

Smart Defence

A Plan for Rebuilding Canada's Military

Michael Byers





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Executive Summary

CANADA IS A significant country. With the world's eleventh largest economy, second largest landmass and longest coastline, one could expect it to have a well-equipped and capable military. However, most of this country's major military hardware is old, degraded, unreliable and often unavailable.

When the Harper government came to power in 2006, it pledged to rebuild Canada's military. But for nine long years, it has failed to deliver on most of its promises, from new armoured trucks and supply ships to fighter jets and search-and-rescue planes. For Canada's next government, this crisis in defence procurement presents both a challenge and an opportunity — to rebuild the military from the ground up, and to do so in a way that addresses the country's actual needs.

To make the right choices, Canada's next government will need to be both objective and strategic. For this reason, it will need to engage in a fully and publicly informed foreign and defence policy review. It will also need to be bold in order to overcome vested interests and ingrained ways of thinking. It will need to be pragmatic, with a focus on actual needs rather than political considerations. And it will need to keep a careful eye on the public purse at all times.

Some of the recommendations in this report are designed to fix the damage done to core components of the Canadian Armed Forces by the Harper government. These decisions will need to be taken immediately, concurrent with the foreign and defence policy review and regardless of its outcome.

One recommendation requiring immediate action involves cancelling the planned procurement of F-35s.



USNS Sioux towing HMCS Protecteur in March 2014

Others involve the rapid completion of long-delayed procurements, including supply ships for the Royal Canadian Navy and rifles for the Canadian Rangers. Further recommendations, such as cancelling the submarine program, can wait until the foreign and defence policy review is complete.

This report also recommends improvements to the procurement process itself. One such improvement involves untying the red tape around Industrial Regional Benefits by eliminating the ‘Key Industrial Capabilities’ and ‘Defence Analytics Institute’ created by the Harper government.

Together, the recommendations in this report would:

- Save more than \$10 billion, over twelve years, as compared to the amount the Harper government has been planning to spend.
- Increase capabilities on most fronts, including Arctic and coastal surveillance, search and rescue, disaster and humanitarian relief, and peacekeeping.
- Maintain jobs in the Canadian defence, aerospace and shipbuilding industries by honouring or renegotiating existing contracts and adding the possibility of Canadian-made search-and-rescue planes.

I. Crisis Presents Opportunity

CANADA IS A significant country. We have the world's eleventh largest economy, second largest landmass and longest coastline. And while we live in a 'safe neighbourhood' away from conflict zones and alongside a powerful ally, we face challenges at home and abroad that require a well-equipped and capable military.

However, the Canadian Armed Forces are facing a crisis. Since promising to spend \$490 billion on the Canadian military over the next 20 years in 2008, Prime Minister Stephen Harper has reduced defence spending to just 1.0 percent of GDP – the lowest level in Canadian history. Earlier this year, another \$2.7 billion in cuts were imposed on Canada's military.¹

The spending reductions have had serious repercussions. Most of Canada's major military hardware is old, degraded, unreliable and often unavailable. The Canadian Army cannot deploy large numbers of troops overseas because of a shortage of armoured trucks; the Royal Canadian Navy cannot form a task group on either coast, having decommissioned its worn-out supply ships; and the Royal Canadian Air Force is struggling to maintain aircraft that, in many cases, are twice the age of their pilots.

Unfortunately, there are few replacements in sight due to neglect and mismanagement on the part of the Harper government. In 2008, the Prime Minister's Office prioritized replacing Canada's aging destroyers, frigates, maritime patrol aircraft, search-and-rescue planes, fighter jets and combat

vehicles.² But it took until January 2015 before the first construction contract was signed for any of that equipment.

The crisis in defence procurement presents both a challenge and an opportunity for Canada's next government – to rebuild the military from the ground up, and do so in a way that addresses this country's actual needs.

To make the right choices, Canada's next government will need to be both objective and strategic. For this reason, it will need to engage in a fully and publicly informed foreign and defence policy review. It will also need to be bold in order to overcome vested interests and ingrained ways of thinking. It will need to be pragmatic, with a focus on actual needs rather than political considerations. And it will need to keep a careful eye on the public purse at all times.

It is time for a more objective and reasoned approach to defence policy. It is time for 'Smart Defence'.

II. Roots of the Crisis

DURING THE COLD War, Canada's defence spending was comparable to that of Denmark, Germany, the Netherlands and Norway. These four NATO countries currently devote 1.4 percent of GDP to the military.

Following the Cold War, Canadian prime ministers Jean Chrétien and Paul Martin reduced defence spending to 1.2 percent of GDP, leading to what General Rick Hillier referred to as the “decade of darkness” for the military.³

Beginning in 2005, the counterinsurgency mission in Kandahar, Afghanistan, necessitated an increase in spending that returned the level to 1.4 percent of GDP by 2009. But then the Harper government cut deep: at 1.0 percent of GDP, Canada's new defence spending peers are Belgium, Latvia and Slovakia.⁴

Two factors account for most of this sizeable decrease.

First, the Harper government has focused on delivering a surplus in 2015 to enable pre-election tax cuts. This has required deep spending reductions and, with no significant missions underway or anticipated, the military was an easy target. In 2013, reduced maintenance budgets forced the Canadian Army to park many of its trucks and prompted the Royal Canadian Navy to tie up half of its patrol vessels. The Royal Canadian Air Force was compelled to cut back on maintenance of its CF-18 fighter jets, with potential safety consequences for its pilots. In 2014, defence spending was further reduced by \$3.1 billion, with resultant decreases in maintenance and training budgets. In 2015, another \$2.7 billion in cuts were imposed upon Canada's military.⁵

The reduction in military spending to 1.0 percent of GDP is not in itself a bad thing. But the mistakes and misallocations made with respect to that money have badly compromised the ability of the Canadian Armed Forces to fulfill any missions — including Arctic and coastal surveillance, search and rescue, humanitarian and disaster relief, and peacekeeping.

Second, whether by mistake or design, the Harper government has failed to complete a number of major defence procurements, and these delays have kept the projects off the federal budget. For it is the year of spending and not the year of announcing or contracting, that determines when expenditures first show up on the balance sheet.

The delayed procurements have also created a ‘bow wave’ of deferred spending. As timelines are pushed back, inflation will add substantially to costs, while forcing reductions in the quantity and quality of equipment procured. In other words, by pushing tens of billions of dollars in defence spending on to future budgets, the Harper government is imposing massive cutbacks in capabilities onto present and future generations of soldiers, sailors and pilots.

Consider the following examples. In 2006, the Harper government first issued a ‘request for proposals’ to replace the Navy’s rusting-out supply ships. Since then, the project has been cancelled and re-started, and the Navy has had to retire both ships without replacements in sight. New vessels are now planned for 2021, postponing the \$2.6 billion expense until then.

In 2006, the Harper government also promised 1,300 armoured trucks to replace a fleet the Army warned was at risk of “catastrophic failure.”⁶ To date, no manufacturer has been selected and \$800 million remains unspent.

At the same time, the government promised search-and-rescue planes to replace the Air Force’s half-century old fleet. Once again, no contract has been signed, leaving \$1.9 billion unspent.

In 2007, Harper personally promised the Navy six to eight Arctic/Offshore Patrol Ships. A construction contract was signed in January 2015, but for only five to six vessels. And the \$3.5 billion expense — up from the \$3.1 billion initially projected — will not actually be counted until well after the election.⁷

In 2010, the Harper government announced that 65 F-35 Strike Fighter jets would be purchased to replace the three-decade old CF-18s,⁸ with a life-cycle cost of \$16 billion. But no contract was signed and the decision was postponed after it was revealed that the life-cycle cost would be closer to \$45 billion — and quite possibly much higher.⁹

In 2011, the Harper government announced that the Navy’s destroyers and frigates would be replaced with 15 new Canadian Surface Combatants.

In 2014, the Navy retired two of its three remaining destroyers, HMCS *Iroquois* and HMCS *Algonquin*, because of rust damage to their hulls. In January 2015, the government signed a \$26 billion uncompetitive, sole-source contract with Irving Shipbuilding for the Canadian Surface Combatants, making it the principal contractor for the project. But with no deliveries expected until at least 2025, the \$26 billion cost will not appear on any federal budget during this decade.

Finally, there is the enduring effort to replace the half-century old Sea King maritime helicopters. The Martin government signed a contract for Cyclone helicopters in 2004, with deliveries promised for 2009. The Harper government renegotiated the contract in 2014, relaxing some of the safety requirements. It also permitted the delivery date of fully complete Cyclones to slide to 2018, thereby delaying more than \$1 billion in spending until then.

As a result, the Harper government's budget surplus is merely an illusion. The scale of the delayed spending is such that there is, in fact, a substantial 'off the books' federal deficit — resulting from the deferral of over \$40 billion in acquisition costs for equipment that should have been delivered by now.

