



ARCTIC SECURITY BRIEFING PAPERS

Prepared by Ernie Regehr, O.C., Senior Fellow in Arctic Security and Defence

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Manufacturing the Fighter Gap

Deliveries of the used F-18 fighter aircraft that Canada is acquiring from Australia have begun.¹ The point of the new purchase of old F-18s is to provide a temporary fix for the ostensible capability gap that was created by a redefinition of Canadian requirements. It was broadly understood as an unusually sudden insistence on an immediate need for up to 25 more fighter aircraft (18 for operational roles, possibly seven more for testing and spare parts), but it was also part of a pattern of arbitrarily changing requirements for air defence missions that remain essentially unchanged.

When Canada originally acquired its CF-18s in the 1980s, the inventory reached 138, but when stocks dwindled to the current 76,² Lieutenant-General Michael Hood, Commander of the Royal Canadian Air Force (RCAF), told reporters that the Armed Forces nevertheless remained “comfortable” about meeting NORAD and NATO commitments “with [the] extant fleet.”³ When, earlier, the Harper Government got serious about ordering a replacement aircraft, it had reduced the requirement even further to 65⁴ to keep the original purchase cost within the budget it had established. Then the Trudeau Government raised the requirement for the aircraft by a third to 88, simply by instructing the Canadian Armed Forces to henceforth maintain the capacity to meet peak fighter aircraft commitments to NORAD and NATO simultaneously.⁵

Shifting requirements for an unchanging mission

Though the numbers change, the mission assigned to those aircraft remains the same. It is the three-fold role Canadian fighter aircraft have performed throughout the post-Cold War decades and earlier – the air defence of Canada, contributing to cooperative North American air defence, and from time-to-time contributing air-defence/air-combat capacity to NATO and other international coalition operations.

The broader RCAF mission – as characterized in Ottawa’s most recent (2017) iteration of defence policy, *Strong, Secure, Engaged: Canada’s Defence Policy*⁶ – emphasizes national policing roles that include “surveillance of Canadian territory and its approaches, ...24/7 aerial search and rescue response capabilities,” and assistance to “civil authorities in responding to a wide range of challenges and threats, from natural disasters to terrorist attacks.” Its continental role is defined in more traditional defence terms, as in helping “to detect, deter, and defeat threats to both Canada and North America.” Deliveries of new fighter aircraft are to begin in the latter 2020s, and according to formal Department of National Defence (DND) requirements, they will have to be capable of meeting the “challenges of increasingly sophisticated fighters and anti-aircraft systems of potential adversaries,” even though, in none of the operations of the current fleet of fighter aircraft have they been challenged by hostile state-of-the-art fighters or air defence systems.

There is nothing new in any of that – except for a significant shift in assumptions about what is or isn't discretionary. The “Canada First” Defence Strategy⁷ of the Conservative Government of Stephen Harper explicitly emphasized the “non-discretionary” requirements for domestic and North American air defence. For decades that was part of the formula for determining the number of fighter aircraft needed. The implied assumption held that NORAD and NATO requirements would not peak at the same time, but if they did, the non-discretionary Canadian/North American priority would clearly be the priority.

The North American mission, a combination of policing aid to the civil authorities and national defence, is obviously an essential requirement. On the other hand, any European air-defence or air combat mission is necessarily discretionary for Canada and secondary to requirements for the homeland – just as, by the way, any commitment by a European ally, through NATO, to Canada's defence is in the final analysis discretionary and secondary to its national requirements.

