Journal of Military and Strategic Studies

VOLUME 23, ISSUE 1

RCAF Procurement

David Perry

In 2023 the Royal Canadian Air Force (RCAF) had what might well be the best year for procurement in its modern history. Just a few days into January the Minister of National Defence formally revealed that the F35 Joint Strike Fighter had been selected as the winner of Canada's Future Fighter Competition to procure 88 new fighter jets.[1] In July, SkyAlyne Canada Limited Partnership was announced as the preferred bidder for the Future Aircrew Training (FACT) project, a multi-billion dollar, omnibus training contract[2] and a day later a contract for nine Airbus A330 Multi-Role Tanker Transport aircraft was made public.[3] On the last day of November, the government revealed that up to 16 Boeing P8 Poseidon aircraft would replace Canada's fleet of Maritime Patrol

[1] Canada, "Announcement regarding the F-35 acquisition," National Defence, 9 January 2023. https://www.canada.ca/en/department-national-defence/news/2023/01/announcement-regarding-the-f-35-acquisition.html

[2] Canada, "Government of Canada announces preferred bidder for Future Aircrew Training Program in support of Royal Canadian Air Force," Public Services and Procurement Canada 24 July 2023 https://www.canada.ca/en/public-services-procurement/news/2023/07/government-of-canada-announces-preferred-bidder-for-future-aircrew-training-program-in-support-of-royal-canadian-air-force.html

[3] Canada, "Government of Canada awards contract for the Strategic Tanker Transport Capability project," National Defence, July 25, 2023. https://www.canada.ca/en/department-national-defence/news/2023/07/government-of-canada-awards-contract-for-the-strategic-tanker-transport-capability-project.html

ISSN : 1488-559X

aircraft as Canada's future multi-mission surveillance aircraft.[4] Finally, the year ended in December with a formal announcement that Canada would purchase 11 remotely piloted aircraft from General Atomics for the Remotely Piloted Aircraft project.[5]

In just twelve months, these announcements covered four major fleets, 124 new aircraft, in addition to major changes in Canada's approach to training almost all of its aviators, and roughly forty billion in new investments in RCAF capabilities and future readiness. This single year's tally came after years, in some cases decades, of effort by many across the RCAF and wider Canadian defence acquisition ecosystem. While 2023 presents a very notable accomplishment, most years see far less progress for the RCAF or Canadian Armed Forces (CAF) writ large. Procurement for the RCAF has been beset by many of the same issues impacting Canadian defence procurement generally: slow progress, controversy, and significant costs, stemming from a shortage of trained acquisition officials, constraints on the availability of procurement funds, and competing government priorities for procurement, and concerns about politicization. In many circumstances, Air Force procurement experiences those general issues to a more significant degree than the Canadian defence procurement portfolio writ large. Compared to the CAF overall, the RCAF procures more complicated and expensive weapons systems, leading to more concerns about costs and increasing the likelihood of schedule delays. As well, the market characteristics of the Canadian aerospace industry are more regionally concentrated than those of the defence industry writ large, magnifying the tensions between capability requirements and domestic economic considerations involved in RCAF procurement.

[4] Canada, "Canada purchasing up to 16 P-8A Poseidon Multi Mission Aircraft for the Royal Canadian Air Force," National Defence, Novemebr 30, 2023 https://www.canada.ca/en/department-national-defence/news/2023/11/canada-purchasing-up-to-16-p-8a-poseidon-multi-mission-aircraft-for-the-royal-canadian-air-force.html

[5] Canada, "Canada acquiring Remotely Piloted Aircraft Systems for the Canadian Armed Forces," National Defence, 19 December2023 https://www.canada.ca/en/department-national-defence/news/2023/12/canada-acquiring-remotely-piloted-aircraft-systems-for-the-canadian-armed-forces.html

Beyond these more general Canadian procurement considerations, the RCAF procurement portfolio features more significant service contracting than that of the CAF overall. To fully understand the scope of RCAF procurement requires understanding both projects for equipment and capital assets as well as the services that support them and the relationship between the RCAF's capital equipment purchases and major service contracts.

What does the RCAF procure?

All Canadian conversations about defence procurement are constrained by data limitations that circumscribe how much information is available across the various components of the defence acquisition portfolio. In 2023, briefings from RCAF officials indicated that the institution was working on 60 major capital equipment projects (as of the time of writing, denoted by those valued over $20 million) valued at a cumulative total of $85 billion as well as another 43 minor capital equipment projects worth a combined $140 million.[6] Additionally, the RCAF's share of DND's National Procurement budget, a centrally controlled budget at DND that primarily funds maintenance, repair and overhaul of the CAF's fleets, was $1.4 Billion.[7] This spending is largely, but not exclusively, devoted to service contracts for the in-service support of RCAF fleets. Such high-level breakdowns, however, are not consistently available or accessible across the same breadth of RCAF purchases of equipment or services back to the end of the Cold War, so it is unclear how unique the current circumstances are.

Further, the information that is most readily available in significant detail is skewed towards the service's larger projects, particularly those that have experienced significant

[6] Col. David Pletz, "RCAF Modernization," *The Best Defence Conference 2023* London Ontario, 15 November 2023.
[7] Brigadier General Marc Rodgers, "CADSI RCAF Outlook: Aerospace Engineering and Support Perspective," RCAF Outlook Ottawa, ON: 5 April 2023.

problems. These have been covered in books,[8] and Auditor General Reports and received sustained media coverage, such as those for helicopter purchases or fighter jets.[9] Such comprehensive accounts are few and tend to skew discussion of Canadian procurement, including RCAF procurements, towards large, complicated, costly projects, which often experience delays and cost increases and are therefore viewed as problematic. The overweighting of focus on these types of projects, without a better understanding of smaller, less costly and complicated projects that do not receive significant attention is a feature of most Canadian procurement analysis and will necessarily impact this one as well.