Inflation — which is higher in the defence industry than in the general economy — means that these deferred purchases will further increase final costs and, with that, pressure for reduced orders and lowered capability requirements. Failing to recapitalize the military in a timely manner has created a veritable procurement abyss, as rusting-out equipment becomes increasingly expensive to replace.

Substantial cost uncertainties, some of which are the result of officials choosing equipment that is still in the developmental phase, or requiring substantial modifications to off-the-shelf equipment (a practice known as "Canadianization"), are also likely to increase final costs. This is a particularly large risk with the Canadian Surface Combatants, since modern warships involve complex radar and weapons systems that are based on fast-evolving, expensive technologies. Additional risks arise from the Harper government's systematic refusal to reveal the cost projections of this procurement, as occurred with the F-35s.

The fact of the matter is, nobody knows how much these delayed procurements will actually cost. All we know for certain is that the expenses are being offloaded on future governments — and future generations of taxpayers. And, that the men and women of the Canadian Armed Forces are on course to end up with less equipment — and in some cases less capable equipment — than they need.

It is difficult to overstate the scale of the problem that has been created. Yet the crisis presents an opportunity for Canada's next government to rebuild the military in a smart and strategic manner. It is time to equip Canada's military for this country's actual needs — at a price that taxpayers can afford.

III. Smart Defence: Specialization and Burden Sharing

CANADA DOES NOT have a ‘full-service’ military with a full range of capabilities. We do not have nuclear weapons, despite participating in the Manhattan Project between 1942 and 1946. We do not have an aircraft carrier, despite operating three such vessels between 1946 and 1970. We do not have nuclear-powered submarines able to operate under sea-ice, despite having the second longest Arctic coastline. Canada’s decision to forgo a full-service military is the result of policy choices made by successive governments, based on needs, costs and opportunities for burden sharing with allies. Canada has long practiced a form of ‘Smart Defence’.

1. What is Smart Defence?

NATO introduced the concept of ‘Smart Defence’ in 2010 in response to defence spending cuts in a number of NATO countries, and concerns about the capabilities of different NATO militaries and their ability to operate together.¹⁰

Essentially, ‘Smart Defence’ is about burden sharing. Through better coordination and cooperation, burden sharing enables NATO countries to give up some capabilities — thus saving money — while specializing and upgrading

in other areas. This, in turn, enables the alliance to retain its strength, even while individual members spend less on their militaries.

Canada has been putting ‘Smart Defence’ into action for much longer than the term has existed. Instead of operating aircraft carriers or nuclear powered submarines, we leave tasks requiring those capabilities to the United States, United Kingdom and France. Our less-than-full-service military is made up of a small peacekeeping- and counterinsurgency-capable army organized around 550 newly refitted LAV III light armoured vehicles; a small navy organized around twelve middle-aged frigates; and a small air force organized around new transport aircraft and old but capable fighter jets.

Just about every decision on defence procurement has implications with respect to burden sharing. When the Harper government builds Arctic/Offshore Patrol Ships with a top speed of just 17 knots, it is choosing to rely on the US Coast Guard for assistance in catching drug smugglers using ‘fast boats’ along Canada’s Atlantic and Pacific coasts. If it buys F-35 ‘strike fighters’, it is choosing to rely on allies with purpose-built ‘air superiority’ jets to protect Canadian planes against enemy fighters, because the compromises made to reduce the radar signature of the F-35 have resulted in a plane that is ill-suited for aerial combat.

Decisions about burden sharing must be made carefully, not least because some military capabilities are essential companions to other capabilities. The Air Force learned this lesson while in Afghanistan, when its lack of medium- or heavy-lift helicopters left the Army reliant on allies for whom the transport of Canadian troops was not always a top priority. Similarly, the Air Force lacks aircraft suited for close air support, which again left the Army reliant on allies.

When looking for opportunities for specialization and burden sharing, a good place to start is the missions that the Canadian Armed Forces are actually being tasked with, and the kinds of equipment they use and need.

2. What Kinds of Missions Have the Canadian Armed Forces Recently Been Given?

Guidance as to Canada’s actual military equipment needs can be extracted from those missions assigned to the Canadian Armed Forces in recent years, and the kinds of major equipment deployed. One does need to add two caveats here. First, the types of equipment possessed by the Canadian Armed Forces will affect the kinds of missions they are asked to take on. For ex-

ample, the Air Force lacks combat-capable planes designed to fly low and slow, and is therefore not tasked with providing close air support. Ideally, the missions should determine the equipment and not the other way around. Second, the following analysis of past missions does not substitute for the full foreign and defence policy review that Canada's next government will need to undertake. It is important to look forward as well as backward when making procurement decisions. Past missions constitute essential background, but they are only a starting point for analysis.

Annex 1 of this report lists the Canadian military's 47 named or otherwise significant missions from 2000 to 2014.¹¹ An analysis of this list shows that more than half of the missions involved the deployment of personnel only, for tasks including training, providing strategic advice to foreign governments and militaries, reconstruction, monitoring and peacekeeping for both UN and non-UN operations, and conflict mediation.

The Air Force is the most active service, and engages in missions involving search and rescue, maritime surveillance, patrol and interdiction as part of NORAD operations, troop and equipment transport, disaster and humanitarian relief, and ground attack (though not close air support) in situations of air superiority, in coalition operations only.

The Navy is mostly involved with the interdiction of non-state actors, including suspected terrorists, smugglers, illegal immigrants and vessels engaged in illegal fishing. Occasionally, it plays a role in disaster and humanitarian relief operations, including the evacuation of Canadian citizens from danger zones. The Navy usually acts in concert with other countries.

Whenever the Army deploys overseas with major equipment, the mission is directed against non-state actors. Missions range from monitoring, peacekeeping and mediation, to patrol and combat operations – though never combat against state actors or, indeed, against any actors with heavy armour or air assets. Army missions overseas are always coalition operations.

Over the course of the last 15 years, the Canadian Armed Forces have not engaged in combat with professional militaries. As a result, they have no demonstrated need for the capabilities involved in attacks on foreign air defences and control centres, combat involving tanks and other heavily armoured vehicles, or naval battles involving advanced air-and-missile defence systems.

3. Six Core Missions

On the basis of this analysis of operations undertaken between 2000 and 2014, it is possible to identify six core missions that the contemporary Canadian military have been asked to fulfill:

1. Surveillance and defence of coastlines and airspace in Canada;
2. Search and rescue and disaster relief in Canada;
3. Humanitarian, peacekeeping and combat missions against non-state actors overseas;
4. Naval patrol and interdiction missions against non-state actors overseas;
5. Air strikes against ground targets overseas, in coalition operations involving air superiority; and
6. Air transport

These six core missions provide essential background, and thus a starting point for planning the rebuilding of Canada's military. Most significantly, this analysis shows that the Canadian Armed Forces are never actually tasked with high intensity state-to-state combat missions.

IV. A Plan for Rebuilding the Canadian Armed Forces

THE PREVIOUS SECTION of this report identifies six core missions undertaken by Canada's military between 2000–14, although as noted, the type of equipment held by the military will affect the nature of the missions assigned. The kinds of missions will also depend on the preferences and policies of the government of the day and the challenges it encounters. These are all reasons why Canada's next government will need to conduct a fully and publicly informed foreign and defence policy review.

In the meantime, it is important to consider how Canada's next government can support the military's core missions through procurements that are practicable, affordable and — because of the degraded state of much of the current equipment — rapidly achievable. This section makes recommendations with regard to all three armed services as well as the Canadian Coast Guard.



CP-140 Aurora

1. Royal Canadian Air Force

Recommendation 1: Refit four more Aurora maritime patrol airplanes and increase the flying hours for the fleet

The Air Force plays an important role in the surveillance of Canada's extensive maritime zones. The primary assets used for this task are 18 Aurora maritime patrol airplanes, 14 of which are undergoing extensive refits that will extend their operational lifespan to 2030. There is no need to acquire new aircraft, including unmanned drones, for this mission.¹² Refitting the remaining four Aurora aircraft would be a cost-effective way to expand this surveillance capability.

In order to reduce training, staffing, fuel and other operation costs, the total yearly flying rate of the Aurora fleet has been limited to 6,500 hours in recent years.¹³ Increasing the budget for staffing, training and operating the fleet would allow Canada to take greater advantage of these existing assets.



F/A-18 Super Hornet

Recommendation 2: Cancel the planned procurement of F-35s and extend the CF-18 fleet with 30–40 new F/A-18 Super Hornets

Canada’s CF-18 fighter jets are used for the NORAD mission of interdicting suspect aircraft inside or approaching North American air space, including in the Arctic where twin-engine aircraft are desirable for safety reasons.¹⁴ The CF-18s are also used in coalition operations overseas, to attack ground targets in situations of air superiority. However, the CF-18s have acquired considerable flight hours, and dangers associated with metal fatigue are difficult to address through refits. The most cost-effective, low-risk way to maintain these capabilities would be through a fleet extension of 30–40 F/A-18 Super Hornets: the latest version of the CF-18. The Super Hornets could then be used for day-to-day operations, including training, while the CF-18s are rested in climate-controlled hangers for situations requiring a greater number of planes.

