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## A SPECIAL AIR WARFARE FORCE EMPLOYMENT CONCEPT FOR THE ROYAL CANADIAN AIR FORCE

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## **A SPECIAL AIR WARFARE FORCE EMPLOYMENT CONCEPT FOR THE ROYAL CANADIAN AIR FORCE**

*Service paper prepared for Director General Air Readiness and Commander CANSOFCOM*

### **AIM**

1. The aim of this service paper is to present a Force Employment Concept (FEC) that addresses the growing requirement for effective, task-tailored Royal Canadian Air Force (RCAF) support to Canadian Special Operations Forces (CANSOF) in an environment of fiscal and resource restraint. The capabilities of the CF-188 Hornet, CP-140 Aurora and CC-177 Globemaster will not be discussed in this paper.<sup>1</sup>

### **INTRODUCTION**

2. 427 Special Operations Aviation Squadron (SOAS) has provided dedicated Special Operations Aviation (SOA) conducting special air warfare support to CANSOFCOM since its inception. The squadron's ties with CANSOF go back to 1996 when one of its three flights took over support to Joint Task Force 2 from 450 Tactical Helicopter Squadron. As CANSOFCOM has steadily grown, so has its requirement for air/aviation support. The reality is that 427 SOAS is not able to provide for all the air power requirements of CANSOF due to its single aircraft structure, and resource limitations. The CH-146 Griffon is an excellent platform in niche roles; however, it has limitations in range, speed, payload,<sup>2</sup> and avionics integration when compared to other capabilities in the RCAF. Furthermore, 427 SOAS is constrained by limited resources creating a need for prioritization of CANSOF tasks. For these reasons it is necessary to have

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<sup>1</sup> The control of these strategic capabilities is always held at the Combined Air Operations Cell (CAOC) level and they are unlikely to be put under direct CANSOF control.

<sup>2</sup> The CH-146 cruises at 120knots, has a max range of 357 nm and a payload of 4,000lbs (incl fuel). Capabilities of the other helicopters discussed in this paper are in paragraph 6. RCAF Web Page, "CH-146 Griffon Technical Specifications," accessed 06 Feb 2016, <http://www.rcaf-arc.forces.gc.ca/en/aircraft-current/ch-146.page>, and Bell Helicopter Web Page, "Bell 412 EP Specifications," accessed 06 Feb 2016, <http://www.bellhelicopter.com/commercial/bell-412ep>.

conventional RCAF assets providing Special Operations Forces (SOF) support. However, employing conventional air power effects in support of critical SOF tasks entails an element of risk. There are many examples highlighting the hazards including Op EAGLE CLAW<sup>3</sup>, the failed Iran hostage rescue attempt and the 2007 crashes of conventional UK helicopters supporting SOF in Iraq<sup>4</sup>. When conventional forces are tasked in support of certain critical SOF missions the crews have only two choices; refuse the mission due to lack of capability or accept it and stretch beyond their levels of competency. If these forces are tasked after a crisis occurs the risk is disproportionately higher.<sup>5</sup>

3. An effective solution to the challenge of providing a broad range of air power effects to SOF is demonstrated by the UK's Joint Special Forces Air Wing and the US Army's 160<sup>th</sup> Special Operations Aviation Regiment. However, it is the author's belief that such a structure of multiple aircraft types dedicated solely to SOF is unsupportable in the Canadian context due to a small force size, fiscal and resource limitations and high demand for conventional air force assets. This service paper will recommend a FEC that recognizes the realities of the Canadian situation while minimizing the risk of inappropriate use of conventional forces in support of SOF. The FEC will leverage the current RCAF capabilities inherent in the Maritime Helicopter (MH), Transport, and Tactical Aviation (Tac Avn) communities as well as the possible future

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<sup>3</sup> To resolve the Iran Hostage Crisis in 1980, an ad hoc organization of aircrew were used to insert US Army SOF into Iran. The ad hoc organization was cited by the resulting Holloway Commission as a contributing factor to the failure which resulted in the destruction of two aircraft, eight servicemen dead, and seven CH-53s left in Iran.