The announcement that henceforth Canada would need enough fighter aircraft to simultaneously meet peak NORAD and NATO requirements seemed to mean that the domestic mission should no longer take precedence over the overseas mission. At the very least, that was implied when Chief of Defence Staff Gen. Jonathan Vance finally explained the policy to the House of Commons Defence Committee some months later. His opening hypothetical case had Canada already operating in Europe:

“...it is inconceivable that we would be in a major kinetic configuration [i.e. war] on mainland Europe using air power without there being any concomitant threat to North American airspace. Therefore, it is the policy of the Government of Canada, and certainly my advice to the Government of Canada, that we must be able to have the mission-ready aircraft necessary to defend Canadian airspace and NATO airspace simultaneously, should either one or both arrive....[T]here is no chief of defence I know of who would believe...that we would be in a shooting war in Europe and not have our own airspace threatened. With that, we need to be able to do both, and we have commitments to do both.”⁸

Defence of Canadian airspace and combat in Europe are treated as equal, but, of course, contributions to military operations in Europe are and will always be considered on a case-by-case basis, in a way that North American defence commitments cannot be optional. No Government or chief of defence would consent to a European operation that would jeopardize the forces' capacity to meet air defence requirements at home, but they would most certainly commit to increased national and North American operations in response an emergency even if that meant a diminished capacity to contribute to an operation in Europe. The commitments are not equal. Is there a chief of defence who would insist they are?

Military resources are limited, and governments decide on levels of military capacity, not based exclusively on some objective assessment of requirement, but by arriving at a point of balance between prudent defence preparedness and all the other demands on the public purse. There is no predetermined level of military commitment to Europe that would need to be honored regardless of conditions at home. In the final analysis, there can be no clear definition of either the nature or level of a Canadian military requirement for NATO. There can be a predetermined commitment, but meeting that commitment will always be shaped, and limited, by circumstances, with non-participation in a European operation always an option – just as Canada's commitment to multilateral peacekeeping operations is constrained by national capacity and national priorities. The senior defence analyst with the Canadian Global Affairs Institute, David Perry, told the Huffington Post in 2017 that “the high-end of Canada's NATO obligation is a promise to have six jets ready to fly in short order,”⁹ but actual deployment is always discretionary and subject to a variety of considerations, including the likely impact on Canadian air-defence operations. And a now-withdrawn 2014 report produced by the Defence Department's research agency acknowledged there is no specific or minimum number of fighter aircraft that Canada is obliged to commit to NATO.¹⁰

Any fighter aircraft “capability gap” is politically constructed.¹¹ As much as Gen. Vance insists it’s simply a matter of objective mathematics – “we need the mission-ready aircraft all the time,” he says, and “when you do the math on their deep maintenance and daily maintenance rates, you get 88”¹² – in the real world, it is quite properly politics that precedes the math. And that is why, in recent decades, the math on fighter aircraft has fluctuated from 138 to 76 to 65 to 88 for missions that have remained unchanged.

The declared and apparently urgent requirement for 88 fighter aircraft becomes even more suspect with the Auditor General’s finding that the Air Force cannot currently manage to keep even the extant inventory of 76 CF-18 aircraft available for daily operations due to a shortage of technicians to service and pilots to fly them.¹³

Air defence and air policing in North America

So, it is clear that the monitoring and control of borders and air approaches to Canada is not optional or discretionary. It is the obligation of sovereignty, and it primarily involves operations aimed at unauthorized civilian aircraft approaching or within Canadian airspace. Only a small fraction of intercepts by Canadian and American fighter aircraft in North American operations involve foreign military aircraft, and none of those encounters is within North American air space – all take place in international air space off our coasts. Those occasional Russian bomber and fighter patrols and training flights are monitored through NORAD, and throughout the discussions regarding a replacement for the current CF-18 fighter fleet, official analysis, while calling for new aircraft capable of operating against “high-level military capabilities of foreign states,” never strays far from the essential assessment that a “malign intent to employ such capabilities against Canada is judged to be low.”¹⁴

It is a matter of broad consensus, supported by experience and sober analysis of future trends, that North American vulnerability to air attacks by foreign military forces rates from low to very low. Of course, defence history doesn’t determine future threats, so other factors are also relevant, notably the changing capabilities of potential adversaries (read Russia). Russia is modernizing its bomber and fighter fleets, it has increased patrols and training flights in some regions, and the east-west climate has turned decidedly sour – and all that inclines military planners to infer more nefarious intentions, even if Russian interests continue to mitigate against military adventurism in the Arctic or other North American frontiers. A 2017 Senate report,¹⁵ for example, focuses on Russian capabilities, and bombast, inferring intentions and ignoring interests – thus, it includes a table showing Russia’s inventory of long-range bombers but, significantly, offers no information or analysis of circumstances that might credibly be seen as leading Russia to launch an air attack on Canada.

