPCOM) over an Air Task Force (ATF) while other structures have OPCOM delegated directly to a Joint Task Force (JTF) Commander and down to an assigned ATF Commander, with no C2 relationship to the JFACC.¹⁵ RCAF doctrine states that the degree to which control is centralized is mission dependant and can vary depending on the operation, but it does not necessitate the JFACC to exercise C2 over air power FE missions.¹⁶ In fact, many expeditionary operations involve air assets being assigned to coalition air component commanders and regional CAOCs, and through those structures prioritization and proper concentration of force is achieved.¹⁷ Thus, RCAF doctrine provides great flexibility for C2 on FE missions, enabling tailored approaches capable of supporting varying degrees of centralization or distribution on control.

6. From an applied perspective, both Op IMPACT and Op PRESENCE (Mali), two recent air power FE operations, had no C2 relationship with the JFACC.^{18,19} The JFACC fulfilled the air advisor role to Commander CJOC and CAOC Mission Support provided reach-back support to the missions, but command was delegated directly from Comd CJOC to the Task Force Commanders. The recent domestic employment of air power for Op LASER had the JFACC in the C2 chain, but ultimately the air detachments were assigned OPCOM to the Op LASER JTF Commander with OPCOM of air assets being further delegated to the ATF Commander and Operational Control (OPCON) of the assets delegated to the Regional JTF Commanders.²⁰ Thus, the control was distributed among the regions with higher-level coordination and command occurring at the ATF or JTF levels, meaning the JFACC was not truly exercising centralized control. Independent of the assigned C2 structures, however, the JFACC does retain a risk management and acceptance role.²¹ But, this risk authority role does not need to be centralized

¹² Joint Chiefs of Staff, *Joint Publication 3-30 – Joint Air Operations* (Washington, D.C.: Joint Staff Doctrine Division, 2021), I-2.

¹³ Ministry of Defence, *AP 3000 – British Air and Space Power Doctrine* (Shrivenham, Oxfordshire: Centre for Air Power Studies, 2009), 61.

¹⁴ Royal Australian Air Force, *Australian Air Publication 1001.1 – Command and Control in the Royal Australian Air Force* (Tuggeranong, ACT: Air Power Development Centre, 2009), 4-6.

¹⁵ Department of National Defence, B-GA-402-001/FP-001, *Royal Canadian Air Force Doctrine – Command and Control* (Ottawa: DND Canada, 2018), 46-57.

¹⁶ Ibid., 14-16.

¹⁷ Department of National Defence, *Royal Canadian Air Force Doctrine – Command and Control*. . . ,54.

¹⁸ Joint Task Force – IMPACT Headquarters, *Inreach Brief - Operation IMPACT and Operation FOUNDATION* (Kuwait: JTF-I HQ, May 2020), Slide 8.

¹⁹ Op PRESENCE - Task Force Mali Commander, *Briefing to the Standing Committee on National Defence* (Gao, Mali: TF Mali, 14 February 2019), slide 14.

²⁰ Commander 1 Canadian Air Division / Joint Force Air Component Commander. *Frago 001 13207/20 to Op Order 003 13205/20 Force Employment in Support to Joint Task Force Laser* (Winnipeg, MB: 1 CAD HQ, 2020), B-1.

²¹ Department of National Defence, B-GA-402-005/FP-001, *Royal Canadian Air Force Doctrine – Expeditionary Air Operations* (Ottawa: DND Canada, 2020), 21.

provided it is still delegated to air power subject matter experts who are in command positions, as risk acceptance is a command function. Therefore, based on doctrine and recent air power FE missions, so long as the Commander CJOC has integral air advisory staff and the capability to provide reach-back support for ATFs, and appropriate commanders can be assigned risk authority, there is no necessity to maintain a single national JFACC or CAOC from a joint FE perspective.

7. On the FG side, Commander 1 CAD provides centralized control through daily update briefs, approval of all major FG activities, and through authorizing a weekly national Air Tasking Order. Retaining this level of control at such a high-level, however, contradicts aspects of mission command, which in accordance with CAF joint doctrine “demands the aggressive use of initiative at every level, a high degree of comfort in ambiguity, and a tolerance for honest failure.”²² CAF Leadership doctrine details the benefits and necessities of increased mission command, stating:

. . . a number of technical and military developments have made accelerated decision-making, initiative, and co-ordinated independent action highly valued capabilities across the spectrum of operations and at increasingly lower levels of responsibility and authority. This is why the CF philosophy of mission command explicitly recognizes the necessity of allowing subordinates maximum freedom of action consistent with commander intent.²³

The USAF states that distributed control provides subordinate commanders more flexibility to respond to changes and the ability to capitalize on fleeting opportunities while better balancing overall span of control.²⁴ Thus, provided control could be distributed, without jeopardizing resource management of air assets, a less centralized control approach on the FG side of the RCAF would reap the benefits of mission command, as realised by the CAF and the USAF.