<sup>4</sup> Three RAF Puma helicopters crashed in Iraq in 2007 in two separate incidents while inserting SOF. A board of inquiry was convened; however, the results are classified. It is suspected that the crews were being pushed by the SOF operators beyond their levels of competency. "Helicopter 'pilot error' led to SAS deaths in Iraq," *BBC News*, last updated 9 Dec 2009, [http://news.bbc.co.uk/2/hi/uk\\_news/8403606.stm](http://news.bbc.co.uk/2/hi/uk_news/8403606.stm).

<sup>5</sup> The 4<sup>th</sup> SOF Truth: Competent SOF cannot be rapidly created after emergencies occur from: CANSOFCOM, *Capstone Concept for Special Operations*, (Ottawa: DND Canada, 2009), 6.

addition of a Manned Airborne Intelligence, Surveillance and Reconnaissance (MAISR)<sup>6</sup> platform.

## DISCUSSION

### Background

4. In *Air Force Vectors*, the operational-level guidance to the RCAF, it is formally recognized that the air force is required to support CANSOFCOM with CH-146 Griffons and “integral air capabilities to meet required high readiness needs.”<sup>7</sup> It also notes that “CANSOF must be able to deploy tactically and strategically to project the necessary force to locate, identify, track and monitor adversaries and to provide the necessary kinetic or non-kinetic surgical precision effects as requested by the [Government of Canada].” To meet this intent the RCAF provides 427 SOAS and conventional assets as requested by CANSOFCOM. 427 SOAS has an incredibly broad mandate to support CANSOFCOM’s mission: “...provide the Government of Canada with agile, high-readiness Special Operations Forces capable of conducting special operations across the spectrum of conflict at home and abroad.”<sup>8</sup> The squadron focuses its effects on special reconnaissance, direct action (including Maritime Special Operations/Counter Terrorism, (MSO/MCT)) and Military Assistance<sup>9</sup> roles in addition to the twelve core tasks of tactical aviation<sup>10</sup>. Its personnel are selected from the conventional forces and trained in SOA techniques, receiving SOA-specific RCAF qualifications. As mentioned

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<sup>6</sup> Jim Dorschner, “Sharing the Wealth: Redundant USAF MC-12Ws are Available to Boost RCAF Capabilities”, *Canadian American Strategic Review*, June 2012, updated Aug 2014: <http://www.casr.ca/ft-used-isr-dorschner.htm>.

<sup>7</sup> Royal Canadian Air Force, A-AG-007-000/AG-004, *Air Force Vectors*, (Ottawa: DND Canada, 2014), 20.

<sup>8</sup> Canadian Armed Forces Web Page, “Canadian Special Operations Forces Command”, accessed 05 Feb 2016 <http://www.forces.gc.ca/en/about-org-structure/canadian-special-operations-forces-command.page>

<sup>9</sup> 427 SOAS Unclassified Unit Brief, delivered 29 Oct 15, slide 7.

<sup>10</sup> Core tasks include Command Liaison, Reconnaissance, Tactical Security, Logistic Airlift, Combat Airlift, Direction and Control of fire, Communications assistance, counter-mobility operations, Airmobile, Air Assault Operations, Airborne Fire Support, Aeromedical support, Special Operations. Department of National Defence, B-GA-441-001/FP-001, *Tactical Level Aviation Doctrine* (Ottawa: DND Canada, 2000), 1-2.

above 427 SOAS constraints require CANSOFCOM to request additional capabilities from the RCAF.

5. RCAF conventional assets are currently providing excellent support to CANSOF in many mission sets and it is not foreseen that this should change. However, problems could arise during the next crisis situation or war-fighting mission requirement, particularly if the necessary effects are only resident in conventional platform-based capabilities and the task is a critical SOF mission such as counter terrorism or hostage rescue. Through hard lessons, it has been highlighted that critical SOF tasks should only be conducted by air/aviation forces that have been screened, selected and provided high levels of specialized training in close association with the supported units<sup>11</sup>. The confidence and mutual trust developed through continuous, integrated training and a shared SOF ethos provide the best opportunity for success in the ambiguity and complexity of SOF operations.

