

The Interim Fighter Capability Project and its Importance to Canada's NORAD Mission

December 11, 2017

Summary

In November 2016, Canada's Liberal government announced that it would acquire 18 Boeing F/A-18 Super Hornets to augment its aging fleet of CF-18 Hornets.

Meanwhile, in 2010, Canada's Conservative government announced a planned acquisition of 65 F-35 Joint Strike Fighters. The announcement in 2016 does not necessarily represent a reversal of the original F-35 program¹ but provides an interim solution to alleviate a short-term capability gap. As Defence Minister Harjit Saijan explained: "The interim fleet provides the most effective way forward to help ensure Canada remains a credible and dependable ally." This briefing note provides a contextual discussion of the contribution of the Interim Fighter Capability Project (IFCP) to Canada's NORAD mission.

Background

The first F-18 Hornets³ began flying in Canada in 1982. Thirty-five years later, the aging Hornets must be replaced. The current CF-18 fleet has been reduced from 138 aircraft to 76. Although the original life expectancy of the CF-18 was 2003, proactive

¹ Judy Foote, Minister of Public Services and Procurement, stated in early 2016 that the F-35's "were still in the mix." See CBC News, "F-35 fighter jet purchase by Liberals may still be in the mix, (February 25, 2016), http://www.cbc.ca/news/politics/f-35-fighter-jet-purchase-1.3464957

² Government of Canada, *News Release: Canada Announces Plan to Replace Fighter Fleet,* (November 22, 2016) https://www.canada.ca/en/department-national-defence/news/2016/11/canada-announces-plan-replace-fighter-fleet.html

³ Re-designated as CF-18s.

management and repair programs should keep the aircraft operational until 2020-2025.

In 2010, Prime Minister Stephen Harper committed to the purchase of 65 Lockheed Martin F-35s. The F-35 promises to have excellent technological capacity but it is also a very expensive aircraft and not all of its promised features have been fully tested.

During Justin Trudeau's election campaign, he promised to scrap the F-35 purchase for reasons of cost and untested technology. Within 13 months of taking office, the Trudeau government launched an Interim Fighter Capability Project (IFCP). At its core is the commitment to purchase 18 F/A-18E Super Hornets from Boeing.

The Trudeau government has stated that the Super Hornet provides the proven defense capabilities Canada needs. It is compatible with Canada's existing fleet in terms of equipment and training and can serve as a bridge to the next generation of aircraft that might be used in the future.

Air Power and the NORAD Mission

In 1958, Soviet bombers were extending their range of operations and the launch of Sputnik heralded the possibility of an intercontinental nuclear missile reaching North America.⁴ This prompted the United States and Canada to create the North American Aerospace Defense Command⁵ (NORAD). Today, NORAD's mission has been modernized to include aerospace warning, aerospace control and maritime warning in the defense of North America.⁶ The 2006 renewal of the NORAD agreement re-affirms the commitment of the two countries to binational cooperation.

The strength of the partnership depends on the "on-going adaptation of NORAD's mission and capabilities to meet the challenges posed by ever-changing threats." When NORAD was established in the 1950s, the Soviet Union was the only nation-state capable of striking North America militarily. The NORAD partners were able to maintain a physical standoff by keeping Russian bombers out of missile range of North America. Today, however, Russia's technological modernization and investment

⁴ Canada History, NORAD. http://www.canadahistory.com/sections/eras/cold%20war/NORAD.html

⁵ Originally called the North American Air Defense Command.

⁶ North American Aerospace Defense Command, *NORAD and US NORTCHCOM Vision*, http://www.norad.mil/About-NORAD/Vision/

⁷ North American Aerospace Defense Command, *NORAD Agreement*, http://www.norad.mil/About-NORAD/NORAD-Agreement/

means that their aircraft are now able to "carry an advanced family of cruise missiles capable of holding the United States and Canada at risk." 8

As well, Russia is no longer the only threat to North American airspace. New adversaries such as China, North Korea and Iran have entered the picture and the development of new technologies means that "hostile actions can occur from greater ranges with little or no warning."