This approach would result in substantial savings on acquisition and sustainment costs *and* eliminate the training and infrastructure costs associated with the purchase of an entirely new model of aircraft.¹⁵ It would also

ensure that new planes arrive before the CF-18s have to be retired, while providing a 10–15 year ‘bridge’ during which time it should be possible to ascertain whether a completely new fleet of fighter jets is needed, or whether geopolitical or technological developments (e.g. dogfight-capable drones) have rendered such planes an unnecessary component of Canada’s military.

Recommendation 3: Acquire a fleet of 40–50 BAE Hawks (or a similar plane) for training, aeronautics and close air support

Reducing the budget for new fighters would allow Canada to acquire a fleet of subsonic jets or high-speed turboprops for training, aeronautics and a capability that the country currently lacks but sometimes needs: close air support. A fleet of 40–50 BAE Hawks (or a similar plane) could replace the leased Hawks that are already used for training fighter pilots, as well as the aging CT-114 Tutors used by the Snowbirds Demonstration Team. The new planes would also be available for close air support, should they be needed when Canadian soldiers are deployed on peacekeeping or other missions overseas. Subsonic planes like Hawks (which come in a ground-attack version) would better protect troops than supersonic fighter jets because of their ability to fly low and slow. They also avoid the risk of ‘mission creep’ associated with armed unmanned drones.¹⁶

Recommendation 4: Acquire more Cormorant search-and-rescue helicopters to supplement the existing fleet

Canada’s primary search-and-rescue aircraft are 14 CH-149 Cormorant long-range helicopters based at Gander (Newfoundland), Greenwood (Nova Scotia) and Comox (BC). There is currently a shortage of these aircraft, a fact reflected in the 2005 decision to redeploy the Cormorants based at Trenton (Ontario) to Gander and Greenwood.¹⁷ The helicopter role in the Trenton Search and Rescue Region – which includes most of Quebec and Nunavut, and all of Ontario, Manitoba, Saskatchewan, Alberta and the Northwest Territories – was assigned to smaller, shorter-range Griffon utility helicopters.¹⁸

In 2008, a government ‘tiger team’ tasked with finding a solution to the insufficient number of long-range search-and-rescue helicopters determined that 18 Cormorants were required to provide service across the country.¹⁹ When asked about this finding, a spokesperson for the Department of National Defence responded that there were no plans to purchase the additional helicopters.²⁰



Viking Twin Otter Guardian 400

All Canadians deserve access to credible search-and-rescue services. The Cormorant fleet needs to be supplemented with helicopters of similar capability. The size of that supplement could be anywhere between 5–15 aircraft, depending on whether Canada’s next government retires the model of parachuting first responders from fixed-wing airplanes in favour of long range helicopters, as discussed below. Since the existing Cormorants themselves do not need to be replaced, the best course would be to purchase the latest version of the Cormorant, the AW101, to add to the current fleet.²¹

Recommendation 5: Cancel the planned purchase of purpose-built military planes for search and rescue; buy commercial planes equipped with the latest in ground search sensors

The Royal Canadian Air Force uses half-century old Buffalo and Hercules airplanes to conduct search operations and drop search-and-rescue technicians by parachute to care for accident victims before a search-and-rescue helicopter can arrive. For nine years, the Harper government has promised to replace these planes with a new fleet estimated to cost \$1.55 billion. How-

ever, the parachuting model of first responders has been rendered obsolete by the development of fast, long-range helicopters such as the Cormorant, able to winch surviving accident victims to safety as soon as they arrive on scene. The US Coast Guard and British Royal Air Force moved from parachutes to helicopters decades ago.

The Air Force could dispense with the parachuting model by increasing the number of long-range Cormorant search-and-rescue helicopters and establishing new Cormorant bases at CFB Trenton and in the Arctic. This would ensure that helicopters reach accident victims in a timely manner. Lower cost commercial planes equipped with the latest in sensor technology could then serve the search function. Moreover, Canadian-made planes would then be able to compete for the procurement. For example, Viking Twin Otter Guardians would be suitable for the ‘low and slow’ mission on the West Coast, and faster Bombardier Q400s for the rest of Canada.²²

Recommendation 6:

Complete the procurement of Cyclone maritime helicopters

In 2012, then Minister of National Defence Peter MacKay publicly stated the Cyclone maritime helicopter is “the worst procurement deal in Canadian history.”²³ In 2014, the Harper government renegotiated the contract with Sikorsky – signed by the Martin government a decade earlier – for 28 Cyclones to replace the half-century old Sea Kings on the Royal Canadian Navy’s combat and supply ships.²⁴ Although the renegotiated contract has serious problems, including compromises on key safety features,²⁵ there is little option at this late stage but to complete the procurement – and finally relieve the Sea Kings of their much-extended responsibilities.

2. Royal Canadian Navy

Recommendation 7: Renegotiate the contract for Arctic/Offshore Patrol Ships; build 12 high-speed offshore patrol vessels instead, at the same shipyard

The Harper government’s procurement of Arctic/Offshore Patrol Ships has been mishandled from the outset,²⁶ and will likely result in only five (as opposed to the initially promised six to eight) performance-compromised vessels.²⁷ The designated funding is more than sufficient to build 12 high-speed

purpose-built offshore patrol vessels at the same shipyard, using off-the-shelf designs, for patrol and interdiction on the Atlantic and Pacific coasts. The construction contract signed in January 2015 should be renegotiated to reflect this reality. These patrol vessels could then replace the 12 *Kingston*-class Maritime Coastal Patrol Vessels — which themselves are badly compromised, and soon to be retired²⁸ — with a much more capable fleet. Additional security on the Arctic, Atlantic and Pacific coasts could easily be obtained by adding light deck guns to Canadian Coast Guard ships.

Recommendation 8: Cancel plans for a heavy icebreaker; build two to three medium icebreakers instead and equip them with light deck guns

The Arctic patrol mission is best served by refits to the Canadian Coast Guard's five existing medium icebreakers, including the addition of light deck guns, and the construction of two to three new medium icebreakers. Some of the necessary refits to the existing icebreakers are already underway.²⁹

These new medium icebreakers would provide greater coverage across the Arctic than the single, currently planned heavy icebreaker. Unlike Arctic/Offshore Patrol Ships, they would also provide real icebreaking capability. As Coast Guard vessels, they would support a wide range of federal government responsibilities, including icebreaking for commercial vessels, maintaining aids to navigation and supporting scientific research, in addition to providing security and search-and-rescue coverage.

Recommendation 9: Build 12 Canadian Surface Combatants using a proven off-the-shelf design; equip them as corvettes or small frigates

The Harper government's plan to replace the 12 *Halifax*-class frigates and three *Iroquois*-class destroyers with 15 Canadian Surface Combatants should be reduced to 12 new ships. Although not acknowledged by the government, a reduction in number has already been necessitated by the protracted manner in which this procurement has been conducted, the consequent effect of inflation, and the appointment of Irving Shipbuilding as the principal contractor without a competitive process.³⁰

The 12 Canadian Surface Combatants should be built using a proven off-the-shelf design with no "Canadianization". Similarly, no unproven equipment — including propulsion, radar and weapon systems — should be in-

stalled. All the ships should be equipped as large corvettes or small frigates rather than air-and-missile defence-capable destroyers, in recognition that the Navy's current and likely future missions concern non-state actors. This simplified outfitting would ensure the ships are completed on budget.

**Recommendation 10:
Complete the construction of two support ships**

The Royal Canadian Navy lost the ability to deploy navy task groups when its two aged support ships were decommissioned last year. The Harper government has spent nine years trying to procure replacement vessels, but so far has only managed to select and purchase a design. Currently, the new ships are not expected to come into operation until 2021. Under these circumstances, their construction should be contracted and completed without delay — and without modifications to the design.

Recommendation 11: Cancel the submarine program

The *Victoria*-class submarines have been a misadventure from the outset.³¹ Bought second-hand from the British Royal Navy in 1998, they have required considerable expenditure while providing almost no operational 'at-sea' time.³² Submarines are of little use for operations against non-state actors, as they are ill-suited for boarding other vessels, and their ability to provide covert surveillance of suspect boats is outmatched at much less cost by small, unarmed, commercially available drones. Nor is there much risk of an interstate war that necessitates small-country submarine capability. Having submarines does not enhance Canada's Northwest Passage claim, because any voyages through that waterway by foreign submarines are covert and thus unable to influence the respective US and Canadian legal positions.³³

The fact that Canada has managed without operational submarines for the better part of two decades indicates that such vessels are unnecessary. Canada should follow the approach taken by Denmark, which in 2006 decommissioned its submarines and increased the capability of its surface fleet, including by constructing offshore patrol vessels that are significantly faster and more seaworthy than Canada's planned Arctic/Offshore Patrol Ships.³⁴



LAV III Upgrade

3. Canadian Army

Recommendation 12: Complete the upgrades to 550 LAV III armoured vehicles

In the two decades since the end of the Cold War, the Canadian Army has shifted from preparing for a ‘symmetric’ engagement in Europe, to the ‘asymmetric’ challenges posed by non-state actors. Allied armies have made the same shift, including the US Army, which in 2006 adopted the ‘Petraeus Doctrine’ of counterinsurgency.