Mainstream political discourse in Canada is now bent towards greater wariness of the Russians, but to its credit, the House of Commons Standing Committee on Foreign Affairs has just-released a report on the Arctic that calls on the Government to “work with its partners in the North Atlantic Council to deepen the Alliance’s understanding of Russia’s military intentions in the Arctic and to consider the most appropriate and measured response.”¹⁶

Neither of these reports offers any hard data on the number of Russian flights and NORAD intercepts that actually take place in North American patrol areas. The fact is, such intercepts are infrequent.¹⁷ In 2010 NORAD reported that US and Canadian forces had been facing 12 to 18 Russian flights a year in international air space, and that most of those did not involve interceptions by Canadian aircraft. An academic study from 2010 quoted Canadian officials as saying there had been 20 incidents involving Russian Tupolev Tu-95 “Bear” bombers in international airspace near Canada in the previous two years. Then a June 2012 report out of the US Elmendorf-Richardson joint air force and army base in Alaska showed that from 2006, when Russian patrol flights resumed after a long post-Cold War absence, to the end of 2011, there were an average of nine NORAD intercepts annually of Russian military aircraft, all in international airspace (again, with no indication of how many involved Canadian aircraft).

A 2016 study by two Laval University academics, Frédéric Lasserre and Pierre-Louis Têtu,¹⁸ compares several reports on intercepts of Russian military aircraft warplanes by NATO fighter planes, with most of that data (primarily in three studies) focused on the period from 2006 to 2014. It shows an average of 8 North American intercepts (an intercept being to fly alongside the target aircraft to visually identify the Russian aircraft and to let the Russians know they are being tracked). For example, in January 2019, US F-22 and Canadian CF-18 fighters identified two Russian Tu-160 Blackjack Strategic Bombers in a Canadian air defence identification zone.¹⁹ In February 2019, the Canadian Press reported that “NORAD has reported up to 20 sightings and 19 intercepts a year.”²⁰

Until September 11, 2001 there were really two kinds of air defence challenges that Canadian fighter aircraft were deployed to address – monitoring and intercepting potentially hostile military aircraft (Russian) along North American coasts, and monitoring approaches to Canadian (and American) airspace to identify and intercept any aircraft entering or about to enter domestic airspace without proper authorization (these being exclusively civilian aircraft). But 9/11 demonstrated that civilian aircraft already within North American airspace could be transformed into lethal weapons – and notably, that such a threat need not originate outside North America. So, 9/11 led to Operation Noble Eagle, monitoring and responding to domestic civilian aircraft engaged in “threatening activities.”

From the latter part of 2001 to the end of 2016, NORAD aircraft “conducted over 1,800 intercepts of non-military aircraft of concern because they were unresponsive or could not be identified.”²¹ That works out to roughly 100 per year – or about 10 times the rate of interceptions of military aircraft. Another report on the NORAD website says that by March 2007, “Noble Eagle aircraft had...been diverted from patrols or scrambled from strip alert more than 2,200 times in response to threatening activities.”²² That represents more than 300 per year – though not all amounted to intercepts. In early 2017, NORAD reported that “since 9/11, more than 70,000 sorties have been flown in support of Operation NOBLE EAGLE,”²³ however, a tiny fraction of those involved intercepts.

Some who question the utility of a new fleet of fighter aircraft remain focused on state-based threats and see a more effective defence in missiles and drones.²⁴ But, the more imminent air threats facing Canada are in the two categories of civilian aircraft – the unauthorized approaches to or entries into Canadian airspace and domestic flights engaged in threatening activities, which together make up some 90 percent of interceptions carried out by air defence forces. In other words, the primary work of Canadian fighter aircraft in the North American context is to assist civil authorities responsible for policing civil aviation. A country the size of Canada needs air defence aircraft that can go long distances in a hurry, but it’s not at all clear that dealing with civilian aircraft requires fourth and fifth generation fighter aircraft.