Since 2018, more information has been made public, semi-regularly and systematically about the entire range of Major Capital Projects with the publication of the recently developed Defence Capability Blueprint.[10] A web-based portal, the blueprint has provided a more comprehensive view of the CAF procurement portfolio that captures a more broadly representative sample of the entire universe of capital equipment projects in some detail.

An analysis of the 2022 update to the blueprint, shows that the RCAF has a disproportionate share of the costlier projects in the CAF. Of 178 listed projects, the RCAF is the sponsor (or proponent) of 43, or 24 percent of all DND/CAF projects listed. The RCAF's projects are overrepresented amongst the more expensive projects, however, as identified by their listed cost ranges. Of 50 projects valued at over $500 million, the RCAF is the sponsor for 23 of them or 46 percent, and of the 34 projects estimated to cost more than $1 billion, 20 are sponsored by the RCAF, 59 percent.

---

[8] Aaron Plamandon, *The Politics of Procurement* Toronto: UBC Press, 2010; Alan Williams, *Reinventing Canadian Defence Procurement* Montreal and Kingston: Breakout Educational Network, 2006.

[9] Canada, *Chapter 6 Acquisition of Military Helicopters* Ottawa: Office of the Auditor General of Canada, Fall 2010. Canada, *Chapter 2: Replacing Canada's Fighter Jets* Ottawa: Office of the Auditor General of Canada , Spring 2012.

[10] Canada, "Defence Capabilities Blueprint," National Defence, 1 Decemebr 2022 https://apps.forces.gc.ca/en/defence-capabilities-blueprint/index.asp#

A project's costs themselves are an indicator of which projects will come under greater external scrutiny. Also, until the late 2000s, costs alone were used to decide important aspects of a procurement project's governance regime, which means they were used to determine the level of scrutiny internal to government too, which is often associated with adding additional time to completion. A project's costs are still used to assess some aspects of project governance, with the threshold of $20 million being used to delineate the projects which projects are classified as minor, and therefore subject to much less onerous processes for acquisition, whereas 100 million dollars (which historically denoted those projects deemed to be "Major Crown Projects" which had their own interdepartmental governance regime) is currently the value at which DND projects are sent for a review by the Independent Review Panel for Defence Acquisitions and the threshold above which projects have Canada's Industrial Technological Benefits policy, which requires an economic benefits component to the procurement, apply.[11] This additional activity requires resources to complete and thus requires more time and effort. With a proportionally more expensive portfolio of projects, more of the RCAF's projects have to go through a more complicated set of Canadian procurement requirements.

Beyond the discriminators tied simply to costs, which are still in effect, in the late 2000s the government of Canada moved towards a system of managing key aspects of procurement projects according to the assessed risk and complexity of the projects. Where the assessed risk and complexity exceed what departments are approved to manage themselves, projects must be approved by the Treasury Board, a Cabinet Committee, rather than the department's minister, a process that is viewed by participants as more onerous and time-consuming. When Canada's *Strong, Secured, Engaged* [12]was published in June of 2017, the RCAF also had the largest number of complex and risky projects. When the first Defence Capabilities Blueprint was published

[11] Dave Perry and Craig Stone, "Military Procurement and the Defence Industry," in *Managing Security and Defence in the 2020s and Beyond, edited by Ann Fitz-Gerald and Craig Stone*,pp. 116-141. Toronto: Breakout Educational network, 2023.

[12] Canada *Strong, Secure, Engaged* Ottawa: Department of National Defence, 2017.

in 2018, there were 135 major capital projects that had yet to move into the Implementation phase of a project's life. Out of those, 33 had an assessed project complexity and risk score of 4 or 3 on the 4-point scale, representing the projects that were either required to go to the Treasury Board for approval or were most likely to be 'pulled' in for Treasury Board review. Those 33 projects represented just under one-quarter of all projects, and of these 12 were sponsored by the RCAF. In contrast, look at the DND/CAF procurement portfolio through the opposite lens, of projects with an assessed project complexity and risk score of 1 or 2, as well as an estimated project budget under $100 million (therefore falling under the thresholds for additional processes outlined above) of the 49 projects fitting this criterion, only 8, or 16%, were sponsored by the RCAF.[13] In short, RCAF procurements tend to be both more costly, and more complex and risky, than the procurements of the DND/CAF overall, and both attributes are correlated with projects taking longer to complete and coming under greater scrutiny, both inside and outside of government.

Two Eras: Penury and Plenty

The past Cold War era for DND has featured essentially two different eras of RCAF procurement. The first, from 1990 through to 2003, occurred amidst the backdrop of budget reductions and cost-cutting exercises The second era, from 2003 to the present, has been one within which (with some variation) the defence budget has been increasing and the *supply* of funding for capital investments has been increasing, even if actual expenditures have varied.

The first time period was initiated by the Mulroney government's budget cuts in 1989 but manifested when these were amplified by the Chretien Government's efforts to balance the budget. During this era, the Capital budget of National Defence was cut significantly, with the 1994 White Paper on Defence announcing that planned acquisitions would be

[13] David Perry, *Streamlining Defence Procurement*. Ottawa: Department of National Defence, 2018.

cut by $15 billion over the next fifteen years.[14] As a result, Canada had few funds to purchase major platforms, and the same document directed the CAF to focus on extending the life of equipment, and stated that new equipment would be acquired only for purposes considered essential to maintaining core capabilities. During this time period, the purchase of the EH101 for search and rescue proceeded, as well as Polaris Strategic Tankers, Challenger VIP aircraft and Griffon utility helicopters. Beyond these examples, however, decisions were made to conduct upgrades and life extensions of existing platforms, rather than initiate replacement projects and this was the approach taken with a CF18 modernization initiated in 1998 [15] and the Aurora incremental modernization project approved in 1999.[16]

