

The Global Exchange

A publication of the Canadian Global Affairs Institute



IN THIS ISSUE:

Modernizing the Military Personnel System: Lessons from the Force of the Future
by LINDSAY RODMAN 21

Strong, Secure, Engaged So Far by DAVID PERRY 43

The Train Long Departed: Canada and Ballistic Missile Defence by DAVID HIGGINS 73



Royal Canadian Air Force Image Gallery

5TH ANNUAL DEFENCE PROCUREMENT CONFERENCE

OCTOBER 25, 2018 | CHATEAU LAURIER
OTTAWA, ONTARIO



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

cgai.ca



***Published by the
Canadian Global Affairs Institute
Contributing Fellows:***

Howard Anglin
Ken Barker
David Bercuson
Kevin Birn
Jean-Christophe Boucher
Brett Boudreau
Brian Bow
Andrew Caddell
David Carment
Anthony Cary
Andrea Charron
Michael Cleland
Howard Coombs
Lindsay Coombs
Barry Cooper
Daryl Copeland
Jocelyn Coulon
Mike Day
Ferry de Kerckhove
Douglas Dempster
Jim Donihee
Peter Donolo
Ross Fetterly
Matthew Fisher
Patricia Fortier
Fréderrick Gagnon

Monica Gattinger
Sarah Goldfeder
Andrew Griffith
Marius Grinius
Robert Hage
David Higgins
Roger Hilton
Rolf Holmboe
Andrew House
Rob Huebert
Peter Jones
Thomas Juneau
Amy Karam
Tom Keenan
Brian Kingston
Adam Lajeunesse
Eugene Lang
Gavin Liddy
Julian Lindley-French
Matthew Lombardi
Randolph Mank
Barbara Martin
Kyle Matthews
Dennis McConaghy
Eric Miller
Robert Muggah

Michael Nesbitt
Kevin O'Shea
David Perry
Vanja Petricevic
George Petrolekas
Joël Plouffe
Andrew Rasiulis
Tom Ring
Colin Robertson
Lindsay Rodman
Stephen Saideman
Hugh Segal
Elinor Sloan
Sarah Smith
Gary Soroka
Hugh Stephens
Alan Stephenson
Kelly Sundberg
Denis Thompson
James Trottier
Heidi Tworek
Stéfanie von Hlatky
Charity Weeden
John Weekes



CANADIAN GLOBAL
AFFAIRS INSTITUTE

INSTITUT CANADIEN
DES AFFAIRES MONDIALES

Prepared for the Canadian Global Affairs Institute
1800, 421 – 7th Avenue S.W. Calgary, Alberta T2P 4K9
www.cgai.ca

©2018 Canadian Global Affairs Institute | ISBN: 978-1-77397-015-8

INSIDE

2018 | VOLUME XVI • ISSUE II

6

Introduction: A Defence Policy for Canada's Future

by ADAM FROST

7

The Context of Canadian Defence Policy

by DAVID J. BERCUSON

11

Military Training and Co-operation: Diplomatic Instrument and Combat Force Multiplier

by ANDREW RASIULIS

15

The Importance of People in Defence

by ROSS FETTERLY

21

Modernizing the Military Personnel System: Lessons from the Force of the Future

by LINDSAY RODMAN

29

Operationalizing Strong, Secure, Engaged: The Child Soldier Dimension

by LINDSAY COOMBS

35

The Past, Present and Future of Academic Engagement with the Canadian Armed Forces

by STEPHEN M. SAIDEMAN

39

Use It or Lose It: SSE and DND's Chronic Underspensing Problem

by EUGENE LANG

43

Strong, Secure, Engaged So Far

by DAVID PERRY

51

People, Partisanship and Political Games: The Defence File

by ALAN STEPHENSON

55

A Basic Primer on Naval Shipbuilding

by IAN MACK

65

Unarmed Warships: What are the AOPS for?