6. Specific examples of non-427 SOAS platforms within the RCAF that would fulfill SOA requirements include the CH-147 Chinook medium-heavy lift helicopter<sup>12</sup>, the CH-148 Cyclone maritime helicopter<sup>13</sup>, and the CC-130J Hercules tactical transport aircraft. If purchased, the MAISR platform would be an additional capability of great utility to SOF. The Chinook and the Hercules provide much greater payload, range, and mass on the objective than the Griffon, providing additional options for CANSOF particularly for long-range insertion/extraction/re-

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<sup>11</sup> Brian Derry, "Aerospace Power: The Critical Enabler to Special Operations Forces" (Joint Command and Staff Program Paper, Canadian Forces College, 2000), 54.

<sup>12</sup> The CH-147F cruises at 157 knots, has a range of 785nm, and a payload of 24,000lbs (incl fuel). Boeing Web Page, "CH-47 Technical Specifications", accessed 07 Feb 2016, <http://www.boeing.com/defense/ch-47-chinook/>.

<sup>13</sup> The CH-148 cruises at 151 knots, has a range of 539 nm and a payload of 10,861 lbs (including fuel), Sikorsky Web Page, "H-92 Helicopter Attributes", <http://www.sikorsky.com/Pages/Products/Military/H92/H92.aspx>

supply missions, including hot/high environments<sup>14</sup>. These aircraft would also serve to improve the Griffon's force projection by providing forward refueling options. The Cyclone will provide a maritime global projection opportunity as they will be deployed on Royal Canadian Navy (RCN) ships around the world. Compared to a Griffon, the Cyclone has increased speed, range and payload and is optimized for the maritime environment, particularly in the conduct of ship-borne operations. A MAISR platform would provide persistent ISR support with multiple collection technologies feeding the common operating picture directly to SOF operators and command nodes.<sup>15</sup>

### **The Force Employment Concept**

7. Following discussions with members of the various communities involved, the following assumptions regarding non-427 SOAS resources have been made: Fiscal pressure, resource limitations, In-Service Support (ISS) contract obligations, and high demand for RCAF assets will not permit a permanent transfer of platforms and/or personnel to CANSOFCOM. The selected crews would provide support for conventional tasks as a primary function with CANSOF responsibilities balanced according to priority, in other words their day job would be conventional support with SOF tasks/training as a secondary function albeit at a higher priority. Permanent high-readiness Notice to Move for crews and aircraft would be unsupportable if shorter than current Combined Joint Operations Centre-mandated timelines.

8. FEC front-line manning is based on four crews from each of the following organizations selected and trained to conduct specific aspects of SOF tasks applicable to their community: 450

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<sup>14</sup> The MH-47G Chinook was the only US SOA helicopter asset capable of inserting US SOF into Afghanistan in the early days of Op ENDURING FREEDOM due to its high altitude performance. John Gresham, "The Campaign Plan- Special Operations Forces and Operation Enduring Freedom," *Defence Media Network*, 12 Sept 2011, accessed 06 Feb 2016, <http://www.defensemedianetwork.com/stories/operation-enduring-freedom-the-first-49-days-2/>

<sup>15</sup> Jim Dorschner, "Sharing the Wealth..."

Tactical Helicopter Squadron (Chinook, Petawawa), 423 Maritime Helicopter Squadron (Cyclone, Shearwater), 443 Maritime Helicopter Squadron (Cyclone, Pat Bay) and 436 Transport Squadron (J-Model Hercules, Trenton). The rationalization for four crews is based on the requirement to produce two crews at any given time while the others are unavailable due to courses, leave, etc. Having the crews operate two Hercules and/or Chinook aircraft is an acceptable force package for most CANSOF missions. Having four Maritime Helicopter (MH) crews to produce two per coast would be acceptable for most MSO, including MCT, given the increased troop carrying capacity of the aircraft. A MAISR detachment should have all its crews trained in special air warfare, given its expected small size and SOF-focused mission set. Screening and selection of aircrew would follow the 427 SOAS model, beginning with a recommendation from the current unit Commanding Officer, followed by psychological screening, an appropriate assessment flight and a panel-based interview. As per 427 SOAS procedures, candidates would be assessed throughout their training which would start with the Special Operations Common Environment Training course followed by platform-specific SOA training and participation in CANSOF exercises. Candidates would receive their SOA qualification upon completion of training and be eligible for Special Operations Allowance at the applicable level. Assuming candidates begin as fully combat ready aircrew, the primary training delta would be competency in precision insert techniques and integrated SOF mission planning. Mastery of the basics would demand competency in NVG low-level formation flying with consideration given to tactics in a medium-high threat environment. There is insufficient time for aircrew to be posted to a unit, trained to a conventional combat ready status and then selected, trained and employed in SOA in the current 3-4 year posting cycle. As such, posting durations at contributing squadrons may need to be increased to ensure an adequate return on investment.