During this time period, the RCAF also embraced the Alternate Service Delivery initiatives introduced by the Chretien government to look at organizational reforms and outsourcing of government functions to the private sector. Driven across government by a pursuit of efficiency, at DND was viewed as a way to generate efficiencies to free up scarce Capital investment funds and a means of maximizing the use of human and financial resources available for operational capability. The RCAF was more amenable to these initiatives than the other services as by 1997 it had been reduced by almost half its ranks and half its budget. The largest single RCAF project that went through the ASD process was the $2.8 billion NATO Flying Training in Canada contract signed in 1998. The key factor precipitating the contract was a desire to replace the RCAF's training fleets to retain a pilot training program in Canada but insufficient funds to do so while also meeting other capital investment priorities. By outsourcing training, contracting the NATO Flying Training in Canada project allowed the RCAF to turn a large capital

[14] Canada, *1994 White Paper on Defence*, Ottawa: Minister of Supply and Services, 1994, at paragraph 57. https://publications.gc.ca/collections/collection_2012/dn-nd/D3-6-1994-eng.pdf

[15] Canada, *Chapter 3: Naitonal Defence - Upgrading the CF18 Figher Aricraft* Ottawa: Office of the Auditor General of Canada, 2004.

[16] https://www.canada.ca/en/department-national-defence/services/procurement/cp-140-aurora.html

purchase it could not afford into a long-term service contract with more palatable annual payments.[17]

The consequence of this period of dramatically reduced capital expenditures where options for contracted service delivery were not available was that by 1997 DND reports to Parliament stated that "the Air Forces face a serious risk of obsolescence and capability degradation in a number a key areas."[18] As a result, by 2003, the CAF was arguably in the worst position of the CAF with respect to the average age of its major platforms. By that point, the Sea King fleet was 40 years old as was Canada's E-model Hercules. The H model Hercules was on average 28 years old, and the CF18s and Auroras surveillance aircraft were also into their second decade of service without a replacement project in sight.[19]

The second era started in 2003 when Paul Martin became Prime Minister and provided the Department of Defence with a budget increase of $800 million in his first budget as Prime Minister in 2003.[20] This allowed the RCAF to begin substantively moving forward with a replacement for the Sea King Helicopter, resulting in a contract for what became the Cyclone in the summer of 2004. The subsequent 2004 Budget announced an acceleration of funding to expedite the replacement of Canada's fixed-wing search and rescue aircraft[21] and a year later the 2005 budget provided funding for the acquisition of medium-lift helicopters, which would ultimately become Canada's F-model Chinooks as well as utility aircraft.[22] The ensuing *Defence Policy Statement* in 2005 provided policy

[17] David Perry, *Purchasing Power* (Unpublished PhD Dissertation) Ottawa: Carleton University, 2015.
[18] National Defence, *1997-98 Estimates Part III Expenditure Plan*, Ottawa: Minister of Supply and Services Canada 1997, 1997) 3-20.
[19] Brian MacDonald, "The Capital Crisis" in Douglas Bland, ed. C*anada Without Armed Forces*, 2003.
[20] Canada, *The Budget Plan 2003*. Ottawa: Department of Finance Canada, 2003.
[21] Canada, *The Budget Plan 2004*. Ottawa: Department of Finance Canada, 2004.
[22] Canada, *The Budget Plan 2005*. Ottawa: Department of Finance Canada, 2005.

direction to those projects as well as further investments in unmanned aerial vehicles and satellites.[23]

Martin's initiatives were subsumed and built upon by the Harper government from its first budget in 2006 which delivered additional funds to the forces for capital investment. That spring, the government moved forward to initiate the purchase of medium-lift helicopters, and both strategic and tactical airlifts. In what some view as one of the most successful periods ever in Canadian defence procurement, Canada initiated the purchase of C17s, C130Js and Chinook F helicopters through the use of an Advanced Contract Award Notice, a procurement mechanism whereby the government provides advance notice of an intention to sole source contracts. That effort resulted in the delivery of the first C17s the next year, with initial deliveries of the C130J happening in 2010 and the first helicopters in 2013. After that initial slate of three main projects, the Harper government continued with efforts to add additional capabilities but met with less success. An effort was made by DND to purchase drones on a similar basis in 2007, but this was unsuccessful, as was an effort in 2009 to purchase Fixed Wing Search and Rescue Planes (FWSAR), again, without proceeding to a competition. The Harper government's *Canada First Defence Strategy* specifically committed to delivering on the purchase of new maritime patrol aircraft, FWSAR, as well as "next-generation fighter aircraft."[24] Little of note happened to acquire replacements for Canada's Aurora MPA's during the remainder of the Harper government, but after some issues detailed below, they launched a competition for FWSAR before losing government in the 2015 election which resulted in a contract for the C295 'kingfisher' in December of 2016.[25]

On the fighter front, the Canada First Defence Strategy launched what became a well-documented saga of purchasing new Canadian fighter aircraft in June 2010 the

[23] Canada, *A Role of Pride and Influence in the World: Defence* Ottawa: Department of Natioanl Defence, 2005, p. 14.
[24] Canada, Canada First Defence Strategy Ottawa: Department of Natioanl Defence, 2008, p. 17.
[25] Canada, "Fixed-wing search and rescue procurement project," National Defence.29 June 2023. https://www.canada.ca/en/department-national-defence/services/procurement/fixed-wing-search-and-rescue-procurement-project.html

government announced it would purchase 65 F35 fighter jets as part of the Joint Strike Fighter program, without pursuing a competition. That announcement would prove to have a short period of validity, and subsequent controversy over the efficacy of the decision, particularly in the face of outside estimates by the Parliamentary Budget Officer that suggested DND has lowballed its cost estimate.[26] The Auditor General added further to that perception with his audit, which also found fault with the purchase for other reasons, discussed further below. After initiating a review of the project, and while apparently remaining committed to the purchase, the Harper government did not proceed with the procurement, before the 2015 election.