Global warming and receding sea ice constitute another emerging North American security risk. In the past, the harsh Arctic environment and polar ice enhanced North American security by providing a physical barrier to northern approaches to the North American territory. Today, the combination of melting sea ice and growing interest in Arctic resource development are increasing human activity in the region and decreasing natural defense barriers.¹⁰

NORAD personnel are continually working to adapt to new strategic environments and develop capabilities to outpace threats. For example, since 9/11, NORAD has expanded its mission to include aviation security issues originating within Canada and the United States. Emerging challenges put greater pressures on NORAD's ability to defend the United States and Canada. Says Admiral William Gortney, NORAD Commander from 2014-2016, a "vast spectrum of complex and volatile threats" will continue to grow "if we hesitate to act decisively."¹¹

Defense of the Canadian territory depends on NORAD's ongoing ability to improve air domain awareness and intercept capabilities. The current NORAD commander, General Lori Robinson, identifies fighter jet capability to "find, fix, and finish air threats" as central to this objective.¹²

⁸ Statement of General Lori J. Robinson, United Sates Air Fore Commander, United Sates Northern Commend and North American Aerospace Defense Command Before the Senate Armed Services Committee (April 6, 2017), p. 12-13. https://www.armed-services.senate.gov/hearings/17-04-06-united-states-southern-command-and-united-states-northern-command

⁹ Robinson Statement, p. 11-12.

¹⁰ Robinson Statement, p. 14.

¹¹ Statement of Admiral William E. Gortney, United States Navy Commander, United States Northern Command and North American Aerospace Defense Command Before the Senate Armed Services Committee (March 10, 2016), p. 3.

http://www.northcom.mil/Portals/28/Documents/Gortney Posture%20Statement SASC 03-10-16.pdf

¹² Robinson Statement, p. 13.

Presently, Canada meets its NORAD obligations with a fighter force of elderly CF-18s, conducting approximately 200 missions against potential threats each year. NORAD commitments have historically accounted for at least 90 percent of the use of the Canadian fighter fleet and 80 percent of these missions have involved the protection of Canadian air space from intrusion. 14

Continental defense requires that the Canadian Armed Forces be interoperable with U.S. forces. Synchronization of equipment lies at the heart of this objective. As Admiral Gortney explains, equipment procurement demands a "deliberate collaborative investment strategy to outpace current and potential adversaries and counter emerging threats through a seamless and layered defense." ¹⁵

The stresses created by Canada's out-of-date fighter fleet becoming more obvious in late 2011. Canada's ability to meet commitments at home and abroad was being questioned and criticisms about the F-35 procurement process became more widespread.

The Harper Government hits the reset button

Public criticism and a damning Auditor General's report led the Harper government to hit the reset button on the F-35s in late 2012. Among the Auditor General's major indictments of the Conservative government's management of the process was that lifecycle costs had not been communicated to the public and decisions had been made with inadequate risk assessment.¹⁶

A report by KPMG warned that the cost of F-35s could be much higher than originally anticipated. In June 2010, the Conservatives set the original price tag at C\$25 billion. Two years later, KPMG estimated that the full cost of buying, owning, and replacing and disposing of 65 F-35s would be more like C\$44.8 billion over the life of the project. The revised estimate did not include the cost of acquiring between seven

¹³ Government of Canada, Summary Report – Evaluation of Options for the Replacement of the CF-18 Fighter Fleet, (December 2014), https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/snac-nfps/rplanseptv-sevenptplan-eng.html

¹⁴ Summary Report, p. 11.

¹⁵ Gortney Statement, p. 24.

¹⁶ Lee Berthiaume, "Federal cabinet knew F-35's true \$25 billion cost before election: Auditor General," *National Pos.t* (April 5, 2012) http://nationalpost.com/news/canada/federal-cabinet-knew-f-35s-true-25-billion-cost-before-election-auditor-general/wcm/6341c7bb-4e1a-4f08-8038-fa1c9d5b5739

and 11 replacement aircraft to cover expected losses over the course of the program – an additional cost of approximately \$1 billion. ¹⁷

The government's 'reset' decision was also influenced by a reduced estimate from Industry Canada of spin-off benefits to Canadian businesses¹⁸ as a result of the procurement. The estimate was reduced to less than U\$9.8 billion from an initial estimate of U\$10.5.