Functional Alignment of Capabilities:

8. With the speed and reach characteristics of air power, as well as the uneven allocation of capabilities across the country, a regionally based distribution of control such as the land or navy structures is not a logical approach. The pre-1997 structure, with RCAF assets aligned by functional capabilities, however, provides a construct which enables centralized management and prioritization of specific capabilities while still distributing control to subordinate commanders. Although RCAF assets can provide secondary capabilities, such as non-Search and Rescue aircraft performing searches and non-air mobility aircraft being employed in transport roles, these mutual support effects could still be achieved in a distributed control structure through unity of effort among the commanders. The requirement for unity of effort is highlighted in the USAF’s doctrine, stating that a shared awareness and shared intent among the forces is crucial.²⁵ Thus, guided by a higher-level commander’s intent, each functional capability commander could

²² Department of National Defence, *Canadian Forces Joint Publication 01* . . . , 4-3.

²³ Department of National Defence, A-PA-005-000/AP-004, *Leadership in the Canadian Forces – Conceptual Foundations* (Ottawa: DND Canada, 2005), 124.

²⁴ Department of the Air Force, *Air Force Doctrine Publication 1 – The Air Force* . . . , 13.

²⁵ Ibid., 14.

be empowered to exercise mission command through a distributed control approach, effectively managing their capability, while still ensuring mutual support to one another.

9. For some RCAF fleets, this C2 approach would not be that novel, as they are largely aligned this way already. For example, Commander 1 Wing has C2 over all tactical aviation assets across the country and provides his intent through quarterly directives, thus enabling his squadron commanders to exercise decentralized execution through mission command.²⁶ Emulating this C2 structure for each major capability grouping within the RCAF and establishing unity of command by assigning one commander per capability, would greatly support a mission command centric approach. However, to fully embrace distributed control and empower the capability commanders, their scope of authorities would include areas currently retained within 1 CAD HQ. Particularly, authority over fleet specific readiness initiatives and fleet specific FG activities would be delegated to the capability commanders. Furthermore, mirroring the technical airworthiness structure,²⁷ authority to perform operational airworthiness functions would be assigned to the capability commanders along with overall operational risk authorities which are currently held by the Commander 1 CAD/JFACC. By delegating these authorities to subject matter experts at lower levels, decisions can be made quicker and with greater flexibility, without introducing undue risk. Furthermore, this overall approach of distributing control to capability commanders ensures those commanders can fully command, lead and manage all aspects of their capability group through mission command.

Unity of Effort in Joint Operations

10. The grouping of functionally aligned capabilities under will provide the requisite structure to effectively FG and manage the various capabilities and resources. As well, the various air capability commanders will support each other to achieve the commander's intent. A key role of the 1 CAD/JFACC though is the operational coordination of air power employment across multiple capabilities, involving various enablers and joint partners. This role of Commander 1 CAD/JFACC is accomplished by staff within 1 CAD A5/A7, CAOC Strategy Division, Air Mobility Division, Mission Support, and personnel embedded at CJOC in the JFACC Air Component Coordination Element (ACCE).²⁸ Although these positions and expertise are vital to the effective planning and employment of air power, there is a disparity in this C2 structure as those involved with air planning are under full command of the RCAF chain while most of the remaining joint planning staff are under full command of CJOC.

11. This current structure and C2 has resulted in challenges. An internal evaluation of CAF operations found that a lack of coordination and differing views between the RCAF and CJOC led to redundancies within the deployed JTF and ATF structures and recommended that Commander CJOC “establish the necessary direction to better coordinate future CJOC and

²⁶ Commander 1 Wing. *1 Wing Quarterly Ops Directive – 2104* (Kingston, ON: 1 Wing HQ, December 2021).

²⁷ Department of National Defence, C-05-005-001/AG-001, *Technical Airworthiness Manual* (Ottawa: DND Canada, 2019), 1-4-1-5.

²⁸ Department of National Defence, 1 Canadian Air Division Orders, *Volume 3, 3-308 - 1 Canadian Air Division Command and Control – Air Component Coordination Element Roles and Responsibilities* (Winnipeg: DND Canada, 2017).