by ADAM LAJEUNESSE

68

Strong, Secure, Engaged in a Threatened Space Domain

by CHARITY WEEDEN

73

The Train Long Departed: Canada and Ballistic Missile Defence

by DAVID HIGGINS

CGAI Advisory Council

| | |
|-------------------|---|
| Rona Ambrose | Hon. Rona Ambrose is a former leader of Canada's Official Opposition in the House of Commons, former leader of the Conservative Party of Canada and currently, a Global Fellow at the Woodrow Wilson Center's Canada Institute in Washington D.C. |
| Ian Brodie | Former Chief of Staff to Prime Minister Stephen Harper and currently, an Associate Professor of Law & Justice at the University of Calgary. |
| Jean Charest | Hon. Jean Charest is a former Premier of Quebec and Federal Cabinet Minister and currently, a Partner at McCarthy Tétrault LLP. |
| Laura Dawson | Director of the Canada Institute at the Woodrow Wilson Center in Washington D.C. |
| Bruce Donaldson | Vice Admiral (Ret'd) Donaldson, is a 36 year veteran of the Royal Canadian Navy, a member of the Royal Roads University Board of Governors and chairs the Salvation Army Advisory Board in Greater Victoria. |
| Richard Fadden | National Security Advisor to the Prime Minister from 2015—2016, and from 2009—2013, Director of the Canadian Security Intelligence Services. |
| Dan Hays | Hon. Dan Hays is a former Senator and is currently a Senior Partner with Norton Rose Fulbright. |
| Janice MacKinnon | Executive Fellow at the University of Calgary's School of Public Policy and a Professor of fiscal policy at the School of Public Health at the University of Saskatchewan. |
| John Manley | Hon. John Manley is President and CEO of the Business Council of Canada and former Deputy Prime Minister of Canada. |
| Jack Mintz | President's Fellow of the School of Public Policy at the University of Calgary, and is Chair and Vice-President of the Social Sciences and Humanities Research Council of Canada. |
| Kathleen Monk | Former Director of Strategic Communications for former NDP leader Jack Layton and currently, a Principal with Earncliffe Strategy Group. |
| Marie-Lucie Morin | National Security Advisor to the Prime Minister from 2008 to 2009 before becoming an Executive Director at the World Bank. |
| Bob Rae | Hon. Bob Rae, former Premier of Ontario and was the interim leader of the Liberal Party of Canada. Partner at OKT—Olthuis Kleer Townshend LLP. |
| Jeffery Simpson | Former Globe and Mail national affairs columnist, Senior Fellow at the University of Ottawa Graduate School of Public and International Affairs and an Officer of the Order of Canada. |
| Chris Waddell | Associate Professor and Director of Carleton University's School of Journalism and Communications. |
| Rob Wright | Canada's Ambassador to China from 2005—2009 and Ambassador to Japan from 2001—2005. |



Introduction: A Defence Policy for Canada's Future

by **ADAM FROST**

"Canada is a fireproof house, far from inflammable materials."

These were the naïve words of Canadian Senator Raoul Dandurand during his 1924 address to the League of Nations. Ironically, his speech took place between the two most devastating global conflicts in human history, and Canada was an active belligerent in both. However misguided Dandurand's statement may have been, its sentiment has been woven into Canadian psyche by virtue of geographic reality.

Canadians enjoy the privilege of a tremendously productive relationship with the United States, which remains the global hegemon. With geographical ties, Canadians and Americans also share a common history and broad cultural kinship. The strength of this relationship has afforded Canada a degree of security that would otherwise be unattainable, which affects Canadians' perception of national security.

It is an exceptional privilege of circumstance that defence is not required to be frequently in the forefront of public dialogue. However, while it is unlikely Canada will be confronted with an existential threat in the foreseeable future, it would be foolhardy for Canada to become complacent about preserving the means to defend its national interests when necessary.

The 21st century international arena is rife with instability and change. These conditions create uncertainty. Canada's armed forces are charged with the task of safeguarding and advancing Canada's national interests when called upon, often in the most challenging of circumstances and environments. In order for the Canadian Armed Forces (CAF) to be

successful, the government of the day must adopt and implement pragmatic defence policy, and provide the CAF with the appropriate resources to meet expectations.

This issue contends with the questions of how best Canada can enable the CAF to succeed in its assigned tasks, and outlines what some of those tasks ought to be to defend against contemporary threats in our era of increasing uncertainty.

Policy-makers must consider the evolving threat environment in order to enable the CAF to effectively defend Canada's interests. The proliferation of long-range ballistic missiles and offensive cyber capabilities poses significant threats to Canada and its closest allies. Climate change is also exposing Canada to new challenges in our Arctic territories, creating a growing need for surveillance and governance in the high Arctic to protect Canadian sovereignty. These are only a few of the emerging threats addressed in this issue.