While recent testimony at the Foreign Affairs Committee of the House of Commons²⁵ raised all the familiar concerns regarding Russia’s military rebuilding in the Arctic, much of it also sought to put those developments in perspective and challenged the idea of a dangerously growing Russian threat in the Arctic. Russian military capacity in the Arctic is still very far from what it was during the Cold War, and it is heavily oriented to bolstering infrastructure around the Northern Sea Route. Arctic stability, rather than confrontation, remains a central Russian imperative as long as it seeks to promote economic development and increased use of the Northeast Sea Route. Furthermore, in the unlikely event of military hostilities, analysts are hard-pressed to see Russia resorting to air incursions in the Arctic inasmuch as it already has the capacity to hit targets deep within North America with missiles based well within its own territory.

So, in the context of Canadian air defence requirements, an active Russian military air threat is not the leading factor in determining Arctic air defence needs. As the analyst and academic Adam Lajeunesse has put it, “in spite of Russia’s renewed proclivity for flying its ageing bombers outside Canada’s northern airspace, there is no realistic situation in which the RCAF will have to engage hostile aircraft in the region.” He points out that

Russia would have little to gain from a shooting war in the Arctic, “a region possessing no strategically important targets that could not be more easily destroyed by ballistic or cruise missiles.”²⁶

Where Russian patrols have increased significantly is in Europe and the Baltic region, as, of course, have NATO air patrols along the Russian frontier. The main point of the comparison is that Russia has not included the Arctic in its sharp increases in military patrols in the context of heightened tensions between Russia and the West. That is not an argument for ignoring Russian military aircraft on patrol and training flights when they occasionally operate near Canadian airspace, but neither is it a credible basis for expanding Canada’s fleet of fighter aircraft. The urgent air capacity in the Arctic, as in the rest of Canada, is for monitoring civilian aviation and for search and rescue and related public safety imperatives. In excess of 90 percent of Canadian fighter aircraft operations and deployments have historically been for domestic and continental missions²⁷ – and as already noted, some 90 percent of those North American operations relate to tracking, identifying, and intercepting civilian aircraft that are approaching or within Canadian air space. A debate over what might be the best aircraft for that role is typically cut short by an insistence that state-of-the-art fighters are required for overseas engagements.

Canadian fighter aircraft overseas

Canadian deployment of fighter aircraft beyond North America is occasional, reinforcing the traditional understanding that expeditionary deployments are discretionary in a way that domestic operations are not. NATO commitments are real, but all NATO member states retain the sovereign right, and responsibility, to themselves determine the nature and extent of their contributions on a case-by-case basis. The same goes for other international coalitions that Canada might or might not join.

Canadian assessments of threats which might demand a Canadian response through NATO or other coalitions invariably emphasize the growing sophistication and lethality of potential adversary forces. But it is not state-of-the-art air forces that Canadian fighter aircraft end up facing in overseas operations. Canadian forces in post-Cold War overseas engagements have without exception been in environments of very limited air defence capabilities – sometimes because that have followed behind American operations that had neutralized such capabilities. From the Gulf War in the early 1990s, to the Kosovo campaign in 1999, the strikes against Libyan forces in 2011, the 2014 to 2016 deployment to Iraq and Syria by way of Kuwait,²⁸ or deployments to Europe and Iceland under NATO’s Operation Reassurance in proximity to Russian operations, the CF-18s, by design, did not face sophisticated air combat or air defence forces. That’s because the discretion that by definition applies to overseas operations is not confined to the question of whether or not to participate in a particular mission, there is also discretion as to the nature of that participation and the kinds of capabilities brought to any collective operation.

To be sure, the world changed in the wake Russia’s actions towards Georgia and the Ukraine, but attempts to make those European-centred concerns the basis for Canadian air defence procurement decisions ignores some pretty fundamental realities – namely, that the overwhelming Canadian air defence requirement is for policing operations against unauthorized or suspicious civilian aircraft approaching or within Canadian air space, that the Arctic continues to display a deeply-rooted inclination to cooperate and deflate tensions, and that Canadian contributions to European defence are in the final analysis discretionary.