The management of the purchase had been an ongoing source of problems for the Harper government. The 2012 reset was meant to turn over a new page in procurement transparency and accountability. It also signalled the government's willingness to explore options other than replacing the CF-18s with the F-35 stealth fighter.

A new F-35 Secretariat was established within the Department of Public Works and Government Services Canada to manage the process. The Department of National Defence was tasked with focusing on technical requirements including what missions Canada's next aircraft will be required to fly, what threats it will face and what technology and capabilities are available to Canada. It also began to reach out to other manufacturers including Boeing and Eurofighter. The government's reset was formalized in a Seven-Point Plan, released in December of 2014, evaluating the options to sustain Canadian fighter capability into the 21st century.

The report of the Secretariat puts operational priority on protecting Canadian sovereignty and fulfilling Canada's NORAD obligations, and the fighter capability necessity to protect Canadian airspace. ¹⁹ It states: "The role of an airborne interceptor is one that only a fighter capability can accomplish. No other Canadian Armed Forces assets can perform that role, either alone or in combination."²⁰

As the report also notes, not only will Canada's next jet fighter need to have an increased weapons payload potential and weapons capabilities, it will also be expected to remain in operation for at least 40 years. ²¹

¹⁷ Mark Kennedy and Lee Berthiaume, "Ottawa 'hits reset' on F-35s as official \$45.8B cost of jets revealed," *National Post*, (December 12, 2012) http://news.nationalpost.com/news/canada/canadian-politics/long-awaited-f-35-report-officially-puts-cost-of-jets-at-44-8-billion.

¹⁸ Formally known as the Industrial and Technological Benefits Policy.

¹⁹ Canada is unlikely to be involved in state-on-state conflict. Hybrid missions that span the gap between humanitarian and conflict situations, permitting a more variable range of acceptable Canadian capability responses. *Summary Report*, p. 10.

²⁰ Summary Report, p. 10.

²¹ Summary Report, p. 7.

An interim solution creates breathing space for a long-term plan

In November 2016, the government of Canada made a two-part announcement. First, it declared its intention to launch an open and transparent competition to replace the legacy fleet of CF-18s: "This competition will ensure that the Government gets the right aircraft for our women and men in uniform – at the right price – while maximizing economic benefits to Canadians."²²

Secondly, the government would "immediately explore the acquisition of 18 new Super Hornet aircraft to supplement the CF-18s until the permanent replacement arrives." Because of the age and diminishing numbers of CF-18s, the RCAF was facing a capability gap. This interim solution would provide time to make informed decisions, in a transparent process, about more permanent jet fighter replacement without compromising short term security.

Releasing specific details about the extent of Canada's capability shortfalls would compromise national security but the government characterized the gap as follows:

We have an obligation to NORAD to have a certain number of fighter jets mission-ready at all times, as well as an obligation to NATO. The number of mission-ready planes we can put in the air today is fewer than our NORAD and NATO obligations combined.²⁴

The consultation and analysis conducted during the reset period did not seem to fundamentally alter the government's commitment to participate in the F-35 Joint Strike Fighter Program with Lockheed Martin, at least until a new contract is awarded for the permanent fleet.

Next steps for the Super Hornet

On March 14, 2017, Canada submitted a letter of request to the U.S. government outlining the requirements, schedule and economic benefits expected from the

²² Government of Canada (November 22, 2016)

²³ Government of Canada (November 22, 2016).

²⁴ Government of Canada (November 22, 2016).

acquisition of 18 Super Hornet aircraft. It confirmed that the aircraft supplier would be required to make investments in Canada equal to 100 percent of their contract value.²⁵

To facilitate the process, the United States Department of Defense was asked to serve as the supplier of record for the Super Hornet and associated support services because allies who utilize the United States Foreign Military Sales are able to purchase defense articles controlled by the United States under the *Arms Export Control Act*. As well, this approach provides cost and other scale benefits because it allows Canada to join in larger U.S. purchasing commitments.²⁶

The March 2017 announcement sets out a schedule of consultations among government representatives and suppliers with a view to signing a contract for the purchase of aircraft and associated services in early 2018.