For the CAF to be capable of adapting to the multiplex of eventualities that it must be prepared to confront, it requires sufficient personnel and materiel. The mix of skills required in today's armed forces is very different than in bygone eras. Personnel must also be properly equipped if they are to be effective in their roles. Therefore, recruiting and retaining people with expertise in diverse trades and the efficient and timely procurement of vital equipment are paramount if the CAF is to be a capable, adaptable and effective force.

ADAM FROST is the Associate Research and Development Coordinator of the Canadian Global Affairs Institute.



The Context of Canadian Defence Policy

by **DAVID J. BERCUSON**

The Canadian Armed Forces' first mission is the defence of Canada and its second mission is to do what it can to defend North America. The CAF's third traditional mission is to be deployed according to government dictates to out-of-Canada missions to aid allies – to participate in NATO missions or United Nations operations, or to engage in coalitions in missions such as the Multinational Force and Observers (MFO) in the Sinai Peninsula.

Since the end of the Second World War, Canada's out-of-country missions have ranged from small UN contributions in obscure places to major NATO deployments in Europe, and wars in Korea (1950-1953) and Afghanistan (2001-2002, 2003-2012). In both Korea and Afghanistan,

Canada responded to requests from major allies – especially the United States – to deploy troops as part of a major peace enforcement operation. In both Korea and Afghanistan, Canadians generally were strongly in favour of the missions at the start of operations, but public support faded as months and even years went by without indication that these missions had a clear and achievable objective. The government, responding to popular opinion, did not pull Canadians out of Korea until after the armistice of July 1953, but refused any sort of police role beyond 18 months after the ceasefire. In Afghanistan, the government pulled Canadian troops out of active operations in the summer of 2011 and assumed a training mission for a year before leaving Afghanistan altogether, even though the fight still goes on.

Canadian casualties in both Korea and Afghanistan were very low compared to the casualty rate of the Second World War, but in the case of Afghanistan, the return of dead soldiers to Trenton, Ontario, and the transport of their bodies to Toronto, attracted huge public attention and no

doubt undermined public support for the war.

No one can say whether Canada will soon contribute to more missions such as Korea or Afghanistan. In the latter case, the campaign consumed large resources of the Canadian defence establishment. To maintain a constant presence of some 2,000 to 2,600 troops in Kandahar province and Kabul for 10 years, immense resources in person power, kit, police and international aid focused Canadian defences on that mission. Kandahar was, in effect, a black hole, pulling in national defence resources from every part of Canada and from all three services. The nation would have to think twice before making any such commitment in the future. Either that, or greatly expand defence resources, which, despite promises made last year with the issuance of *Strong, Secure, Engaged*, is not likely to help much over the next decade.

What, then, is the likely future of Canadian military interventions abroad? The most likely options for Canada, other than the small peace support operation now going to Mali, is air attack, as in Iraq and Libya, or sea operations to support larger international or allied efforts, such as anti-piracy and anti-drug smuggling patrols. The problem here is that Canada's air force is obsolescent and will even become more so over the next decade as most of our allies, and the U.S. in particular, equip themselves with fifth-generation fighters. Meanwhile, we will continue to fly the CF-18s we currently have or the F-18s we will acquire from Australia. As for maritime operations, here too procurement problems will plague the navy for at least the next decade.

When it comes to the defence of Canada mission, similar problems prevail. Canada cannot be defended by the CAF alone and a formal attack on Canada or the United States is highly unlikely short of a major interstate war, which is in itself highly unlikely. Thus Canada's real role in the defence of itself and consequently the defence of the northern part of North America – the front door of the United States – is primarily one of

reconnaissance. Canada must have or acquire the very best technologically advanced interceptor aircraft, surface ships and undersea capability to always know who is approaching our air, sea and undersea territory and usher them away. Yet we are not so equipped and in the case of submersibles, probably will never be. At the same time, Canada must collect as much information from unknown vehicles approaching our waters or airspace with interceptions of radar emissions, underwater sound pulses, etc., for intelligence purposes. And of course, Canada must share the results of its reconnaissance with our United States ally.

In the very unlikely event that an approach to Canada's territory is done with hostile intent to attack Canada or the United States, Canada must have as much capability as prudence would dictate to hold off the attack until the U.S.'s far more substantial forces can be brought to our aid.