Careers of SOA trained personnel would be managed in a similar fashion as occurs at 427 SOAS with the unit commander, the wing commander and Commander CANSOF all exerting influence on career management through Director Military Careers 4 (D MIL C 4).<sup>16</sup>

9. Some additional manning will be required in support positions to enable this FEC. To leverage RCAF expertise and harmonize pan-fleet standards a SOA Standards and Evaluation Team (SOASET) would be incorporated into the Standards sections at 8 and 12 Wings mirroring the existing SOASET at 1 Wing HQ established in accordance with the 427 SOAS Transfer of Command Authority direction.<sup>17</sup> An equally critical enabler would be the stand-up of a SOA coordination cell at 1 Canadian Air Division (CAD) to facilitate issues regarding operational airworthiness and risk assessment, technical airworthiness, air threat assessments and cross-fleet SOA doctrine (flying orders, tactics, manoeuvre and training manuals) as well as advising the Joint Force Air Component Commander on SOA matters. The recommended manning for this Senior Staff Officer SOA (SSO SOA) team includes one LCol (pilot) position, two major (air operations) position, one major (aerospace engineer) position and a senior non-commissioned member flight engineer/load master<sup>18</sup>. Finally, representation from tactical aviation, maritime helicopter and transport communities should be resident within CANSOFCOM J3 Air and Force Development (FD) to ensure visibility on readiness states and operational issues as well as supporting the increased requirement for SOA FD.

10. Some detail regarding how this FEC will be applied to each community will be provided next. For critical SOF tasks, 427 SOAS would supply the principle planning element whether

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<sup>16</sup> Department of National Defence, *Transfer of Command Authority – 427 Sqn*, (Ottawa: DND Canada, 2006), 16.

<sup>17</sup> *Ibid*, 9.

<sup>18</sup> Current SSO positions (Tac Avn, Transport, MH, SAR, etc) are at the rank of LCol with small teams supporting. SSO SOA would be in a particularly demanding position due to the numerous expected requests for aircraft modification and the short turn-around requirement for SECRET-level doctrine across numerous fleets.

Griffons were employed or not. 427 SOAS enablers such as the integral Special Operations Intelligence Cell including aviation intelligence, geomatics and meteorology are keys to the success of a SOA Detachment (SOAD) on operations. Regarding the Tac Avn concept, 450 THS would provide crews and aircraft, normally operating with 427 SOAS Griffons in a task-tailored, integrated SOAD. Chinook materiel support would be provided via existing Tac Avn deployed support structures for requirements beyond the scope of the SOAD integral enablers. For transport crews, 436 Transport Squadron would provide crews and aircraft to plug into a task-tailored SOAD structure. The concept would see CC130J crews trained to conduct long range infiltration/extraction/resupply missions under threat to austere locations, including improvised landing zones not associated with established airfields. To enable these austere operations a capability similar to the United States Air Force Combat Controller Team will need to be stood up. These operators incorporate advanced infiltration, Joint Terminal Attack Controller (JTAC) and landing zone assessment/management skill sets to setup landing zones for fixed and rotary wing operations in austere, contested environments. The Transport maintenance support concept would lean heavily on established structures, the ability of these structures to provide timely effects will need thorough investigation. For MH a methodical, tiered approach will be required as conventional combat ready crews do not yet exist on the Cyclone. The initial capability would focus on domestic MSO to include MCT once sufficiently high levels of crew competency and SOF integration are achieved. This skill set would also support the RCN's advanced boarding party capability. The next step would develop the capability of conducting amphibious operations as part of an integrated force anywhere in the world that RCN ships can sail. The MH support concept will leverage the established structure as it is sufficient in its current form. A

closer look at a MAISR construct will wait for more information to be released regarding project approval and the intended force structure.