The subsequent election of the Trudeau government was important for the RCAF's procurement plans in two respects. On one hand, the Liberal Party of Canada's election commitments, detailed below, regarding the F35 set the acquisition of new fighter aircraft back by several years. On the other hand, the Trudeau government's defence policy review that occurred against the backdrop of NAFTA renegotiations with the Trump administration in the United States culminated in the publication of *Strong, Secure, Engaged* which presented the most ambitious slate of recapitalization for the DND/Canadian Armed Forces since the early 1950's in terms of the scope of capability deficiencies being addressed and pace of desired acquisition. The largest beneficiary of that policy, in terms of the funds provided for both new projects specifically, and the total investment for both new and existing projects, as a result of the policy, was the RCAF, with a commitment of $64 billion on a cash basis over twenty years.[27] The policy committed to proceed with a fleet of new fighter aircraft, along with a concurrent plan to purchase others on an interim basis that resulted in the purchase of second-hand jets from Australia after an aborted attempt to purchase Super Hornets for an interim capability. Beyond this, the 2017 policy committed to a suite of satellite and communications investments, including Tactical Integrated Command, Control, and Communications and

[26] Perry, "the Evolution of the Harper Government's Defence Policy," in Adam Chapnick and Christopher J. Kukucha eds, The Harper Ere in Canadian Foreign Policy Toronto: UBC Press, 2016.
[27] *Strong, Secure, Engaged*, Table 2.

radio cryptography; strategic air-to-air tanker-transport; utility aircraft; next-generation multi-mission aircraft (to replace the CP140 maritime patrol aircraft); medium altitude UAVs; Invest in medium altitude remotely piloted systems; modernized short-range air-to-air missiles; upgraded air navigation, management, and control systems; new aircrew training systems; and upgrades and life extensions to Canada's Griffon and Cormorant Helicopters.[28]

In June of 2022, the Government of Canada released a suite of investments to facilitate NORAD Modernization. The package is estimated at $38.6 billion on an accrual basis over 20 years, equivalent to roughly $90 billion in cash-based spending over that time frame. The investment covers surveillance systems including over-the-horizon radars; command and control systems including a new Combined Air Operations Centre; several projects for advanced air-to-air missiles; infrastructure and support capabilities including additional air-to-air refuelers; and science technology investments.[29] This commitment amounts to a modernization, enhancement or addition to, the RCAF's continental domestic-focused capabilities. Between *Strong, Secure, Engaged* and NORAD Modernization, the Trudeau Government has committed the funding towards and provided the policy coverage of the most extensive capital equipment investments in the RCAF in its modern history. With the cumulative investments since 2004, the RCAF is facing a very different future than its more recent past where a lack of available funding left it without the means to procure new equipment. Although the pact of planned investments proved to be unrealizable on the aggressive schedules desired by the RCAF, as the opening section of this article demonstrates real progress on a number of the most significant procurements was realized in 2023 alone. The RCAF in this respect is perhaps the best indicator of the more general problem impacting Canadian defence procurement after 2004 that the most significant issue from a procurement budgeting perspective is no

[28] *Strong, Secure, Engaged*

[29] National Defence, "Minister Anand announces continental defence modernization to protect Canadians," News Release. 20 June, 2022. https://www.canada.ca/en/department-national-defence/news/2022/06/minister-anand-announces-continental-defence-modernization-to-protect-canadians.html

longer the chronic lack of funding during the first part of the Cold War era, but now difficulty spending the funding available as fast as desired.[30]

In Service Support

A consequential portion of RCAF procurement activity is for the In-Service Support (ISS) of the RCAF's fleets. Collectively, ISS comprises "all activities, including, but not limited to, engineering services (such as maintenance, repair, test and upgrade), logistics (such as parts supply, documentation and training) and related management functions, necessary to maintain a CF platform throughout its service life."[31] Amongst the CAF services, the RCAF has obtained more of these services by procuring them from industry than the army or the Navy. To situate this properly requires first outlining the four 'lines' of equipment maintenance categorized by the Canadian military: first; second; third; and fourth. First and second-line maintenance provides simple and short-term preventative maintenance and minor repairs and has traditionally been carried out by a combination of military and civilian technicians on bases across Canada. Third and fourth-line maintenance consists of more complicated inspections, major repairs or complete equipment overhauls. The RCAF is unique in the Canadian military for only ever conducting first and second-line maintenance 'in-house.' Drawing on the legacy of extensive fighter aircraft manufacturing in Canada during the Second World War, the RCAF has always had third-line maintenance provided by industry. During and after WWII the Canadian Government actively built and supported the aerospace industry in Canada and as part of this support "the RCAF was not allowed to provide depot level

[30] David Perry, "The Defence Budget," in Thomas Juneau and Philippe Lagassé eds *Canadian Defence Policy in Theory and Practice, Volume 2* Cham, Switzerland: Palgrave Macmillan, 2023, pp. 113-132.
[31] Canada. National Defence and the Canadian Forces. "DAOD 3022-0, Procurement of in-Service Support for CF Platforms," August 13, 2014, http://www.forces.gc.ca/en/about-policies-standards-defence-admin-orders-directives-3000/3022-0.page.

maintenance; this was reserved for Canadian Aerospace industries."[32] From the end of the Second World War until the end of the Cold War, the Canadian Government actively supported Canadian aerospace ISS firms by directing that the support of RCAF aircraft be provided in Canada by Canadian companies. As a result of this policy, aerospace has historically been one of the strongest sectors of the Canadian defence industrial base, and this has included several Canadian companies specializing in ISS.[33] This commitment to domestically provisioned ISS persisted through the Mulroney government changes to the Industrial and Regional Benefits (IRB) policy which was reinforced in the 1987 Defence White Paper pledge that "In acquiring equipment…the need for indigenous support and repair and overhaul capability for new equipment will be addressed from the beginning."[34] This policy shaped the approach to procuring the EH101 helicopter to replace the Sea King fleet, which, had it not been cancelled, would have seen the support arrangements established with the Canadain industry.[35]

Subsequently, for the remainder of the 1990s adhering to this approach proved relatively unproblematic to accomplish because the subsequent RCAF procurements were sourced in Canada, starting with the CC-150 Polaris purchase in 1992 from Canadian Airlines, as well as the purchase of Challenger aircraft and Griffon helicopters.[36] At the same, a shift progressively emerged to revise the approach to procuring ISS activity, with some second and first-line maintenance activity being procured from the industry, the focus of ISS shifting to entire platforms or even fleets, and support