Russia challenges Canadian air defense capabilities

The vulnerabilities created by Canada's fighter capacity gap become more worrisome as global conflicts heat up. An accelerated pattern of Russian overflights of the Canadian Arctic, even though they have not yet violated any international laws, could signal more aggressive incursions in the future.

The sovereign airspace of Canada and the United States extends 12 nautical miles from the coast and air defence identification zones extend 200 nautical miles. Unlike civilian aircraft, state-owned aircraft are not required to identify themselves before entering air defence identification zones. NORAD is responsible for identifying and monitoring all aircraft approaching North America.

During the Cold War, Russian flyovers were a regular occurrence. These died down after the Cold War but Russia resumed long-range aviation activity in 2007. Recent approaches by Russian bombers off Alaska and the Canadian Arctic represent the most concentrated incidents of Russian long-range missions in some time. The 2017 level of activity is consistent with higher levels observed in 2012, 2013, and 2014.

While NORAD commanders agree that the Russian threat is real, especially in light of new Russian investment in equipment and technology, Russia's presence in Arctic air

²⁵ Government of Canada, *Government of Canada Announces Next Steps In Potential Procurement of Interim Fighter Capability*, (March 14, 2017), https://www.canada.ca/en/public-services-procurement/news/2017/03/government of canadaannouncesnextstepsinpotentialprocurementofin. https://www.canada.ca/en/public-services-procurement/news/2017/03/government of canadaannouncesnextstepsinpotentialprocurementofin. https://www.canada.ca/en/public-services-procurement/news/2017/03/government of canadaannouncesnextstepsinpotentialprocurementofin. https://www.canada.ca/en/public-services-procurement/news/2017/03/government https://www.canadaannouncesnextstepsinpotentialprocurementofin. <a href="https:

²⁶ PSPC Canada, *Replacing and supplementing Canada's CF-18 fleet*, (Updated July 5, 2017) https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/air/snac-nfps/CF-18-eng.html#s2

defence identification zones has not violated international law. The Russian missions are believed to be intended to gauge North American response and the encounters are usually congenial.²⁷ According to NORAD spokeswoman Major Jennifer Stadnyk, "[I]n all the years that Soviet and, later, Russian aircraft have embarked on such missions, they've never breached Canadian or America airspace."²⁸

According to the Russian Defence Ministry, that country:

regularly carries out patrol missions above the neutral waters of the Arctic, the Atlantic, the Black Sea and the Pacific Ocean. All such missions are carried out in strict compliance with international regulations and with respect to national borders.²⁹

NORAD aircraft have intercepted Russian aircraft off North America about 60 times since 2007, for an average of about seven incidents annually. The number of annual interceptions during this period has ranged from zero to 15.

While NORAD personnel admit that the flyovers themselves are nothing new, what has changed is the frequency of the patrols, coinciding with the increase in tensions between Russia and the West. In April 2017, U.S. Secretary of State Rex Tillerson told Russian President Vladimir Putin that relations between Russia and the United States were at "a low point." As proof, Tillerson cited divides over Syria, Moscow's alleged meddling in U.S. elections and a host of other major issues.

Relations between Ottawa and Moscow are similarly strained. Canadian troops were recently dispatched to a NATO mission to counter Russian aggression in Latvia. In response to Canadian sanctions on Russia for annexing Crimea in 2014, Foreign Affairs Minister Chrystia Freeland remains on a list of individuals banned from Russia. 31

Awareness of each other's capabilities deters adversaries from launching attacks that cannot deliver a decisive win. ³² This age-old principle of warfare remains relevant

²⁷ Stephen J. Thorne, "Testing North American Air Space," *Legion Magazine*, (May 10, 2017), https://legionmagazine.com/en/2017/05/testing-north-american-air-space/

²⁸ Stadnyk quoted in Thorne (2017).

²⁹ Russian Defence Ministry quoted in Thorne (2017).