But Canada is also one node in a global network of trade, transportation, migration, free navigation, and where formal or informal allies are concerned, defence obligations. Canada must be prepared to send military forces abroad when informal allies (such as Japan) and especially formal allies (as in NATO) seek our help.

Canadians often act as if Canada is a lone player in international affairs. But for reasons of trade alone (our large dependence on a rules-based international order), to ensure the safety and security of trade we must be ready to act with allies or informal allies such as Japan, Australia, the Gulf Cooperation Council, etc., to maintain order and security in the global commons. That means that given Canada's limited military ability, the nation must decide three issues: first, which parts of the globe are most important to Canadian interests; second, which parts of the defence spectrum should Canada endeavour to cover; third, to what degree should Canada engage militarily in areas where it has few, if any, national interests. Perhaps the

question of defining Canada's national interests should be assessed as soon as possible in a global affairs policy review.

Much attention has been given to the question of whether Canada has the will or the ability to meet NATO's new target of two per cent of GDP on defence spending to which the previous government committed, and which the new government has not disavowed. Certainly, for reasons of inadequate infrastructure alone, not to mention ongoing procurement problems that oblige governments to keep pushing back completion dates, it would be impossible to meet that standard any time soon. The military can only absorb limited amounts of additional funds as it is currently organized. But the fact is, the only nation that Canada must truly attempt to satisfy on matters of defence spending is the United States. And if Canada is prepared to get active and stay active in a high-profile manner in some area (geographical or in cyber-space) that is important to the United States, much pressure from the U.S. to meet the two per cent target will be mitigated as it was when Canada was engaged in Kandahar. A larger and more sustained effort in the Caribbean might do the trick as a first Canadian priority that would also serve Canadian interests due to Canada's strong financial, mining and other commercial interests there and the growing number of Canadians with strong family ties to the Caribbean. This question is, of course, a matter of foreign policy priorities but the basic point is that the U.S. did not press Canada to increase defence spending when our men and women were being killed in Afghanistan.

Afghanistan is over for us, but we need to find some other compelling mission or missions that will show that our importance is not to be measured solely in how much we spend, but also by what we do. In the last two years, the government has committed itself not only to a peace operation in Mali but to a variety of exercises in land, sea and air in central Europe and the Baltic. Most important is the commitment to place 400 soldiers in Latvia and to lead a composite NATO brigade there. The Latvia mission is

not unimportant since the NATO brigade constitutes a tripwire in the event that Russia moves against the Baltic countries. But the chances of a major Russian conventional attack in central Europe or even what is left of Ukraine are highly unlikely. For all the bravado from the U.S. Congress and from Russian President Vladimir Putin and his minions, major war is unthinkable, especially when there are now so many other ways, short of war, to attack nations deemed strongly opposed to your own national interests.

What was once called information war, propaganda or even espionage has now emerged as "hyper-war" or even "cyber-war" and constitutes a cheap and relatively riskless way of putting pressure on an opponent or of interfering in the efficient running of an opponent's society. Why launch bomber attacks against the electric power grid of a major Western city, when computer hacking will do the job just as well? The only thing new about this new way of war is the technology; the intent has existed since the beginning of war itself. The question for Canada – having been a member of the Five Eyes signals intelligence community since the Second World War – is what are we willing to put into these new and highly complex operations? Do we have sufficient skilled people to deploy? Are we willing to shift from the defensive to the offensive (which was strongly implied in SSE)? Do we have the money and resources to put into this new way of waging war? Have Canadians been primed to understand what is at stake? Will we restrict our efforts to the Five Eyes community or should we press to expand that community by, for example, admitting Japan?

Actually, the most important aspect of Canadian defence policy that remains unstated is its political context. What are Canada's goals and objectives in the world? What trade arrangements do we seek and with whom? We have no formal military ties to Australia, for example, but what strategic objectives would we like to see achieved in that region? With a small but deployable military, Canada has to pick its slots and

declare to the world what we are prepared to do and where we are prepared to do it.