[32] COGINT. *Approaches to In-service Support (ISS): Final Report to the Aerospace Review Secretariat* (Ottawa: Aerospace Review, 2012), p. 27.
[33] Alastair D. Edgar and David G. Haglund, *The Canadian Defence Industry in the New Global Environment* (Montreal: McGill-Queen's University Press, 1995).
[34] Canada, *Challenge and Commitment*, Ottawa: Department of National Defence, 1987, p. 75
[35] Plamondon, The Policitcs of Procurement
[36] Ross Howard and Alan Freeman, "Deal for Helicopters Defended Minister Accuses Critics of Opposing Only Contracts that Go to Quebec," *The Globe and Mail, 2525* April 1992.; Ross Howard and Alan Freeman, "Favouritism Alleged in Helicopter Deal Ontario Firm Not Allowed to Bid on $1-Billion Contract," *The Globe and Mail, 16*April 1992.

arrangements shifting to fewer contracts including both the actual support and the management of support arrangements, with significantly increased duration.

The first component of expanding the scope of procured ISS was precipitated by the 1994 White Paper, which directed that DND "explore innovative ways to acquire and maintain equipment"[37] in general, and specifically directed the RCAF to examine its maintenance arrangements for the planned purchase of a search and rescue helicopter. The 1998 contract to acquire the Cormorant was therefore signed with the expectation that it would be fully supported by industry, and as a result, the Cormorant remains the only RCAF aircraft for which all three lines of maintenance (along with program management, airworthiness certification, engineering, logistical support and technical training) is fully contracted.[38]

At about the same time in the late 1990s, DND also adopted a significant approach to procuring in-service support for its existing fleets. At the time, it was managing thousands of individual contracts for the maintenance of its fleets, but following the serious staffing reductions in the 1990s, it was increasingly difficult to manage what had evolved into thousands of contractual transactions with hundreds of firms. What was labeled the Optimized Weapons System Management approach was launched in 2002 for four RCAF fleets, the CF-18 Hornet, C-130 Hercules (E/H) models, CP-140 Aurora aircraft, and CH-146 Griffon. The first two OWSM contracts were signed in June 2005 for the CP-140; a $342 million contract for the avionics and a $492 million contract for the airframe, with L-3 and IMP respectively.[39] In October 2005 the $423.4 million, six-year airframe contract for the CC-130 was signed with Cascade Aerospace, and the avionics

[37] Canadam 1994 Defence White Paper, p. 41.
[38] Ken Ready, Interview with Sharon Hobson, Provided to the Author. 24 September 2001.
[39] Department of National Defence. *Audit of CP140 Optimized Weapon System Support (OWSS) Avionics Contract* (Ottawa: Chief Review Services, 2013. Department of National Defence. *Internal Audit: CP140 Maintenance Contracts* (Ottawa: Chief Review Services, 2007); Anonymous "Maintaining Canada's CP-140 Aurora Fleet," Defense Industry Daily, 28 August 2013, http://www.defenseindustrydaily.com/canada-moves-to-longterm-performancebased-contracts-for-its-p3-fleet01474/.

contract in April 2013.[40] As a result of these new arrangements, the requirements for a large contract management staff were significantly reduced, as both the number of overall contracts and their duration resulted in a greatly reduced workload.

Beginning in 2004, DND also began developing a framework to link acquisition and support contracts. This shift to awarding contracts for both equipment acquisition and support to one firm was an attempt to make one party contractually responsible for both supplying and maintaining a weapons system, with the intent of establishing a clear accountability regime. This concern arose out of the Cormorant acquisition, and serious issues regarding the helicopter's availability and capability, including numerous mechanical problems and a subsequent unavailability of spare parts. [41] There were several technical issues with the nature of the contract, that muddied the accountability for the OEM and ISS firm, and restricted access to Intellectual Property required to conduct maintenance.[42] The net result of the maintenance contract being unassociated with the one for acquisition, in DND was that they had effectively been left as the "meat in the sandwich"[43] as the helicopter manufacturer and support firm each blamed each other for the availability problems. As a result, DND moved to eliminate such split accountabilities beginning with the contract for Maritime Helicopters, where the procurement of Sikorsky S-92 *Cyclone* contained two interrelated contracts. The first, valued at $1.8 billion was for the acquisition of 28 helicopters. The second was a $3.2 billion contract for twenty years of in-service support.[44]

---

[40] Cascade Aerospace Inc., "Cascade Aerospace Wins C-130 Avionics Contract with Canada's RCAF," 28 August 2013, http://www.cascadeaerospace.com/news/cascade-aerospace-news/74-news-apr-16.; Cascade Aerospace Inc., "Cascade Aerospace and Herc Solutions Celebrate Arrival of First CC-130 Hercules Aircraft for Maintenance," Cascade Aerospace Inc, 28 August 2013, http://www.cascadeaerospace.com/component/content/article/1-news/47-news-1 May.

[41] Williams, Reinventing Canadian Defence Procurement, p. 28.

[42] Department of Naitonal Defence, Review of the Canadian Search and Rescue Helicopter Acquisition (Cormorant) Ottawa: Chief Review Services, 2007.

[43] Williams, *Reinventing Canadian Defence Procurement* , p. 28.

[44] L-3 Communications MAS (Canada) Inc., "History of L-3 MAS,"27 August2013, http://www.mas.l-3com.com/history.asp.

This model was subsequently used in 2006 for the C-17, C-130J, CH-147 all of which were to include 20-year support contracts.[45] Lockheed Martin's seven-year contract valued at $723 million makes the company responsible for all third and some second-line maintenance of the C130J. It is furthermore responsible for the supply chain, management of all subcontractors and the in-service support of the Department's training facility.[46] Boeing is responsible for the CH-147's support for 20 years, at an estimated cost of $2.7 billion, with the first five-year period taking effect in June 2013.[47] Support for the C-17 fleet is estimated at $1.6 billion, over 20 years through a contract as part of the Boeing global support system with only first-line maintenance performed by RCAF maintainers.[48] Together, these projects had represented a signficiant departure from historical Canadian approaches to maintaining aircraft.