³⁰ NBC News, "Tillerson tells Putin that U.S.-Russian relations are at a low point," (April 13, 2017), http://www.nbcnews.com/politics/politics-news/putin-meets-tillerson-moscow-n745591

³¹ CTV News, "Canadian jets help intercept Russian bombers near Alaskan coast," (April 21, 2017), http://www.ctvnews.ca/canada/canadian-jets-help-intercept-russian-bombers-near-alaskan-coast-1.3379297

³² Arctic flyovers are just one tool for intelligence gathering. Under the terms of the Open Skies Treaty, Russia conducted a five-day air surveillance mission over Canada in April 2017, accompanied by

today. Former U.S. Defense Secretary Ash Carter made the case just last year that deterrence is still the best protection against attack from any nation.³³

As such, Russia's awareness of Canada's defense capability, inside and outside of NORAD, should protect the status quo but, as Russia steps up its 'testing' of Canadian and North American air defenses, it is not the time to fall short. As long as Canadian capacity is judged to be adequate, then the Russians are not likely to challenge North American sovereign territory in the Arctic. But, if the capability gap is allowed to grow, so too does the likelihood that Russia and other adversaries will exploit this vulnerability.

Throughout 2017, President Vladimir Putin has continued to expand and diversify Russia's long-range strike capability, including land- and sea-based ballistic missiles, cyber weapons, and a new generation of highly precise, conventionally armed cruise missiles that can reach the United States and Canada.³⁴ Moreover, the Russian threat is matched or surpassed by the threat of North Korea, whose rapidly improving missile technology combined with an overtly hostile intent leaves the North American homeland more vulnerable than it has been for many years.

Conclusion

Canadian forces are responsible for defending the world's longest coastline—much of it above the Arctic Circle—and the world's second largest landmass with modest defense budget commensurate with a population of fewer than 37 million people. Defense support provided by the United States and institutionalized through NORAD is key to Canada's ability to defend its territory and its people, particularly in the far north.

NORAD's mission relies on jet fighter capability from both NORAD partners. The United States cannot shoulder the responsibility alone and Canada cannot make a sufficient contribution with out-of-date aircraft. Canada's initial efforts to replace its fighter fleet suffered from some initial missteps. While reworking a complex assessment and procurement process, Canada chose an interim solution through the Super Hornet acquisition in order to meet its short- and long-term air defence needs.

Canadian observers, to photograph and document Canada's military infrastructure. Canada has reciprocal rights under the agreement.

³³ Patrick Tucker, "As threat of Russian missiles rise, NORAD looks to the future," *Defense One*, (May 13, 2016), http://www.defenseone.com/business/2016/05/threat-russian-missiles-rise-norad-looks-future/128297/

³⁴ Robinson Statement, p.5

The IFCP is key to modernizing North American defense. As global tensions rise, it is more important than ever that Canada and the United States are able to meet the strategic challenges of would-be adversaries.



Why Canada's Fighter Jet Deficit Threatens Canadian Security and the NORAD Mission

Admiral Bill Gortney completed 39 years of military service as Commander of the binational North American Aerospace Defense Command (NORAD) and Commander of the United States Northern Command (NORTHCOM).

CI: What are the threats Canada faces in the fulfillment of its NORAD mission?

In the context of the early Cold War, NORAD commanders thought the battle would take place right over the United States and Canadian border. Now, the territorial range of threat is much larger. Russia has the firepower and weapons technology to hold a great deal of North America at risk. As well, there are now more states with the ability to deliver lethal force to the North American homeland. As technology opens the door to greater threats, so must the technology of the NORAD partners be continually upgraded to defeat current and future threats.

Today's NORAD mission demands that fighters have the ability to fly great distances and stay on station for a long time with the right amount of signature reduction, integrated active defensive measures, Active Electronically Scanned Array radars, and long-range infrared systems.

CI: How important is interoperability between the United States and Canada?

No air force fights alone, not the U.S. Navy, not the U.S. Air Force, and not the RCAF. No one air force owns all of the capabilities required to succeed in today's—and tomorrow's—threat environments.