As with peacekeeping, operations against non-state actors demand lighter equipment than state-to-state warfare. Heavy armour is unnecessary and can actually impede efforts to ‘win hearts and minds’. Canada began its shift towards a lighter footprint in 1996 when it purchased 651 Light Armoured Vehicle IIIs. The Afghanistan mission confirmed that the LAV III is the appropriate main vehicle for today’s Canadian Army, performing well in operations akin to the ‘robust’ peacekeeping missions now undertaken by the United Nations.³⁵ The LAV III offers an excellent off-road combat capability combined with good on-road performance and protection against im-

provised explosive devices (IEDs). As Lt.-General Peter Devlin said in 2011, Canada has a “LAV-based army” and Canadians are “the best in the world fighting [in] that vehicle.”³⁶

Currently, the Canadian Army’s equipment for peacekeeping and asymmetric operations is being improved. In 2009, the Harper government announced the LAV III upgrade project (LAV UP) and awarded a contract to General Dynamics Land Systems to improve the survivability and mobility of 550 of the vehicles. Upgrades include the installation of a double V-shaped hull around the undercarriage to deflect explosive force from IEDs away from personnel, a more powerful engine, larger tires, air brakes and an anti-skid braking system, and improvements to the drive train, suspension, turret sights and gun control electronics. LAV UP will extend the lifespan of the LAV IIIs to 2035, essentially creating 550 new vehicles. The project should continue.

Recommendation 13:

Complete the procurement of Tactical Armoured Patrol Vehicles

In June 2012, a contract was awarded to Textron for 500 new Tactical Armoured Patrol Vehicles (TAPVs).³⁷ The TAPVs will replace the Canadian Army’s Coyote light armoured reconnaissance vehicles, Nyala RG-31 armoured patrol vehicles and some of its Mercedes G-wagons. The TAPV, the design of which is based on the United States’ M1117 Armoured Security Vehicle, will provide better protection from IEDs than any of these existing vehicles. Although modifications (“Canadianization”) requested by the Department of National Defence have caused some unfortunate delays,³⁸ the project should continue.

Recommendation 14:

Complete the procurement of armoured trucks

New armoured trucks are badly needed to support Canadian Army personnel in the field. More than a decade ago, the Department of National Defence warned that the Army’s “existing truck fleet could be hit by a ‘catastrophic’ failure at any time because of poor brakes and steering systems.”³⁹ In 2006, the Harper government promised to deliver 1300 armoured trucks by 2008. The procurement was cancelled in 2012, re-started in 2013, and is currently stalled — though in May 2015 a Department of National Defence spokesperson indicated that a contract would be signed this summer, with

deliveries starting in 2017.⁴⁰ The estimated acquisition cost of the trucks is \$800 million; realistically, it is more likely to be \$1 billion. In any event, the project should be completed as soon as possible.

Recommendation 15: Complete the procurement of Ranger rifles

New rifles are needed for the Canadian Rangers, a reserve force composed mostly of First Nations and Inuit from communities across Canada's Arctic. A plan to replace the Rangers' 65 year-old Lee-Enfield rifles was approved in 2007 but cancelled four years later, after potential suppliers refused to share proprietary information with the pre-selected manufacturer, Colt Canada.⁴¹ For reasons that are worthy of an entire separate report, Colt Canada is the only company allowed to produce small arms for Canada's military. Unfortunately, between 2007–11, neither Colt Canada nor its American parent was producing a rifle suitable for use in Canada's Arctic. However, the situation changed when Colt partnered with Cooper Firearms in 2012 to produce the top quality M2012 line of bolt-action target and hunting rifles – which would meet the Rangers' needs.⁴²

Instead of following this newly available off-the-shelf route, the Department of National Defence issued a "Request for Proposals" (RFP) to Colt Canada in September 2014 for a new "Canadian Ranger Rifle" design.⁴³ One suspects the resulting rifle will be more expensive as a result. Either way, the project should be completed as soon as possible.

4. Missile Defence

Recommendation 16: Stay out of US missile defence

Canada declined to join US missile defence in 2005. Today, some argue that the decision should be reversed. However, the missile defense system does not require Canadian participation and the country has little to gain by joining; the United States is not about to share in any split-second operational decision-making.

Proponents of Canadian participation in US missile defence invariably gloss over the financial costs that would be involved. In the 15 years since President Bill Clinton signed the National Missile Defense Act, the United States has spent US \$40 billion on its troubled ground-based midcourse system located in North America.⁴⁴ Since 2008, Barack Obama has reduced the budget for the midcourse system by half, putting the program under finan-

cial stress — and making it inevitable that, if Canada joined, it would be expected to contribute substantially.

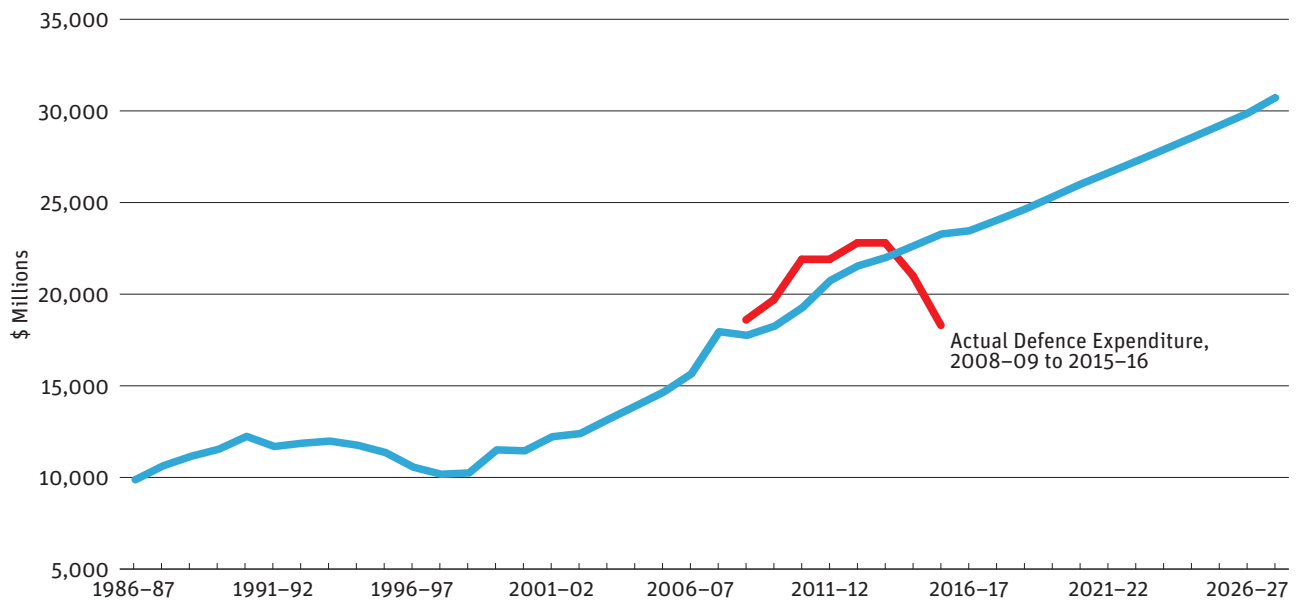
Canada's population of 35 million is one-tenth that of the combined population of Canada and the United States. This means that a proportional share of the cost of the ground-based mid-course system might be a reasonable contribution if Canada decided to participate. This would amount to US \$100 million per year. If the formula were to be applied retroactively, Canada could also be on the hook for ten percent of the US \$40 billion already incurred by the United States.

Although there are other reasons why Canada should remain out of US missile defence,⁴⁵ the financial cost alone is prohibitive — especially when considering the Canadian Armed Forces' numerous and pressing equipment needs.

V. Saving and Spending

IN THE 2008 Canada First Defence Strategy, the Harper government promised to raise defence spending by 2 percent per year. It failed to keep this promise, with the projected expenditure for fiscal year 2015–16 being \$300 million less than in fiscal year 2008–09.⁴⁶

FIGURE 1 Harper Government Planned Spending vs Actual Spending



Source Planned defence expenditure values from Canada First Defence Strategy 2008. Actual defence expenditure values based on data from Office of the Parliamentary Budget Officer, "Fiscal Sustainability of Canada's National Defence Program," March 26, 2015, available at: http://www.pbo-dpb.gc.ca/files/files/Defence_Analysis_EN.pdf

The Harper government also used the 2008 Canada First Defence Strategy to set out its planned spending on defence equipment. In the 20-year period from 2008–09 to 2027–28, it planned to spend a total of \$60 billion on equipment.