Almost as quickly as this shift to bundling together acquisition and support contracts as a means of acquiring ISS started, however, it began to change. In 2013, an effort to revise DND's approach to maintenance called the Sustainment Initiative was launched "To optimize weapon system performance and value for money through the implementation of sustainment best practices."[49] This saw a move away from a one-size-fits-all approach to ISS, towards using individual business case analysis for each procurement project, in consultation with the defence industry, to develop tailored support arrangements for each weapons system. This move was reinforced by the launch of the Defence Procurement Strategy by the Harper Government in February 2014. While it also aimed to streamline the procurement process and deliver the right military

[45] Canada. ""Canada First" Defence Strategy Procurement," Department of National Defence, retrieved using the Internet Archive 'Wayback Machine'," accessed 4 March 2014, https://archive.org/web/.

[46] Canada, *Chapter 5: Maintaining and Repairing Military Equipment*

[47] Canada, "Fact Sheet - Medium-to-Heavy Lift Helicopter Project," Department of National Defence, 28 August 2013, http://www.forces.gc.ca/en/news/article.page?doc=medium-to-heavy-lift-helicopter-project-status/hgndblkw.

[48] Canada, *Evaluation of Aerospace Equipment Maintenance*

[49] Canadian Association of Defence and Security Industries, *CADSI Royal Canadian Navy Outlook* (Conducted Under Chatham House Rule), (Ottawa, 2014).

equipment to the forces in a timely manner, the initiative focused on "leveraging … purchases of defence equipment to create jobs and economic growth in Canada."[50] Key to this change was reforming Canada's IRB policy into an Industrial and Technological Benefits (ITBs) policy. As part of this revised approach, all contracts in excess of $20 million, might, and all those greater than $100 million will, have "rated and weighted" Value Propositions that are considered as part of the evaluated portion of the bid for procurement projects. The Value Propositions will focus on actions that lead to improved domestic economic outcomes, particularly those that provide for: investments that strengthen Key Industrial Capabilities (which include ISS); investments that support enhanced productivity in Canadian firms; and broader industrial and technological high-value activities, such as a "technology transfer."[51]

This shift was influenced by pressure from the domestic aerospace industry, which was disadvantaged by the approach to combining acquisition and ISS contracts. In 2011 the Auditor General expressed concerns that designating OEMs as the default prime contractors for maintenance and repair would diminish opportunities for Canadian companies and see much of the value-added work like engineering design done outside of Canada.[52] An internal National Defence audit expressed similar concerns about the domestic Canadian aircraft industry in particular [53] and the Aerospace Industry Association of Canada and Canadian Association of Defence and Security Companies echoed these sentiments in reports submitted to the Government. [54] The Aerospace Review, led by David Emerson, reflected a similar sentiment and recommended that "when the Government seeks to buy aircraft and aerospace-related equipment, each

[50] Canada, "Defence Procurement Strategy," Public Works and Government Services Canada, 3 Novemebr 2021 https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/samd-dps/index-eng.html
[51] Canada, "Value Proposition and Industrial and Technological Benefits," Industry Canada. accessed 6 February 2014, http://news.gc.ca/web/article-en.do?nid=813549.
[52] Canada, Chapter 5: Maintaining and Repairing Military Equipment
[53] Department of National Defence, *Evaluation of Aerospace Equipment Maintenance*
[54] CADSI Marine Industries Working Group, *Sovereignty, Security and Prosperity* Ottawa: Canadian Association of Defence and Security Industries, 2009; Aerospace Industries Association of Canada, *Aerospace Perspectives on Defence Procurement Renewal* (Ottawa: 2009).

bidder be required to partner with a Canadian firm for in-service support."[55] These reports have argued that, without an effort by the Canadian Government to direct that ISS be performed in Canada, as it has been in the past, Canadian firms have only been relegated to low-value work as part of the prime contractor's IRB obligations. Since the creation of Canada's IRB policy in the mid-1980s, ISS and Industrial Regional Benefits have been linked as a means of providing "a connection between procurement and the nation's industry."[56] In addition to work secured directly from the crown, the IRB program, with a requirement for 100 percent economic offsets into the domestic economy, has often resulted in significant work for Canadian ISS firms as part of a prime contractor's IRB obligations. These arrangements have been largely focused on the aggregate dollar value of work performed under the arrangements. Under the old arrangements, the Canadian Government ensured domestic firms had access to the Technical Data Packaged and IP needed to perform value-added work and secure export opportunities. With the C17, C130J and Chinook purchases, access to this data and IP was not obtained, and thus Canadian firms were limited to performing work with little added economic value. The creation of the ITB policy and its incentivization of domestically provided ISS contracts represented a return to a more historically traditional Canadian approach to procuring the maintenance of RCAF fleets.

Procurement Issues: **Politicization**

A pointed criticism of the Canadian defence procurement system is that it is pervaded by politicization. This notion is espoused in particular by Plamandon and Nossal, with the latter arguing that Canadian politicians are "tempted by the opportunity to politicize defence procurements."[57] The notion that politicization is a problem for Canadian

[55] David Emerson. *Beyond the Horizon* Ottawa: Public Works and Government Services Canada, 2012.
[56] Craig Stone, "Defence Procurement and Industry," in *Canada's National Security in the Post-9/11 World*, ed. David S. McDonough (Toronto: University of Toronto Press, 2012), p. 73.
[57] Kim Richard Nossal, "A cautionary Tale," *Policy Options*, 16 January 2016 https://policyoptions.irpp.org/magazines/january-2016/acautionarytale/

defence is underspecified in this author's opinion, as the decisions and activities of politicians are by definition, political acts. While Nossal suggests that making defence decisions for "non-defence" reasons can be construed as politicization, the other considerations involved in procurement fairness, transparency, domestic economic benefits, value for money, and other considerations have been longstanding considerations for a range of Canadian governments, and supersede any particular set of partisan interests. However, there have been some clear circumstances where political parties have taken positions on defence procurements about the selection of particular pieces of equipment in their campaign platform, in what were clearly partisan acts, most notable of which happened to revolve around RCAF procurement projects.