For this reason, interoperability is essential. With the same type of equipment and a common language, it is very easy for military personnel from the United States and Canada to train and operate together. Both forces have the same missions, and operate in very similar threat environments. Both are required to surveil and defend a vast amount of battle space. This may mean engaging hostile fighters, bombers, and small radar cross-section cruise missiles in extremely harsh conditions.

For these reasons interoperability crosses into procurement of capability. The current debate by the Canada over their fighter force has impacts on the United States Navy and Naval Aviation. It is for this reason I am having this discussion with you.

CI: Will Canada's current fighter jets be sufficient to fulfill the NORAD mission?

Canadian fighter pilots are the best I have flown with or commanded. I have been taught by Canadian F-18 pilots and have taught Canadian F-18 pilots. Historically, Canada has done an excellent job meeting its NORAD commitments with the F-18s. Against the odds, it continues to do a remarkable job with its Legacy Hornets. But, Canada's current fleet is more than 30 years old, down from 138 to 76 aircraft. There are finite limits to how long you can extend the operational life of an aircraft and it is difficult to modernize an aging aircraft without adding too much weight.

CI: What choices does the Government of Canada face as it seeks to upgrade its fighter jets?

As they seek to replace the current fleet, Canadian decision makers have to consider both capability and capacity. Capability means than an aircraft meets such core criteria as power, weight, technology, interoperability with allies, and the ability to fight and win in today's and tomorrow's threat environment. Capacity refers to whether there are enough aircraft available to be deployed to meet mission demands.

Guided by the criteria of capability and capacity, I see three potential courses of action for Canada. **The first** is to launch a formal competition and choose from among the best proposals. While this is a rational course of action, it will take many years to complete. Until the new aircraft are delivered, Canada will continue to face both a capability and capacity gap.

The second course of action is to purchase used F-18s from Australia. This will assist with the capacity gap, but does not address the capability gap the RCAF faces today. Additionally, the cost of this decision is unclear.

For one thing, the Australian aircraft might not be in optimal condition. High-speed flight and repeated takeoffs and landings take a heavy toll. Second, it is more and more difficult to find spare parts for these older models. Maintenance crews are forced to cannibalize some jets to keep others in the air. There are only so many times the lives of the current aircraft can be extended before putting the safety of pilots at risk. Third, it is more costly to maintain older aircraft than newer ones. The United States Navy's most expensive aircraft to maintain are its Legacy Hornets. And again, used Legacy Hornets will still not provide the modernized fighter capability that the RCAF needs to counter rapidly evolving global threats. For these various reasons, the United States Navy is accelerating the retirement of its Legacy Hornets, and replacing them with new, more advanced Super Hornets.

The third course of action is to fulfill the IFCP and purchase new Super Hornets. They are available, can be delivered quickly and, their acquisition does not preclude a full competition for complementary aircraft later. This option assists with both the capability and capacity challenges, and would be less expensive than purchasing, updating, and maintaining the Australian Legacy Hornets. Remember, today's Super Hornet is not yesterday's Hornet. It carries more fuel, more weapons, and possesses signature reductions that give it much better offensive and defensive capabilities.

CI: What about the Arctic?

The Arctic is challenging terrain characterized by short runaways and austere environments. Hard landings for aircraft are common. The Super Hornet is well suited to operate in the harsh Canadian climate and respond to the rapidly evolving Russian bomber/long range cruise missile threat

CI: How important is stealth?

Despite what we see in the movies, stealth does not make an aircraft invisible. It is a combination of technologies that provides a slight head start in the time it takes your opponent to identify and engage you. But technologies are always improving and today's physics will always be defeated by tomorrow's physics. So counting on current stealth technology to be effective against future threats is not a 100 percent safe bet. And, it is prohibitively expensive to have a fleet with 100 percent stealth, when having 100 percent of your fleet stealthy is not required. Instead, we look for the right balance of blended signature reduction capabilities, self-protection, weapons capacity and range at an affordable cost. The United States Navy is finding the right balance with a combination of F-35C's and Advanced Super Hornets.

CI: What's at stake for Canadians?