If the Harper government stuck to its plan, it would spend \$39 billion on defence procurement over the course of the remaining 12 years of the 20-year period, i.e. from 2015–16 to 2027–28. This is illustrated by the following chart, which is taken directly from the 2008 Canada First Defence Strategy:

TABLE 1 Canada First Defence Strategy – Total Defence Spending (As Promised in 2008)

Pillar	Amount	% of Total	Remarks
Personnel	\$250B	51%	70,000 Regular and 30,000 Reserve personnel by 2028; includes 25,000 civilian workforce
Equipment			
– Previous Announcements	\$15B	3%	Previously announced equipment purchases, including: <ul style="list-style-type: none"> • C-17 Globemasters • C-130J Hercules • Arctic/Offshore Patrol Ships • CH-47F Chinook Helicopters • Trucks
– New Major Fleet Replacements	\$20B	4%	<ul style="list-style-type: none"> • Fixed-wing Search and Rescue Aircraft • Destroyers and Frigates • Maritime Patrol Aircraft • Fighter Aircraft • Land Combat Vehicles and Systems
– Other Capital	\$25B	5%	Includes individual weapons, communications equipment, etc.
Infrastructure	\$40B	8%	Increased investment in rebuilding and maintenance of infrastructure of approximately \$100M/year
Readiness	\$140B	29%	Approximately \$140M/year in new spending on spare parts, maintenance and training
Total Spending Over 20 Years	\$490B	100%	

This short section uses the costs of the Harper government’s procurement plan as a basis of comparison with the projected costs of this alternative plan. Specifically, it shows where money could be saved and where more should be spent. It also shows which existing procurements should be completed as planned – and which can therefore be treated as cost neutral for the purposes of comparison.

This report do not need to provide a fully costed plan for all of its proposed spending because it starts from the baseline of the Harper govern-

ment's planned spending. It only needs to provide numbers for those areas where it would make savings, and those areas where it would spend more.

The end result is a plan that costs \$10.5 billion less, over the next twelve years, than the Harper government has been planning to spend, and increases capabilities on most fronts, including Arctic and coastal surveillance, search and rescue, disaster and humanitarian relief, and peacekeeping.

1. Royal Canadian Air Force

(1) Maritime surveillance aircraft

Refitting an additional four Aurora maritime surveillance aircraft and increasing the fleet's flying hours will cost approximately \$500 million over twelve years. **Spend \$500 million.**

(2) Fighter jets

Cancelling the F-35 procurement and extending the CF-18 fleet with 30–40 F/A-18 Super Hornets will save approximately \$5.2 billion in acquisition costs. Moreover, the operating and sustainment costs of the F-35 are substantially higher and associated with greater cost risk and uncertainties than the Super Hornets.⁴⁷ For this reason, extending the fleet with Super Hornets will save approximately \$400 million per year (\$4.8 billion over twelve years) in operating and sustainment costs. **Save \$10 billion.**

Purchasing, operating and sustaining 40–50 BAE Hawks (or similar aircraft) for training, aeronautics and close air support will cost approximately \$4 billion over twelve years. **Spend \$4 billion.**

(3) Search and rescue

Fifteen AW-101 helicopters for search and rescue will cost approximately \$375 million to acquire, and an additional \$625 million to operate and sustain over twelve years. **Spend \$1 billion.**

The Harper government has long planned to spend \$1.55 billion on purpose-built military planes for fixed-wing search and rescue.⁴⁸ Cancelling that plan and purchasing 12–15 commercial planes instead will cost approximately \$500 million, for a saving of approximately \$1 billion. **Save \$1 billion.**

2. Royal Canadian Navy (and Canadian Coast Guard)

(1) Offshore patrol ships and icebreakers

Renegotiating the planned \$3.5 billion construction of Arctic/Offshore Patrol Ships and constructing 12 purpose-built offshore patrol vessels instead (with an approximate total cost of \$500 million based on what the United States and Australia have paid for similar vessels) will save approximately \$3 billion.⁴⁹ **Save \$3 billion.**

Cancelling the planned \$1.3 billion construction of one heavy icebreaker and building two to three medium icebreakers instead will be cost-neutral.

(2) Combat ships

Reducing the number of Canadian Surface Combatants from 15 to 12 vessels will increase the likelihood of the procurement being completed on time within the existing budget, which would not be the case with 15 ships — because of delays, the consequent inflation and the sole-source character of the contract with Irving.⁵⁰ This change is therefore cost-neutral at minimum, and might actually save billions of dollars in cost overruns.

(3) Support ships

Signing a construction contract and completing this procurement on budget will be cost-neutral.

(4) Submarines

In 2008, the Harper Government awarded the ‘Victoria-class in-service support contract’ to British-based defence contractor Babcock International Group PLC.⁵¹ The contract is worth up to \$1.5 billion over 15 years, though the government is not bound for that entire amount or period. Cancelling the submarine program will save approximately \$1 billion in support costs over ten years, as well as approximately \$1 billion in operating costs, for a total saving of approximately \$2 billion. **Save \$2 billion.**

3. Canadian Army

Completing the upgrades to 550 LAV III armoured vehicles, and the procurements of Tactical Armoured Patrol Vehicles, armoured trucks and Ranger rifles, will all be cost-neutral.

4. Total savings

This plan for rebuilding Canada's military would save \$10.5 billion, over twelve years, as compared to the amount the Harper government has been planning to spend. It would also eliminate a great deal of risk — in terms of both costs and capabilities — and better equip and prepare the military for Canada's actual needs.

VI. Improving the Procurement Process

THE RECOMMENDATIONS IN the previous sections of this report are designed to deal with the existing equipment crisis created by the Harper government. At the same time, steps should be taken to improve the Canadian defence procurement process, so as to avoid similar problems in future. The following recommendations outline how the procurement process can be simplified to ensure that the military receives the equipment it needs, promptly and at the lowest possible cost to taxpayers.

Recommendation 17: Buy proven off-the-shelf equipment only

Defence officials often prefer to purchase so-called ‘paper planes’: aircraft still in the design phase. While this approach offers the possibility of having the very latest, cutting-edge equipment, there are many unknowns involved with unproven designs. For example, building a fully operational F-35 proved to be exceedingly difficult, leading to long delays, significant increases in costs and decreased performance.⁵² In the case of the Cyclone maritime helicopters, Sikorsky oversold the capabilities of the then non-existent aircraft, which resulted in numerous delays and compromises, including to key safety requirements.⁵³

Officials secure approval for ‘paper planes’ by telling ministers that Canadian companies involved in the development and production of cutting-edge

equipment will reap rewards when other countries order the same equipment. The problem is that new designs often fail, and other countries shy away from equipment that underperforms or is excessively delayed. Sales of the F-35 are already below the projected level, diminishing any potential economic benefits to Canada and driving up the per-unit cost. No country apart from Canada has selected the Cyclone helicopter. For these reasons, Canada should not involve itself in developmental projects when seeking to replace existing aircraft.

The same kinds of problems plague naval shipbuilding, with officials pushing for new designs, such as the Arctic/Offshore Patrol Ships, rather than purchasing proven plans. No other country will order A/OPS because they have turned into exceptionally expensive, performance-compromised vessels. Fortunately, a different approach has been taken with respect to the Joint Support Ships, where an off-the-shelf design was selected.⁵⁴ That design now needs to be followed strictly, instead of being modified ('Canadianized'). The same approach to purchasing and adhering to proven designs should be taken with respect to the Canadian Surface Combatants.

To its credit, the Canadian Army effectively takes this approach already by insisting that potential suppliers provide two units of any proposed vehicle for testing purposes. When it has not done so, it has run into trouble. This occurred recently with the Tactical Armoured Patrol Vehicles (TAPVs) ordered from Textron, where modifications requested by Canada have led to problems with the "complex and inter-related designs of the vehicle's structure, suspension, and steering."⁵⁵

Canada's next government should adopt a policy of only buying proven off-the-shelf military equipment, with very few modifications allowed.

Recommendation 18: Replace the goal of 'interoperability' with 'compatibility'

'Interoperability' — the ability to function smoothly alongside allied militaries — has long been a mantra of the Canadian Armed Forces. Officials often use this principle to justify maintaining budgets, as significant funds are required to keep up with the military technology used by our most important ally, the United States. The downside of this is that high-technology equipment bleeds funding from other military needs.