One of the more important debates we must have is how to deploy. In the days when our military was almost twice as large as it is today, Canada sent several missions overseas at the same time while also maintaining a strong (for us) presence in NATO. But spreading out our deployments to Somalia, Cyprus, the Sinai, the Persian Gulf, Haiti and other places gave us little political leverage anywhere. If we seek political leverage – and we should – one or two significant deployments on land, sea or air would increase it. After all, when we repeat the old mantra that our military defends Canada, defends North America and deploys on international missions to support allies or international organizations doing work we believe in, do we send our military out of country as a colony, or as a sovereign power expecting commensurate political say in how they are to be deployed, and political (if not also commercial, industrial or investment) opportunities in return?

Most of these questions of foreign policy and required defence capability should be relatively easy for Canada to answer. Back in the 1960s and early 1970s, former prime minister Pierre Trudeau fiddled with the notion of either neutrality for Canada or greatly decreased military resources. The world today has changed dramatically since then and now we are not only members of NORAD and NATO but of the Group of Seven as well. We count as strong allies not only the European Union, but Japan, the ANZAC countries and the Gulf Cooperation Council. The government must choose between retaining those self-imposed bits of neutrality that were adopted decades ago and creating an armed state that will stand up for itself and its allies in this era of growing great power competition.

DAVID J. BERCUSON is Director of the Centre for Military, Security and Strategic Studies at the University of Calgary, Area Director, International Policy for the School of Public Policy, University of Calgary and Program Director and Fellow, Canadian Global Affairs Institute.

Lead image: **Canadian Armed Forces Image Gallery**



GLOBAL EXCHANGE PODCAST

A weekly conversation
focusing on Canada's
defence, diplomacy,
development and trade
policy.

Free for download on
iTunes. cgai.ca/podcasts



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

cgai.ca



Military Training and Co-operation: Diplomatic Instrument and Combat Force Multiplier

by **ANDREW RASIULIS**

Within the construct of Canada's defence policy rests a sublime instrument of military training and co-operation. This instrument acts as a strategic Canadian diplomatic door-opener, as it does a combat force multiplier for Canada's defence partners. In both cases, military training and co-operation use the capacity of the Canadian Armed Forces (CAF) and Department of National Defence (DND) civilian staff to bolster Canada's defence and foreign policy objectives in a strategically effective and efficient manner.

Originally termed military training assistance, the long-standing practice involves stronger or more developed states using their armed forces to assist and train allied armed forces for synergistic effect. During the Cold War, military training assistance was the keystone of the softer defence diplomacy end ideological rivalry between NATO and the Soviet Union/Warsaw Pact. In fact, this form of defence diplomacy was not restricted to the rival Cold War powers, but states such as Israel used it in an independent fashion to support their particular strategic objectives. (In Israel's case, its training assistance effort with Uganda in the 1960s paid dividends in its 1976 hostage rescue mission in Entebbe).

Canada's military assistance post-1945 was focused on the developing Commonwealth countries. These Third World countries – the Second World being the Communist or Eastern bloc and the First World the Western democratic and capitalist bloc – were seen as an important battleground for hearts and minds between the rival blocs. This battle widely used military training and assistance to

alter the Cold War balance between East and West.¹

During the Cold War, East and West tried to draw countries of the developing world into their respective camps and thereby improve their relative advantage in the war's zero sum competitive nature.

As military co-operation in this context was driven by foreign policy interests supported by military assets, the Department of External Affairs was the lead department for Canada. In addition to the political or ideological aspect of winning the hearts and minds of developing countries, there was also the lucrative interest in the sale of armaments and equipment.

During the 1950s and 1960s Canada's armaments industry, particularly aircraft, was an important consideration for its military training assistance efforts. The various interests driving Canadian military assistance policy were rationalized in 1964 with the creation of the Military Assistance Committee. External Affairs chaired the committee and set the policy priorities. With the advent of Pierre Trudeau's government in 1968, Canada's military assistance efforts suffered a near death due to Trudeau's perception that military co-operation was tantamount to interference in the internal affairs of developing countries. Such is the flip side of diplomatic influence.

This low ebb in Canada's military co-operation program lasted from the 1970s to the early 1990s. The end of the Cold War and the urgent policy imperative to stabilize and integrate the former countries of the Warsaw Pact and Soviet Union led to a renaissance of Canada's military co-operation efforts in the early 1990s.