Regardless of which country we are in, purchasing and maintaining military capability is heavily influenced by politics, and I have no desire to enter that political debate. It is a fact that there is a both a capability and capacity shortfall in the RCAF and Canadians will decide how to either solve those shortfalls, or decide to place the risk associated with those shortfalls onto their Airmen. As global threats escalate, it is important that Canada chooses a course of action – quickly – that fills these critical gaps, and that the solution allows the critical interoperability we discussed previously.

Opinions expressed in expert commentaries do not necessarily reflect those of the Wilson Center.



Canada's fighter jets need range and reliability to fulfill defence commitments in North America and around the world

Dr. Michael Byers is Canada Research Chair in Global Politics and International Law at the University of British Columbia. He is the author of Who Owns the Arctic? (2009), and International Law and the Arctic (2013).

CI: What do you think of recent developments in Canada's fighter jet procurement process?

Buying used F-18s from Australia is a mistake. Those aircraft have already flown many thousands of hours, which will negatively affect their reliability and incur high maintenance costs. It is odd that Canada has decided to buy used Boeing jets from Australia to avoid doing business with Boeing over a civil aircraft dispute, because Canada will still require the cooperation of Boeing for maintenance and replacement parts. The irony of this situation is that the Australians have older F-18s available for sale only because they bought some Super Hornets—the same type of plane that, until this fall, Canada was planning to buy.

CI: You are well known as an expert on Arctic security. Does the new Defence Policy – Strong, Secure, Engaged – reflect the importance of Arctic sovereignty to Canada?

The new Canadian defence policy does not pay much attention to issues of Arctic sovereignty and surveillance. The Arctic is perceived to have been part of former Conservative prime minister Stephen Harper's brand, and Justin Trudeau wants to differentiate himself from this. That said, when Stephane Dion was Minister of Foreign Affairs, he did try to use Arctic issues as an avenue for constructive engagement with Russia. However, the current Minister of Foreign Affairs, Chrystia Freeland, has an awful lot on her plate with the U.S. and NAFTA, and as a result Canada has neglected the international dimension of the Arctic since Dion's departure. Some of the persistent gaps in Canada's Arctic capabilities include a failure to replace aging icebreakers, radar stations, and Earth observation satellites.

CI: How important is the NORAD alliance to Canadian defence of the Arctic?

NORAD is the best way to defend the Arctic. Shared responsibility with the United States makes sense given the size and remoteness of the far north and the geographic contiguity of Alaska and the Yukon. The Arctic is a peaceful region that is well suited to moderate military investments focused on search and rescue and surveillance.

Canada has upheld its side of the NORAD bargain for decades through such contributions as the intercept capabilities of the CF-18s at Cold Lake and high quality radar imagery through RADARSAT-2. However, Canada cannot maintain a consistent commitment to the NORAD mission without investments in modernization, particularly in its fighter jets.

CI: How would the acquisition of Super Hornets support the imperatives of North American defence and Arctic sovereignty?

The F-18 and Super Hornet aircraft are well suited for the Arctic because they were built for the U.S. Navy with the mission of flying long distances over oceans. They have an impressive range that is compatible with the demands of the Canadian far north, where airfields are few and far between. Also, in remote areas, two engines are better than one because of the redundancy and therefore safety that they provide. It is this combination of range and reliability that led both the Canadians and the Americans to acquire the original F-18s.

Canada needs new fighter jets and it needs them quickly if it is to continue to fulfill its NORAD mission.

CI: How important is stealth given Canada's military commitments in North America and around the world?

In North America, the primary tasks are long-range surveillance and intercept capabilities. Stealth is not a priority. When Canadians are called upon to engage in missions overseas, they do not do it alone. They will always be part of a coalition with partners such as the United States, who will provide specialized aircraft with stealth and other narrowly-focused technologies.

Canada needs a modern, general utility aircraft such as the Super Hornet and can leave the more specialized equipment to others. The F-35 has stealth technology because of its particular mission, which is to serve as the "tip of the spear" in the initial operations against an enemy with anti-aircraft defences. Unless Canada is planning on being the sharp end of the American spear, in shock-and-awe missions overseas, we don't need stealth technology.