Moreover, interoperability is an ambiguous concept that can easily be manipulated to generate desired results. As Ethan Kapstein has explained, interoperability can encompass at least four categories:

1. ‘Complementarity’, where allies acquire different capabilities in the service of a common military force;
2. ‘Commonality,’ where allies operate identical equipment;
3. ‘Interchangeability’, where the equipment used by one ally can be substituted for the equipment used by another ally; and
4. ‘Compatibility’, where the equipment used by one ally can communicate with the equipment used by another ally.⁵⁶

NATO defines interoperability as “the ability for Allies to act together coherently, effectively and efficiently to achieve tactical, operational and strategic objectives”⁵⁷ which reflects Kapstein’s definition of ‘compatibility’ and to a lesser extent, ‘interchangeability’.⁵⁸

Nevertheless, ‘commonality’ is sometimes desirable, such as in the case of ammunition used by allied infantry. It is for this reason that NATO countries have standardized their ammunition, with 5.52 mm for general rifles and light machine guns, 7.62 mm for sniper rifles and medium calibre machine guns, 9 mm for pistols, and .50 calibre for heavy machine guns.

However, more often than not, ‘commonality’ is unnecessary – and unnecessarily expensive. One example concerns the Royal Canadian Navy’s decision to replace the British-made Tigerfish torpedoes on the *Victoria*-class submarines with American-made Mark 48 torpedoes.⁵⁹ The fact that Britain, France, Germany, Italy and South Korea are able to work closely with the US Navy while using non-American-made torpedoes proves that commonality is not required with all weapons.

Commonality is also unnecessary with regards to fighter jets, where compatibility is sufficient. French Rafales land on US aircraft carriers, while Eurofighter Typhoons are operated by the British, German, Italian and Spanish air forces in operations with the United States. Again, all that is needed is the ability “to act together coherently, effectively and efficiently”, just as the US Navy’s F-35s and F/A-18 Super Hornets will do – with the latter providing air superiority for the former whenever they engage in ‘first-day’ strike missions against enemy anti-aircraft radar and missile installations.

Subject to a few exceptions, such as infantry ammunition, Canada’s next government should replace the goal of ‘interoperability’ with ‘compatibility’.

Recommendation 19: Adopt a strong presumption against sole-source contracts, including Advance Contract Award Notices (ACANs)

The Harper government has rejected the use of market principles for most defence procurements, opting instead for sole-source contracts or a quasi-competitive mechanism called 'Advance Contract Award Notices' (ACANs).

It bought C-17 Globemaster strategic lift and C-130 Hercules tactical lift airplanes from Boeing and Lockheed Martin, respectively, without allowing Airbus to compete for either contract. It bought Chinook heavy-lift helicopters from Boeing without allowing AugustaWestland to bid on the procurement. It designated Irving Shipyards as prime contractor for both the Arctic/Offshore Patrol Ships and Canadian Surface Combatants without allowing companies with far greater experience to compete for this role, which is distinct from the designation of the shipyard in which the vessels will be assembled. For nine years, the Harper government has protected the F-35 from a competitive process for the replacement of the CF-18, a process that might expose the F-35's limited speed, manoeuvrability, range and reliability.

Avoiding competition has given defence officials much greater influence on the outcomes of decision-making, increasing the risk that the process might be distorted by factors other than equipment capabilities and costs, such as the possibility of lucrative post-retirement consulting or lobbying contracts.

Take, for example, the ACAN process, as described by the Treasury Board:

An Advance Contract Award Notice (ACAN) allows departments and agencies to post a notice, for no less than fifteen calendar days, indicating to the supplier community that it intends to award a good, service or construction contract to a pre-identified contractor. If no other supplier submits, during the fifteen calendar day posting period, a statement of capabilities that meet the requirements set out in the ACAN, the competitive requirements of the government's contracting policy have been met. Following notification to suppliers not successful in demonstrating that their statement of capabilities meets the requirements set out in the ACAN, the contract may then be awarded using the Treasury Board's electronic bidding authorities.

If other potential suppliers submit statements of capabilities during the fifteen calendar day posting period, and meet the requirements set out in the ACAN, the department or agency must proceed to a full tendering process

on either the government's electronic tendering service or through traditional means, in order to award the contract.⁶⁰

Although ACANs allow for the possibility of competition, former Auditor-General Sheila Fraser found that in Canada, "ACANs contribute very little to competitiveness... Although it definitely ensures greater transparency, one can see, simply by looking at the title, that it constitutes a notice that is given prior to awarding a contract."⁶¹

Steven Staples has provided the following example of the flawed character of the ACAN process:

[O]n July 5, 2006, Public Works posted an Advance Contract Award Notice...that it had...chosen Boeing for the purchase of strategic airlift, specifically four C-17 Globemaster III transport aircraft valued at \$1.8 billion for the fleet of aircraft. "Generally, only one firm has been invited to bid," the ACAN noted under the heading "Tendering Procedures."...

[O]n August 4, 2006, Public Works announced that it had received challenges from two companies. In a written statement, Minister Michael Fortier said, "From the outset, I have said that the procurement of military aircraft for Canada's armed forces would be done in a fair, open, and transparent manner, in line with this government's commitment under the Federal Accountability Act."

A week later, Boeing was confirmed as the only qualified supplier. "I am pleased to see this process is moving in a fair, open, and transparent manner," said Minister Fortier.

But, according to documents obtained by the Ottawa Citizen, the military changed a key requirement of the program to exclude the only other possible aircraft supplier, the European manufacturer Airbus and its A400M transport aircraft, currently in development for several European nations. Only weeks before the ACAN was announced, military planners doubled the payload requirement for their desired fleet from 19.5 tonnes to 39 tonnes of cargo, the Ottawa Citizen disclosed. The reasoning behind this significant modification has not been explained by DND.

The change effectively eliminated the Airbus A400M at the last minute, and the contract between Boeing and the Canadian government was signed on February 2, 2007 for \$1.8 billion plus \$1.6 billion for 20 years' in-service support.⁶²

There is little doubt that Canadian taxpayers paid more for the C-17s than was necessary as a result of the relative lack of competition. As Robert Drewes explained in *The Air Force and The Great Engine War* on the topic of competing engine programs for the F-16, competition is the most effective way to ensure the military receives the best possible equipment at the best possible price:

Competition is the only sure way to get the best effort. Competition did yield...some substantial initial benefits to the Air Force...engine improvements [were offered] to the Air Force earlier than the Air Force had been led to expect without the competition. Furthermore, unit prices were lower than...had previously been offer[ed].⁶³

Moreover, a fully competitive process allows the government to test manufacturers' claims about equipment performance. As then Opposition Defence Critic Gordon O'Connor said in 2005 about the Liberal government's plan to sole-source C-130 Hercules aircraft from Lockheed Martin: "It may be the right choice. But how do we know, because there's no competition? With competition we become aware of all the technical problems, (the) costs and we get an idea whether it's the right solution."⁶⁴

The only possible exceptions to the presumption against sole-source contracts should be fleet extensions, such as the ones recommended by this report with respect to fighter jets and search-and-rescue helicopters. In the case of a fleet extension, the Canadian Armed Forces is purchasing more copies of equipment that they already own and operate. Any costs that might be added by sole sourcing should be offset, to some degree, by savings on training, maintenance and infrastructure costs. In cases where the manufacturer does not offer a reasonable price, a full competition may be necessary.

Recommendation 20: Un-tie industrial regional benefits

When purchasing military equipment, governments have a choice between four general approaches:

1. Develop and produce military equipment domestically: This is the approach taken by Sweden, where a purely national defence procurement system has supported companies such as Saab and Volvo.
2. Purchase equipment 'off-the-shelf': This approach bases procurement decisions on competitively determined prices in the international

marketplace. Off-the-shelf purchases can take place through either competitively tendered or sole-sourced contracts.

3. Purchase equipment 'off-the-shelf' from the international marketplace but require investment ('offset') obligations as part of the contract in order to create jobs and promote technology transfer: This is the approach usually taken in Canada, under the label 'Industrial Regional Benefits'. IRBs can be included in either competitively tendered or sole-sourced contracts.
4. Join in collaborative development projects with other countries in order to share research and development costs, obtain economies of scale and (hopefully) promote industrial activity within the collaborating group of countries: This is the approach taken with the F-35.

In Canada, defence procurement decisions are seldom made with a view to buying the best equipment for the country's needs. Instead, as James Ferguson explained nearly two decades ago:

In the case of Canada, its defence industrial offsets policy and behaviour can be understood largely in terms of the constant interaction between economic and political considerations.... [S]ecurity considerations, which have at least been an important factor for many states in defence-industrial policy deliberations, are notably absent in the Canadian case.⁶⁵

Political considerations have been able to dominate Canadian defence procurement because this sphere of economic activity is largely exempt from trade and investment treaties such as NAFTA and WTO agreements. This allows the governments to make discretionary choices based on factors other than market principles of open, equal, priced-based competition.

Industrial Regional Benefits and other offset mechanisms have been defined by Stephen Martin as: "a range of industrial and commercial compensation practices required as a condition of the purchase of defence articles and/or defence services."⁶⁶ In Canada, the compensation requirement used to be quite simple: any company granted a military procurement was obligated to "place business in Canada at the same value of the contract."⁶⁷ To fulfill the IRB requirement, the investment had to relate to "advanced technology sectors of the Canadian economy,"⁶⁸ but otherwise the company could use its discretion to invest the money where it liked.