In their 1993 campaign platform *Creating Opportunity*, the Liberal Party of Canada pledged to tackle the national deficit, and the very first initiative listed to help achieve that was the cancellation of the $5.8 Billion EH 101 Helicopter purchase.[58] That move, which came with a multi-million dollar cancellation penalty created reverberations still felt in 2024, as the Sikorsky Cyclone which Canada purchased instead has not yet had the full fleet of helicopters delivered, nor with the capabilities required. The cancellation of the Maritime Helicopter project by the Chrétien government is viewed as one of the clearest instances of politicization of Canadian defence procurement.[59] Following a close second, however, was a similar move, once again by the Liberal Party of Canada in their 2015 election campaign platform where they promised to "not buy the F35 stealth fighter-bomber"[60] but instead "immediately launch an open and transparent competition to replace the CF-18."[61] The party promised to reduce the procurement budget for replacing Canada's existing fighter aircraft and instead purchase a lower-priced alternative that better matched the party's conceptualization of Canada's defence needs. An effort to purchase 18 Boeing Super Hornet aircraft as an interim fighter aircraft for the Canadian

[58] Liberal Party of Canada, *Creating Opportunity* Ottawa: 1993.
[59] Plamandon, *The Politics of Procurement* Kim Richard Nossal, *Charlie Foxtrot* Toronto: Dundurn Press, 2016
[60] Liberal Party of Canada, A *New Plan for Strong Middle Class*, Ottawa: 2015, p. 70.
[61] Ibid.

aircraft was launched in 2017, but ultimately cancelled after a trade action from Boeing's commercial business was launched against Bombardier an act the Canadian government described as not that of a 'trusted supplier,' and a 'Boeing clause' penalizing firms accused of creating economic harm to Canada was written into procurement regulations.[62] In the end, the Trudeau government procured second-hand CF18 Hornets from Australia to provide an interim capability for the RCAF and also ran a competition which the F35 ultimately won.

Procurement Issues: Military Requirements and a Loss of Trust

In 2009, following a period of protracted stagnation with the Fixed Wing Search and Research Aircraft project, in part because of contestation of some key capability requirements, including a rear ramp, in 2009, Public Works and Government Services Canada contracted the National Research Council to independently review the Statement of Operational Requirement for the project. The review concluded that the original requirements document was "over-constrained"[63] in a way that limited the number of potential industry solutions and the RCAF was directed to re-write the Statement of Operational Requirements. The re-write of the requirements documents resulted in the project shifting away from a desire to sole source the procurement to a competitive procurement approach, ultimately won by Airbus with their C295 in 2016.[64]

In a similar vein, the Office of the Auditor General of Canada's 2010 audit of military helicopter purchases found significant issues related to the articulation of capability

[62] Iris Liu, *More Harm than Good? The Economic Assessment Clause and Canadian Defence Procurement* Calgary: Canadian Global Affairs Insitute, 2021 https://www.cgai.ca/more_harm_than_good_the_economic_assessment_clause_and_canadian_defence_procurement

[63] Canada, Review of the Statement of Operational Requirement for the Fixed Wing Search and Rescue Aircraft, Ottawa: Department of National Defence, 2010 http://www.forces.gc.ca/en/about-reports-pubs/fixed-wing-search-rescue-aircraft-2010.page

[64] Stewart Downing, "Airbus C295W wins $3.1-B FWSAR contract," *Vanguard* 8 December 2016, https://vanguardcanada.com/airbus-c295w-wins-3-1-b-fwsar-contract/

requirements, particularly the need to make modifications to existing helicopters and how the risks associated with doing so were recognized and briefed to decision makers. In each case, the Canadian projects took existing aircraft that were in production but made significant adaptations. In the case of the Maritime Helicopter, the project entailed the modification of Sikorsky S-92 which operated for civilian purposes, for use at sea with the navy through the insertion of a complex mission system and other changes. The rest, according to the OAG was that Canada had "entered into an agreement with Sikorsky to develop a new helicopter."[65] Internal approvals within National Defence, though, had described the project as 'non-developmental' and the project's management and governance structure was established on that basis. In the OAG's assessment, National Defence did not adequately assess the developmental nature of the aircraft and therefore the implications for the weapon system's cost and the schedule. As of early 2024, despite a very significant effort to renegotiate the contract for the project in 2014, not all aircraft have yet been delivered and the aircraft does not yet have all of the performance requested in the 2014 contract revision.[66]

Similarly, the purchase of the CH47 Chinook helicopter from the base F model involved changes significant enough that they added 70% to the expected costs and therefore an extra two years of contract negotiations. The changes also added additional months to the project as they required a process of airworthiness certification, which was itself a requirement to substantiate a sole source purchase and also further ran counter to the project's objectives of quickly acquiring the fleet to support operations in Afghanistan, which had been one of the basis for pursuing a directed procurement without a competition. The changes to the aircraft therefore undermined two specific aspects of the purchase that were used to substantiate its sole source purchase.

[65] Canada, *Chapter 6 Acquisition of Military Helicopters* 13.
[66] "'Other options' sought for Sea King helicopter replacements," *CBC News*,5 Septemebr 2013 https://www.cbc.ca/news/politics/other-options-sought-for-sea-king-helicopter-replacements-1.1386505 ; Murray Brewster, "Air force worried about keeping new maritime helicopters' weapons systems operational," *CBC News* 10 Janaury, 2024 https://www.cbc.ca/news/politics/cyclone-helicopter-canadian-forces-1.7079088

Furthermore, the project had been briefed to the Treasury Board of Canada as an 'off the shelf' procurement, a claim that the OAG contested stating that "National Defence understated the complexity of configuring this helicopter"[67] and knew that extensive modifications to the existing model of the helicopter were required and planned, but did not present that information to the Treasury Board.