Notes

¹ David Pugliese, “First two used Australian fighter jets arrive in Canada on Sunday,” *Ottawa Citizen*, 15 February 2019. <https://ottawacitizen.com>

² <http://rcaf-arc.forces.gc.ca/en/aircraft-current/cf-188.page>

³ Daniel Leblanc, “Liberal policy forcing need for new jets: RCAF head,” *The Globe and Mail*, 28 November 2016.

⁴ David Pugliese, “Canada and the F-35 – the ups and downs of a controversial fighter jet purchase,” *Ottawa Citizen*, 22 September 2015. <https://ottawacitizen.com>

⁵ Lieutenant-General Michael Hood, Commander, Royal Canadian Air Force, National Defence and the Canadian Armed Forces, in testimony before the Standing Senate Committee on National Security and Defence, 28 November 2016. <https://sencanada.ca/en/Content/Sen/Committee/421/SECD/09ev-52940-e>

⁶ <http://dgpaapp.forces.gc.ca/en/canada-defence-policy/index.asp>

⁷ The “Canada First” defence strategy of the Harper Conservatives - “Analysis of options to sustain a Canadian Forces Fighter capability,” Department of National Defence, n.d. <http://www.forces.gc.ca/en/about-reports-pubs/mission-needs-analysis.page> (an archived page)

⁸ Gen. Jonathan Vance, Chief of the Defence Staff, Department of National Defence, in testimony before the House of Commons Standing Committee on National Defence, 20 June 2017. <https://openparliament.ca/committees/national-defence/42-1/56/gen-jonathan-vance-21/>

⁹ Althia Raj, “Liberal Plan for Interim Jets Tackles ‘Capability Gap’ that Doesn’t Exist: Experts,” *Huffington Post*, 12 December 2017. <https://www.huffingtonpost.ca/>

¹⁰ Lee Berthiaume, “Canada not required to provide minimum numbers of jets to NATO: report,” *The Canadian Press*, CBC News, 04 August 2016. <https://www.cbc.ca>

¹¹ Althia Raj, “Liberal Plan for Interim Jets Tackles ‘Capability Gap’ that Doesn’t Exist: Experts,” *Huffington Post*, 12 December 2017. <https://www.huffingtonpost.ca/>

¹² Gen. Jonathan Vance, Chief of the Defence Staff, Department of National Defence, in testimony before the House of Commons Standing Committee on National Defence, 20 June 2017. <https://openparliament.ca/committees/national-defence/42-1/56/gen-jonathan-vance-21/>

¹³ 2018 Fall Reports of the Auditor General of Canada to the Parliament of Canada, Report 3, Canada’s Fighter Force, National Defence. <http://www.oag-bvg.gc.ca>

As of April 2018, 8% of technician positions in CF-18 squadrons were vacant and 14% were not yet fully qualified to do maintenance. Furthermore, maintenance requirements for the current 76 CF-18s continue to increase as the aircraft age. They now require 24 hours of on-ground maintenance for every hour of flight (para 3.22). The pilot shortage is even more acute. According to the Auditor General, DND acknowledged last year that it had only 64% of the trained CF-18 pilots it needed to meet the government’s new requirement. And the Auditor General also concluded that DND was unlikely to make up that shortfall since “pilots have been leaving the fighter force faster than new ones could be trained.” From April 2016 to March 2018, the RCAF lost 40 trained fighter pilots while producing only 30 new ones, with another 17 fighter pilots having left or stated their intention to leave since then. So the Auditor General concluded in 2018: “... the purchase [of Australian F-18s] will not fix the fundamental weaknesses with the fleet” – that is, the Forces still do “not have enough technicians to maintain and pilots to fly the aircraft” they already have (para 3.31).

¹⁴ “Analysis of Options to Sustain a Canadian Forces Fighter Capability,” Department of National Defence, 2010. [www.forces.gc.ca/assets/FORCES.../06%2010%20Task%202\(En\)%20_final.pdf](http://www.forces.gc.ca/assets/FORCES.../06%2010%20Task%202(En)%20_final.pdf)

¹⁵ Senate, “Reinvesting in the Canadian Armed Forces: A Plan for the Future,” Report of the Standing Senate Committee on National Security and Defence,” May 2017.