11. Next the question of Command and Control will be addressed. For operations and exercises, the Joint Force Air Component Commander would delegate resources OPCON to Commander CANSOFCOM who could exercise control through the J3 or the deployed Special Operations Task Force (SOTF) Commander. Tactically, a SOAD would be stood up under the control of the J3 or SOTF Comd as appropriate. While this arrangement does not necessarily follow the RCAF air power tenet of centralized control<sup>19</sup>, it does recognize that SOA supports strategic effects, possibly sacrificing flexibility to support other users in order to ensure availability for critical tasks.

12. The benefits of the FEC for CANSOF have already been highlighted. However, there is also much to be gained by the RCAF. Access would be available to CANSOF FD capabilities, including accelerated procurement processes that will benefit conventional capabilities.<sup>20</sup> CANSOF equipment and new training techniques would be made available to conventional forces where appropriate. Dedicated SOA crews would provide a pool of experienced front-line operators that would cycle knowledge back into the operational units. Increasing the skill and experience levels in an air force that has seen a recent decline in the latter area.<sup>21</sup> SOA would provide a “Battle-Lab” for the study of contemporary air power and air-land integration in

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<sup>19</sup> Department of National Defence, B-GA-400-000/FP-000, *Canadian Forces Aerospace Doctrine* (Ottawa: DND Canada, 2010), 28.

<sup>20</sup> As an example, the CANSOF-supported development of the CH-146 Forward Door Gun Mount went from unit-produced prototype to testing at AETE in less than 18 months. This is significantly faster than regular development processes.

<sup>21</sup> David Pugliese, “Retirements leave RCAF young and inexperienced”, *The Vancouver Sun*, 5 Jan 2015, accessed 04 Feb 2016, <http://www.pressreader.com/canada/the-vancouver-sun/20150105/281642483542394/TextView>.

complex environments, enhancing the relevance of air force doctrine. Finally, the air force would benefit from providing a better product to CANSOFCOM at less risk than the current structure.

13. The way forward for this FEC requires a coordinated, inclusive development of an implementation plan that could see a Chinook and Hercules SOA capability in Horizon 1 and a Cyclone SOA capability in Horizon 2. Examples of possible areas of focus include; Yearly Flying Rate and funding allocations, manning of both SOA-dedicated crews and 1 CAD/SOASET personnel, impact to conventional forces support (if any), access to CANSOF operators and planners for individual and collective training events, impact of SOA crews having higher priority for resources within a conventional unit structure,<sup>22</sup> participation of SOF representatives at ISS renegotiation meetings as modification for newer fleets can be hampered by ISS constraints, definitions of readiness requirements, and career management for SOA-dedicated personnel.

## CONCLUSION

14. Leveraging air power to solve land-centric problems is complex and therefore, hard. However, it is those forces that put the extra effort in early that effectively exploit the advantages of the 3<sup>rd</sup> dimension and reap the benefits of an integrated force. The RCAF has provided outstanding support to SOF since the stand-up of CANSOFCOM. However, continuing to depend on ad hoc solutions could result in preventable failures with unacceptable consequences. While 427 SOAS is the fall-back for immediate SOA effects, the emerging capabilities of new RCAF platforms will fill many gaps that the squadron's single platform and limited resources do

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<sup>22</sup> The high-readiness mandate and strategic priority of SOF would drive SOA receiving higher priority at specific times for aircraft and support equipment than the conventional side of the supporting air force units. This could cause internal friction if not carefully managed.

not cover. Prudent planning demands proactive incorporation of these new capabilities into a SOF support structure before a crisis occurs or an urgent operational requirement in a theatre of conflict is discovered. Since the Canadian context does not support additional units being cut permanently to CANSOFCOM, the devised method should leverage the inherent high quality of RCAF personnel and enable them with additional training and SOF awareness to provide precision SOA effects. This method must also demonstrate an optimization of personnel and platform resources to continue effective support to conventional forces. The FEC detailed in this paper accounts for these requirements and more.

## **RECOMMENDATION**

15. In order to avoid re-learning the hard strategic lessons faced by our allies' emerging SOA forces, it is recommended that implementation of the Force Employment Concept outlined in this paper begin as soon as possible.

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