Due to budget issues at External Affairs in 1991, the lead for military training co-operation was transferred to DND. The military assistance committee was renamed the Military Assistance Steering Committee (MASC). The agent for the co-ordination and disbursement of funding, the DND Military Training Assistance Program (MTAP), which

had been funded from the External Affairs budget since 1970, was now funded directly from DND's budget.²

The renewed imperative for Canadian military co-operation to act in support of wider NATO efforts for the stabilization, reform and integration of Central and Eastern Europe post-Cold War gave a major boost to MTAP's funding base and focus within DND and the federal government, specifically the partner departments of Foreign Affairs and the Canadian International Development Agency (CIDA).

In many ways, this was a defining moment for the evolution of Canadian military co-operation policy. The enormity of the task in addressing the challenge for the reform and transformation of the multitude of states formerly part of the Warsaw Pact and Soviet Union required a comprehensive policy that prioritized Canadian strategic interests and the capacity of the CAF/DND, and matched these to the aspirant partner countries.

MASC took a key policy decision that military training assistance would be focused on a few strategically targeted countries corresponding to particular Canadian interests, rather than simply reaching out to all aspirants. The latter approach would have thinned out the impact of Canadian assistance beyond any meaningful critical mass, other than a diplomatic handshake.

The second half of this decision for the selection of strategic partners for MTAP, was to focus Canada's assistance on a few military/defence training assets in which it excelled. In this way, the Canadian flag would be registered with recipient countries in a practical and meaningful manner, rather than parsed out in a nickel-and-dime approach that would not accomplish capacity building.

These two elements of the guiding principles of military co-operation policy were applied on a global scale among all current and aspirant partner countries of MTAP. They were matched to a capacity-building toolbox that focused on the major pillars of language

training, professional development (e.g., staff training), peacekeeping/peace support and expert teams. These policy principles have stood the test of time and continue to guide MTAP's current manifestation, whose name was changed to the Military Training Cooperation Program (MTCP) in 2010, to better reflect the co-operative nature of capacity building, rather than the asymmetric assistance approach.

Canada's focused military training assistance and co-operation efforts have also been designed to lessen the burden on the CAF. By building the capacity of strategically targeted partner-country armed forces, the effects of MTAP/MTCP have been to use CAF training assets to enable partner countries to engage in military operations that support Canada's foreign and defence policy interests.

The evidence is reflected in the success of the combined NATO Partnership for Peace (PfP) program which was initiated in 1994 to stabilize post-Cold War Europe and build the capacity of the former member states of the Warsaw Pact and Soviet Union. Many of these states chose integration and membership in NATO, while others have remained strong NATO partners. In both cases, the newly reformed armed forces of these countries have engaged alongside Canada and other NATO countries in mutually supporting operations from Africa to Afghanistan.

Similarly, the success of Canada's military co-operation capacity-building efforts have contributed to African partner countries undertaking a growing burden of the peacekeeping and peace support operations in Africa. Canada has done similar work with select Asian partners whose armed forces are actively engaged in worldwide peace support and peacekeeping operations.

Closer to home, in the Caribbean, which may be termed our strategic backyard, Canada has long been active in capacity building of the local defence forces. The Caribbean is the gateway to drug and other criminal traffic that finds its way directly onto

Canadian streets. By working with our Caribbean partner countries, Canada has built up the local forces' capacity to assist Canadian authorities in combating these threats to our security. As an example of these efforts, MTAP/MTCP has over a number of years worked with the Jamaican Defence Force to build three regional Caribbean training centres of excellence that exemplify Canadian standards and values: the Caribbean Junior Command and Staff Course, Caribbean Military Aviation School and the Caribbean Military Maritime Aviation Centre.

Canada's efforts in capacity building ramped up to an industrial scale after 9/11. With the war on terror beginning in Afghanistan and then moving into the Middle East and Africa, the CAF embarked, along with key allies, to operationalize the capacity building of partner countries. Under Operation IMPACT, the CAF has been using the train-the-trainer approach with partners such as the Iraqi Security Forces (ISF) to build their capacity to prevent the spread of violent extremism. In addition, two CAF training assistance teams have deployed to Jordan and Lebanon, and a CAF brigadier-general now leads the global coalition ministerial liaison team to provide support to Iraqi PM staff, the MOD and Ministry of the Interior.