The IRB policy has provided a number of benefits to Canada. First and foremost, it has ensured a baseline level of high-tech industrial activity by

providing Canadian companies with a pool of investment capital that is immune from foreign competition. Under the right circumstances, this industrial activity can lead to the development of new technologies or export sales that extend beyond the scope of the initiating IRB.

However, IRBs also have inherent disadvantages. By protecting Canadian companies from foreign competition, they impede the economic forces that drive innovation, cost efficiencies, and therefore global competitiveness. By adding the IRB requirements to the cost calculations that companies make when bidding for procurement contracts, they are likely to lead to higher prices. In this sense, IRBs are a form of government subsidy.

Industrial Regional Benefits may also result in sub-optimal equipment being chosen. Companies producing equipment most suitable for Canada may choose to not bid on procurement projects, or may lose competitions for contracts after raising their bids to take account of the cost of the IRB requirement. Finally, governments have difficulty monitoring and enforcing the delivery of IRBs, often resulting in delays and non-compliance.

Remarkably, the Harper government has chosen to make the IRB system more complicated. In 2013, it commissioned the ‘Jenkins Report’, which recommended that procurement policy be shifted to a more “aggressive ‘Canada-first’ set of initiatives based on the need for sovereign capacity.”⁶⁹ A focus on these initiatives, called “Key Industrial Capabilities” (KICs), is supposed to enable the government “to fully leverage the economic opportunities as a result of planned defence procurement.”⁷⁰ The Jenkins Report suggested the following six areas as KICs: Arctic and Maritime Security, Protecting the Soldier, Command and Support, Cyber-Security, Training Systems, and In-Service Support.

The Harper government followed the recommendations of the Jenkins Report in its 2014 Defence Procurement Strategy and created a ‘Defence Analytics Institute’ to maintain the list of KICs.⁷¹ As a result, foreign companies competing for procurements must now identify at the initial bidding stage the investments they would make in Canada, within the six areas designated as KICs.

The KICs approach brings even more government intervention into the marketplace by restricting the choices that companies have when fulfilling IRBs. This may produce benefits if it results in more investment in areas that represent actual needs. However, the KICs approach also adds new risks for potential bidding companies, by restricting the range of their investment options and forcing them to select particular options very early on — before they have been awarded a contract. Companies are likely to factor these risks

into their bids, further increasing the costs to taxpayers. Moreover, the KICs approach adds another layer of bureaucracy to an already complex and cumbersome procurement system.

To summarize, the delays and inefficiencies of Canadian defence procurement are due in part to the IRB system, which has only been made more complicated by the introduction of KICs. This approach entails significant government intervention in the marketplace, and is destined to lead to even more delays and ever-higher prices.

Canada's next government should un-tie the red tape around IRBs by removing the recently introduced KICs component from the system. The next government should also conduct a carefully re-evaluation of the IRB system, including an assessment of the potential costs and benefits of eliminating IRBs altogether and instead purchasing all military equipment 'off-the-shelf' on the basis of straight-up, competitively determined prices. These changes would ensure timely procurements at lower prices, and fewer opportunities for playing politics with defence procurement.

Recommendation 21: Re-invigorate parliamentary oversight with a new House of Commons Standing Committee on Defence Procurement

Canada suffers from a lack of rigorous oversight of defence procurement decision-making, especially when defining the 'statement of operational requirements' (SOR) during the early stage of procurement projects.

Manufacturers use the SOR produced by the Department of National Defence to prepare their bids. But defence officials often 'fix the specs' to ensure that only a single model of equipment meets their requirements. For example, officials decided the CF-18 replacement needed stealth technology, thus excluding all aircraft other than the F-35. They narrowed the field for the fixed-wing search-and-rescue project by specifying a minimum cabin length just 15 centimetres longer — and a cruising speed just 12 knots faster — than the Spanish-made EADS C-295. They set a minimum size for the Sea King maritime helicopter replacement that excluded the Sikorsky Seahawk, the workhorse of the US Navy's rotary wing fleet.

In February 2014, the Harper government announced that it would introduce a "challenge function" to address this problem, involving "expert third party reviews of High Level Mandatory Requirements for all projects valued over \$100M" as well as an 'Internal Review Panel' to "provide recommendations to the Deputy Minister of the Department of National Defence bring-



Oversight: John McCain chairs the US Senate's Armed Services Committee

ing together the necessary expertise from military, scientific and policy communities to coordinate third-party reviews.”⁷² It took 16 months before the Independent Review Panel was appointed;⁷³ the establishment of the Internal Review Panel has yet to be announced.

Although the creation of the panels was an admission that the procurement process lacked rigorous oversight, the panels add two new layers of bureaucracy to an already complex and cumbersome system. The Internal Review Panel is unlikely to make much of a contribution, since its output is limited to recommendations to the deputy minister, rather than binding directions for improvements or recommendations delivered to the Treasury Board or cabinet. As for the Independent Review Panel, its contribution could be compromised as a result of its membership, which currently includes three retired military officers, one retired civilian employee of the Department of National Defence, and a junior academic who is perceived as being close to the Harper government.

A better response to the need for rigorous oversight would be to create and robustly staff a new House of Commons Standing Committee on Defence Procurement, and provide it with all the necessary information to assess

potential projects.⁷⁴ This is the approach taken in the United States, where defence procurement is much more transparent than in Canada. Although cross-party scrutiny of unfolding projects might be uncomfortable for the government, it ensures that all the necessary questions are asked early on, before mistakes grow into disasters.

Canada's next government should eliminate both the Internal Review Panel and the Independent Review Panel and create a new, robustly staffed and fully informed House of Commons Standing Committee on Defence Procurement.

Recommendation 22: Make the defence minister solely responsibility for defence procurement

In February 2014, the Harper government transferred a great deal of responsibility for defence procurement from the Department of National Defence to Public Works and Government Services Canada.⁷⁵ The move has added to the complexity of some defence procurement projects, and resulted in compromises on cost control, capabilities and safety with regard to others — such as the Cyclone maritime helicopter.

Canada's next government should reverse that decision and give the Minister of National Defence full responsibility for military contracts — subject to Treasury Board and cabinet approval, of course.⁷⁶ Time-consuming competition between different government departments would be eliminated, and with that a great deal of overlap, inefficiency and buck-passing.

The current involvement of multiple government departments does provide some necessary oversight. However, a robustly staffed and informed House of Commons Standing Committee on Defence Procurement — as recommended above — would do so in a more effective and democratic manner.

Recommendation 23: Introduce a five-year cooling off period, in both directions, for military officers, senior civil servants, ministers, and defence industry executives

Canada's military leadership and defence industries are linked by a revolving door. The prospect of a lucrative post-retirement position lobbying for Lockheed Martin, Boeing or General Dynamics can make it difficult for government officials to think critically and objectively about this country's needs.

Take the procurement of replacements for the CF-18 fighter jets, where Canadian military generals pushed for a non-competitive purchase of F-35s

that the Auditor General later revealed would cost tens of billions of dollars more than Canadians had been told. Charles Bouchard was one of those generals. During his 38-year military career, Bouchard served as deputy commander at North American Aerospace Defense Command and, in 2011, as commander of the NATO intervention in Libya. Bouchard retired from the Royal Canadian Air Force in April 2012 and, just one year later, was appointed “the country lead for Lockheed Martin Canada.”⁷⁷ The appointment caused retired Air Force Colonel Paul Maillet to observe that Bouchard was likely hired to win the contract for the CF-18 replacement fighter.⁷⁸ He stated, “My perception is they wouldn’t hire him for any other reason. He is an air force general and it would be to try and gain whatever leverage they can, presumably if he is not in any violation of conflict-of-interest.”⁷⁹

A web of consultants and lobbyists also links the military leadership and defence industries. As retired Colonel Michel Drapeau has observed: “There’s an army of retired officers hired as consultants — they’re everywhere.” Just prior to his appointment as defence minister in 2006, Gordon O’Connor, a former general, worked as a lobbyist for 28 firms including five of the world’s top ten defence contractors.⁸⁰

Although former Members of Parliament are prohibited from lobbying for government contracts for five years after leaving office, there are no such measures to prevent lobbyists who become MPs or ministers from becoming involved in procurement decision-making. This needs to change. Nobody should be appointed as minister of national defence or public works or industry, if in the previous five years they were employed by, or lobbied on behalf of, any firm that bids on defence procurement contracts. The same rule should apply to appointments to senior positions within the civil service. Finally, senior military officers and senior civil servants should be subject to a similar five-year prohibition on lobbying after they retire.

Conclusion

MOST OF CANADA'S major military hardware is old, degraded, unreliable and often unavailable.

Turning the situation around will be both a challenge and an opportunity for Canada's next government. To make the right choices, the next government will need to be both objective and strategic. For this reason, it will need to engage in a fully and publicly informed foreign and defence policy review. It will also need to be bold, pragmatic, and fiscally responsible.