¹⁶ Nation-Building At Home, Vigilance Beyond: Preparing For the Coming Decades in the Arctic Report of the Standing Committee on Foreign Affairs and International Development, 42nd Parliament, April 2019.

¹⁷ Without official reporting on the number of intercepts, it is necessary to extrapolate from the fragments of information that are available, as has been briefly done here in 2015: see Ernie Regehr, “Fighter Aircraft (2): Defence at Home and Abroad,” *The Simons Foundation*, Disarming Arctic Security, 18 June 2015. <http://www.thesimonsfoundation.ca/projects/disarming-arctic-security-briefing-papers>; and 2016: see Ernie Regehr, “When Bears Still Fly: Responding to Russian Bomber Patrols in the Arctic,” Disarming Arctic Security, The Simons Foundation, 10 November 2016. <http://www.thesimonsfoundation.ca/projects/arctic-security-briefing-papers>

¹⁸ Frédéric Lasserre and Pierre-Louis Têtu, “Russian Air Patrols in the Arctic: Are Long-Range Bomber Patrols a Challenge to Canadian Security and Sovereignty?” *2016 Arctic Yearbook*, Edited by Lassi Heininen of the University of Lapland, and by Managing Editors, Heather Exner-Pirot of the University of Saskatchewan and Joël Plouffe of École nationale d’Administration publique (ENAP – Montréal). <http://arcticyearbook.com>

¹⁹ “Canadian, US fighter planes scramble to escort Russian bombers, military authorities say,” Ottawa Citizen, 27 January 2019, Associated Press. <https://ottawacitizen.com>

²⁰ Bob Weber, “Canada Should Not Ignore Russia Sending Fighter Jets to Arctic: Expert,” *Huffington Post*, 10 February 2019 Canadian Press. https://www.huffingtonpost.ca/2019/02/10/canada-should-not-ignore-russia-sending-fighter-jets-to-arctic-expert_a_23666109/

²¹ “The Role of Canada’s CF-18 Fighter Fleet,” DND Backgrounder, 22 November 2016. <https://www.canada.ca/en/department-national-defence/news/2016/11/role-canada-18-fighter-fleet.html>

²² Otto Kreisher, “The Years of Noble Eagle,” 19 June 2007. NORAD. <https://www.norad.mil/Newsroom/Article/578175/the-years-of-noble-eagle/>

²³ 2017 NORAD and USNORTHCOM SASC Posture Hearing, NORAD and USNORTHCOM Public Affairs, Peterson AFB, Colo. 6 April 2017. <https://www.norad.mil/Newsroom/Speeches/Article/1143718/2017-norad-and-usnorthcom-sasc-posture-hearing/>

²⁴ Jason and Richard Lacharite, “Buying fighter jets is a colossal waste of money,” iPolitics.ca, 15 December 2017. <https://ipolitics.ca/2017/12/15/canada-buying-fighter-jets-colossal-waste-money/>

²⁵ Nation-Building At Home, Vigilance Beyond: Preparing For the Coming Decades in the Arctic,” Report of the Standing Committee on Foreign Affairs and International Development, 42nd Parliament, April 2019.

²⁶ Adam Lajeunesse, “The Canadian Armed Forces in the Arctic: Purpose, Capabilities, and Requirements,” Canadian Defence and Foreign Affairs Institute, May 2015. <https://www.cgai.ca/>

²⁷ The “Canada First” defence strategy of the Harper Conservatives - “Analysis of options to sustain a Canadian Forces Fighter capability,” Department of National Defence, n.d. <http://www.forces.gc.ca/en/about-reports-pubs/mission-needs-analysis.page> (an archived page)

²⁸ “The Role of Canada’s CF-18 Fighter Fleet,” DND Backgrounder, 22 November 2016. <https://www.canada.ca/en/department-national-defence/news/2016/11/role-canada-18-fighter-fleet.html>