JFACC operations planning”.²⁹ This disconnect may be partially related to the fact that the RCAF develops and controls their own FE doctrine, even though CJOC is responsible for joint FE. Colonel Luc Girard has identified the challenges of deploying under multiple doctrine from a sustainment perspective and suspects those challenges will remain, stating that “we will most likely see the fusion of multiple environmental and joint sustainment doctrines and be forced to figure-it-out at the intra-theatre level on future missions”³⁰. Figuring it out in theatre, however, is not always an effective or acceptable approach, the CAF should deploy under one consolidated doctrinal approach.

12. There are specific aspects and considerations to air power doctrine and air operations planning and execution, but positioning air-minded staff officers under full command of commander CJOC to perform both mission planning and joint doctrine development would establish a unity of command. This approach would align all planners to operate toward one commander’s intent, thus better focusing joint operations from a doctrinal and applied perspective. Under this approach, the most critical aspects of air power safety would remain under the RCAF as aircrew training and standards, flight safety, and technical and operational airworthiness are all established residual authorities which remain with the RCAF regardless of C2 structures.³¹ Thus, the result would be concise and unified joint doctrine which is used to develop and shape all future CAF FE endeavours, with air power safety aspects remaining under the purview of the RCAF.

CONCLUSION

13. Complete centralized control of air power at the national level has been shown to not be an absolute requirement. The C2 for air power FE can rest with Commander CJOC, as it does already for many missions, and the CAOC’s role could be performed with appropriate air advisors and support personnel placed in CJOC. The existing doctrinal FE C2 structures are already sufficiently flexible and adaptable to support this change and enable an increased distributed control and mission command approach while still ensuring proper theater level resource management. However, the existing centralized control on the FG side inhibits mission command. A more distributed control model, with capability commanders exercising mission command, would provide greater agility and effectiveness while also balancing the span of control. Furthermore, to ensure the most effective jointness and unity of command with respect the planning and execution of operations, the CJOC Commander should have full command of operational level planning functions rather than positioning air planners within the RCAF chain of command. The benefits of this proposed C2, and supporting organizational changes, are not envisioned to result in personnel savings, rather efficiencies and increased effectiveness would be seen through the improved agility and flexibility which comes with mission command as well as greater alignment and synergy with respect to joint planning and mission execution.

²⁹ Department of National Defence, *Evaluation of Canadian Armed Forces Operations* (Ottawa, ON: Chief Review Services, November 2017), A-2/7.

³⁰ Luc Girouard, “The Fusion of Doctrines: A Discussion of Sustainment Operations During Operation IMPACT,” *The Royal Canadian Air Force Journal*, 7 no. 1 (Winter 2018): 33.
https://publications.gc.ca/collections/collection_2018/mdn-dnd/D12-16-7-1-eng.pdf33.

³¹ Department of National Defence, *Royal Canadian Air Force Doctrine – Command and Control*. . . , 8-9.

RECOMMENDATION

14. To adopt this C2 structure and embrace missions command, the Commander 1 CAD/JFACC authority and organization would be removed, with those personnel resources dispersed to support the new C2 responsibilities of other organizations. In addition to the RCAF centric changes identified below, concurrence from Commander CJOC, with respect to assuming a greater role in air power C2 and planning would be required.

15. Capability Commanders and Wings:

- a. Identify and establish capability groups, each with a single Commander, who is entrusted to exercise mission command and delegated authorities over operational airworthiness matters, operational risk management, and overall FG and readiness functions of the capability.
- b. Assign positions to each capability HQ, drawing on personnel from existing 1 CAD HQ positions as well as Wing Operational Support Squadrons. HQs would be established to function at the high tactical / low operational level.
- c. Establish working group to explore best way to incorporate this C2 into the existing Wing construct, specifically whether the capability commanders are in fact Wing commanders or if a separate role and authority level is required to support Wing functions.

16. Commander 1 CAD/JFACC and HQ:

- a. Commander 1 CAD/JFACC authority is removed, however, the actual position would remain to fulfil NORAD CANR CFACC role.
- b. Staff within 1 CAD HQ who are not required in support of NORAD role would be reassigned. Those supporting specific capabilities would be assigned to the newly established capability HQs, those in CAOC roles would be assigned to CJOC, and those not in direct FE roles or clearly aligned with a single capability would be positioned in the RCAF HQ to provide pan-RCAF support. Positions within the various ACCEs would remain, but under full command of Commander CJOC.

17. Commander RCAF and RCAF HQ:

- a. With the elimination of the Commander 1 CAD and operational HQ, Commander RCAF would provide high level intent to the capability commanders, empowering them to exercise mission command. Essentially, with the CDS and Strategic Joint Staff functioning at the Strategic level, the RCAF HQ would function at the low strategic level / high operational level.

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