Together, the 23 recommendations outlined in this report would:

- Save more than \$10 billion, over twelve years, as compared to the amount the Harper government has been planning to spend.
- Increase capabilities on most fronts, including Arctic and coastal surveillance, search and rescue, disaster and humanitarian relief, and peacekeeping.
- Maintain jobs in the Canadian defence, aerospace and shipbuilding industries by honouring or renegotiating existing contracts and adding the possibility of Canadian-made search-and-rescue planes.

It is time for a more objective and reasoned approach to defence procurement. It is time for 'Smart Defence'.

Annex 1

Missions 2000–14

Year	Name	Location	Date	Mission Statement	Major Types of Military Equipment
2000	Mozambique 2000	Mozambique	3/7/2000–3/11/2000	Providing humanitarian aid for flood victims	One CC-150 Polaris transport (two flights)
2000	ARTISAN	Albania	8/1/2000–11/14/2001	Assisting with repair of airport	No major equipment deployed
2000	ADDITION	Ethiopia & Eritrea	11/3/2000–7/12/2003	Monitoring UN-established temporary security zone	No major equipment deployed
2000	SCULPTURE	Sierra Leone	11/6/2000–	Participating in international military assistance & training team	No major equipment deployed
2000	CONNECTION III	Kenya	11/27/2000–5/27/2001	Gaining insight into operations of Canadian NGO	No major equipment deployed
2000	ECLIPSE	Ethiopia & Eritrea	12/12/2000–6/11/2001	Monitoring UN-established temporary security zone	No major equipment deployed
2001	HUMBLE	Haiti	5/24/2001–5/31/2001	Repairing generators	No major equipment deployed
2001	FORAGE	Macedonia	8/27/2001–9/26/2001	Collecting weapons & ammunition from insurgents	Coyote armoured reconnaissance vehicles
2001	EAGLE ASSIST	United States	9/12/2001–5/16/2002	Conducting aerial surveillance	Seven NATO E3As operated by NATO
2001	AMBER FOX	Macedonia	9/27/2001–10/1/2002	Implementing a peace plan in former Yugoslav Republic of Macedonia	No major equipment deployed
2001	APOLLO	Kabul, Afghanistan	Oct 2001–Oct 2003	Supporting US-led Operation Enduring Freedom	15 ships One Strategic Airlift Detachment One Long-Range Patrol Detachment One Tactical Airlift Detachment One Maritime helicopter detachment Light Infantry Battle Group
2002	ACTIVE SKIES	Canada	1/1/2002–	Overseeing aircraft flying over Canada	No major equipment deployed

Year	Name	Location	Date	Mission Statement	Major Types of Military Equipment
2002	Belize 2002	Belize	2/1/2002–2/7/2002	Assisting in airlift of relief supplies following Hurricane Keith	No major equipment deployed
2002	Kandahar Combat Mission	Kandahar, Afghanistan	Feb. 2002–July 2002 (six month mission)	Contributing to US-led Operation Enduring Freedom	Princess Patricia's Canadian Light Infantry Army vehicles
2002	TAY BRIDGE	England	3/31/2002–4/10/2002	Representing Canada at the funeral of Queen Elizabeth's mother.	No major military equipment deployed
2002	ACCIUS	Afghanistan	11/28/2002–6/21/2005	Supporting UN assistance mission in Afghanistan	No major military equipment deployed
2003	SOLITUDE	West Africa	3/19/2003–4/15/2004	Assisting in resolution of border dispute over Bakassi peninsula	No major military equipment deployed
2003	IRAQI FREEDOM	Iraq	3/19/2003–5/1/2003	CC-130 Hercules deployed in the Persian Gulf in support of Operation APOLLO was temporarily diverted to supporting Operation IRIS in Iraq	One CC-130 Hercules
2003	FUSION	West Africa	3/26/2003–5/13/2003	Providing stable security environment for implementation of Ohird Framework Agreement	No major military equipment deployed
2003	ATHENA	Afghanistan	5/14/2003–	Contributing to NATO-led International Assistance Force	Sperwer & Huron unmanned aerial vehicles Mercedes G-Class wagons LAV III light armoured vehicles Leopard tanks Griffon utility helicopters Chinook heavy-lift helicopters CC-130 Hercules tactical lift aircraft CC-17 Global Master strategic lift aircraft Nyala mine clearance vehicles
	“	Kandahar, Afghanistan	Aug. 2005–	Assisting Kandahar Provincial Reconstruction Team	350 military, police, foreign affairs, correctional services, and development personnel
2003	CARAVAN	Congo	6/8/2003–7/11/2003	Stabilizing security conditions in the city of Bunia	Two CC-130 Hercules (from Operation Apollo)
2003	FOUNDATION	Afghanistan	8/17/2003 –	Maintaining liaison with HQ United States Central Command with regard to Campaign Against Terrorism	No major equipment deployed
2003	LIANE	Liberia	9/18/2003–11/21/2003	Supporting UN Mission	No major equipment deployed
2004	PRINCIPAL	Haiti	2/28/2004–3/3/2004	Evacuating Canadians from Haiti	Four CC-130 Hercules
2004	HALO	Haiti	3/1/2004–7/31/2004	Contributing to secure and stable environment in Haiti	Six CH-146 Griffon helicopters
2004	HALO	Haiti	6/25/2004–8/2/2004	Supporting UN Stabilization Mission	Six CH-146 Griffon helicopters
2004	NATO ASSISTANCE	Portugal	6/11/2004–7/6/2004	Monitoring Portuguese airspace during the Euro 2004 soccer championship.	Personnel for NATO Airborne Early Warning Force E3As
2004	GLAUCUS	Greece	8/1/2004–9/30/2004	Assisting with security support during Olympic games	No major equipment deployed
2004	DISTINGUISHED GAMES	Greece	8/2/2004–9/29/2004	Assisting with aerial surveillance during Olympic games	No major equipment deployed

Year	Name	Location	Date	Mission Statement	Major Types of Military Equipment
2004	Haiti 2004	Haiti	9/22/2004–12/20/2004	Airlifting relief supplies after major flooding	CC-130 Hercules and CC-150 Polaris flights
2004	IOLAUS	Iraq	10/2/2004–7/9/2007	Supporting UN mission	No major equipment deployed
2004	ARCHER	Afghanistan	10/7/2004–	Training new Afghan National Army	No major equipment deployed
2005	BOREAS	Bosnia Herzegovina	2/9/2005–3/31/2007	Supporting EU Force in Bosnia Herzegovina in detecting organized crime and corruption	No major equipment deployed
2005	ARGUS	Afghanistan	Sep. 2005–Aug. 2008	Deploying the Strategic Advisory Team Afghanistan	No major equipment deployed
2005	United States (2005-1)	United States	9/3/2005–	Supporting Canadian Red Cross operations to assist Hurricane Katrina evacuees	One CC-150 Polaris flight
2005	United States (2005-2)	United States	9/3/2005–9/12/2005	Assisting with search-and-rescue operations in aftermath of Hurricane Katrina	Two CH-146 Griffon helicopters
2006	CHABANEL	Africa	4/10/2006–5/22/2006	Assisting RCMP interception of drug shipments in South Atlantic	Two ships
2006	LION	Lebanon	7/18/2006–9/3/2006	Evacuating Canadian citizens from Lebanon	Seven ships
2006	CARIBBE	Caribbean Sea & Eastern Pacific Ocean	Nov. 2006–	Participating in multinational campaign against illicit drug trafficking	Naval ships CP-140 Aurora aircraft
2007	Jamaica 2007	Jamaica	8/23/2007–8/24/2007	Delivering humanitarian aid after Hurricane Dean	One CC-177 Globemaster aircraft
2009	ATTENTION	Kabul, Afghanistan	Nov. 2009–	Participating in NATO Training Mission	No major equipment deployed
2011	MOBILE	Libya	Feb. 2011–Oct. 2011	Participating in NATO response to popular uprising in Libya	Two frigates Seven CF-18s CP-140 Auroras Two CC-150 Polaris, Two CC-130 Hercules Two CC-177 Globemasters
2012	MARTILLO	Caribbean Sea & East Pacific Ocean	Jan. 2012–	Participating in Operation CARIBBE to prevent drug trafficking	2012: Three MCDVs, one supply ship, one frigate, one destroyer, CP-140 Auroras 2013: Four MCDVs, four CP-140 Auroras, two frigates, one Victoria-class submarine
2014	Ukraine Crisis	Ukraine, Eastern Europe	Apr. 2014–	Contributing to NATO air-policing mission	Six CF-18s
2014	ISIS	Kuwait & Iraq	9/9/2014–	Participating in US-led coalition against Islamic State (ISIS) militant group in Iraq	Personnel to 'advise' on tactics
2014	ISIS	Kuwait & Iraq	10/31/2014–	Participating in US-led coalition against Islamic State (ISIS) militant group in Iraq	Six CF-18s Two CP-140 Auroras One CC-150 refuelling jet

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