Substation of requirements also proved problematic for the aborted effort in 2010 to purchase the F35. The OAG identified several issues with the file, including the basis upon which the Department of Defence had decided that the F35 should be purchased as a sole source acquisition. As their audit found, the sole source acquisition of the F35 was put forward under the exemption to Canada's contracting regulations on the basis that only one supplier could meet Canada's needs. PWGSC had questioned whether this was the case, and contrary to established procedures, was only provided by DND with a letter substantiating the decision prior to the announcement of the way forward. A statement of operational requirement was only provided after the recommendation to the sole source was made, further calling into question the validity of the assertion tied to capability requirements.[68] While concerns over the plane's costs appeared more influential in derailing the initial attempt to purchase the aircraft,[69] concerns about the validity of the RCAF's requirements were also a consideration. In response, the Harper government created a Seven Point Plan to deal with the file, including the creation of an independent panel to assess the capabilities of various aircraft against Canada's defence needs, essentially providing an external validation of Canada's capability requirements and their assessment that the F35 was the only means of meeting them.

As a result of several issues with procurement projects, but notably those RCAF projects detailed here, by the mid-2010s the most significant defence procurement issue in Canada

[67] Canada, *Chapter 6 Acquisition of Military Helicopters*, p. 24.
[68] Canada, Report of the Auditor General of Canada—Spring 2012: Chapter 2 Replacing Canada's Fighter Jets, Ottawa: Office of the Auditor General of Canada, 2012.
[69] Laura Payton, "F-35 fighter jet cost questions date back to 2010," *CBC News* 12 April 2012 https://www.cbc.ca/news/politics/f-35-fighter-jet-cost-questions-date-back-to-2010-1.1203376

was that trust and faith between the different players in the system, had been lost. In the Harper government, multiple failed procurements and the OAG reports outlined above had significantly reduced faith that the military and procurement bureaucracy was exercising appropriate due diligence. Tensions also existed throughout the wider bureaucracy, as the working relationship between DND and other departments was strained.[70]

As a result of these identified issues with operational requirements, primarily with projects for the RCAF, when the Harper government initiated a procurement reform effort in 2014 the Defence Procurement Strategy, it focused much of its efforts on improving the generation of military requirements, attributing issues with cost and delay to weaknesses in this area. In announcing the new approach, the then Minister for Public Works stated, "Requirements are too complex. Too often they appear to be set to achieve pre-determined outcomes." [71] To improve this aspect of procurement, the strategy created an Independent Review Agency for Defence Acquisitions to provide for external scrutiny of military capability requirements. The panel's mandate is "examining and challenging the foundational logic for projects"[72]

In Conclusion and Looking Forward

Across the CAF, keeping pace with emerging technology as it evolves in the commercial industry and is deployed by Canada's allies poses a significant challenge as the pace of technological evolution is exceeding the speed of the Canadian procurement system and straining the DND/CAF's ability to maintain the technological relevance of in-service

[70] David Perry, *Putting the 'Arms' back into the Canadian Armed Forces*, Ottawa: Macdonald Laurier Institute and Conference of Defence Associations Institute, 2015.
[71] The Honourable Diane Finley, "Defence Procurement Strategy," Speech to the Economic Club of Canada, 5 February 2014.
[72] Canada, "Mandate of the Independent Review Panel for Defence Acquisition," 121 Septemeber 2018 https://www.canada.ca/en/independent-review-panel-defence-acquisition/corporate/mandate.html

fleets using existing in-service support and mid-life upgrade models.[73] A recognition that the current approach is not adequately allowing for this is driving the Continuous Capability Sustainment Initiative, to adapt existing practices, promoted by DND's Materiel Group.[74] This is an especially significant issue for the RCAF, as its vision of the future is inextricably linked with the incorporation of emerging technologies as it positions its future as one of 5th Generation capability, with the notion that it will "continuously adapt to technological advances."[75] Air Force procurements then, will only be more impacted in the future by an ongoing inability to introduce greater agility and speed of execution into the procurement system. Similarly, the adoption of a Continuous Capability Sustainment approach to maintaining in-service capability could have significant implications for Canada's approach to procuring the in-service support of RCAF fleets, but what this will portend is at this point uncertain.

A second future challenge is an increased focus on both lethality and Interoperability with key allies. This trend will bring the tension inherent in many RCAF projects between the RCAF's interest in purchasing from American suppliers for capability reasons, including interoperability and Canada's ITB policy intended to foster investment in the domestic aerospace industry. That tension was most recently manifest over the course of 2023 in public discussions of the Canadian Multi-Mission Aircraft project. While the government ultimately selected the Boeing P8 Poseidon, to be purchased through a Foreign Military Sales transaction, after significant pressure from Canadian companies and the premiers of Ontario and Quebec, to have the procurement proceed on a competitive basis. At the time of writing, the majority of the RCAF equipment procurement projects that had not yet been awarded were those related to NORAD

[73] Chief of Review Services, *Integrated Strategic Analysis: Force Development* Ottawa: Department of National Defence, November 2021.
[74] Canada, "Proactive Disclosure: House Standing Committee on National Defence (NDDN) – Main Estimates 2023-2024 – May 2, 2023." 31August 2023 https://www.canada.ca/en/department-national-defence/corporate/reports-publications/proactive-disclosure/nddn-main-estimates-2-may-2023/procurement.html
[75] Brigadier General Chris McKenna, *RCAF Force Development Update*, CADSI RCAF Outlook, 5 April 2023.

modernization. Given the imperative that any purchases for that modernization effort must work seamlessly with the United States Armed Forces under the world's only binational military command, the tension between capability requirements driven by interoperability considerations and Canada's ITB policy is likely to increase.