Finally, under Operation UNIFIER, the CAF has built upon the groundwork established under the auspices of MTAP/MTCP since 1993, to further enhance the capacity and reform of the Ukrainian armed forces. Projects such as the Lithuanian-Polish-Ukrainian Brigade had their antecedents in the late 1990s with the establishment of the Maple Arch series of exercises. Whereas MTCP's efforts continue to build capacity in professionally developing the Ukrainian armed forces, Op UNIFIER is focused on tactical soldier training, and collective and small-team training.

These examples of Canadian military training and co-operation demonstrate their efficacy and efficiency in furthering the interests of Canadian defence and foreign policy objectives. Through these efforts, the CAF

and DND civilians are fully engaged in combating terrorism and enhancing stability operations in various international theatres of operation.

ANDREW RASIULIS joined the Department of National Defence in 1979 as an analyst with the Directorate of Strategic Analysis, specializing in strategic politico-military issues pertaining to conventional forces. These issues included emerging concepts of conventional defence strategies for Western Europe, as well as the Canadian Government's efforts in the area of conventional arms control. In 1987, Mr. Rasiulis was promoted to Section Head, within the Directorate of Nuclear and Arms Control Policy, responsible for conventional arms control policy. He was also the Department of National Defence representative on NATO's High Level Task Force for conventional arms control from its inception in 1986 to 1989.

In June 1989 Mr. Rasiulis was posted as a Defence Advisor to the Canadian Delegation for Conventional Arms Control Talks in Vienna. Upon completion of his tour Mr. Rasiulis returned to National Defence Headquarters in April 1992 as Section Head responsible for policy on Central and Eastern Europe, including the Department's Military Training and Assistance Program (MTAP) with Central and Eastern Europe. In May 1996, Mr. Rasiulis was also assigned the responsibility of Programme Manager for the entire MTAP. He was subsequently designated as Director, Military Training Assistance Programme (and Eastern European Policy) in 1998.

Reflecting the growth of responsibility within the area of defence diplomacy, Mr. Rasiulis was re-designated Director Military Training and Cooperation in 2009. His responsibilities included the development of the policy for defence training cooperation with developing countries world wide, as well as overseeing its operational implementation.

Mr. Rasiulis is retired from the Public Service and is now a freelance consultant with Andrew Rasiulis Associates Inc. He is also a Fellow with the Canadian Global Affairs Institute.

End Notes

¹ For an excellent history of Canada's military assistance to the developing world 1945-1975, see Christopher Kilford, *The Other Cold War*

² For a more detailed analysis of MASC and MTAP from 1991 to 2001, see the author's "The Military Training Assistance Programme (MTAP): An Instrument of Defence Diplomacy," in *Canadian Military Journal*, Issue 2, No. 3, 2001

Lead image: **Canadian Armed Forces Image Gallery**



The Importance of People in Defence

by **ROSS FETTERLY**

“People are at the core of everything the Canadian Armed Forces does to deliver on its mandate.” (SSE, 19)

The Canadian Armed Forces (CAF) has entered a perfect storm regarding military personnel. The recruitment system was not built for an attrition rate of more than six per cent, and recruitment capacity was cut earlier this decade as part of the federal deficit reduction plan. The strategic challenge of recent attrition rates needs to be addressed. The military training system has capacity limitations. Further, the rapidly evolving security environment calls for greater numbers of cyber-warriors and for specialists in the space domain. Finally, the 2017 Defence Policy calls for increased numbers of both regular force and reserve force military personnel. Collectively, this unique combination of different circumstances is significantly

intensifying existing military personnel challenges.

Within the CAF, there is a misalignment between the rapidity of evolving military human resource requirements and the sluggish responsiveness of the recruiting, training and personnel management processes. This misalignment creates a paralysis that facilitates an environment of uncertainty and ambiguity. Combined with competing institutional interests for personnel, and incomplete internal information due to outdated knowledge management processes, transformation of military human resource processes remains a fundamental constraint on CAF efforts to prepare military personnel for the future security environment.

Historically, too much emphasis has been placed on new technologies and on different doctrines in defence. Yet, for many Western nations, their military personnel have been their most enduring advantage over potential adversaries. However, our primary adversaries now have the advantage of speed, because they are not constrained by international norms or democratic

processes. To maintain this personnel advantage, Canadian defence leaders need to expand their way of thinking in a rapidly evolving security environment about whom they recruit, the manner in which they are trained as recruits, and how their skills sets need to evolve throughout their careers – all of which have cost implications. In an environment where peace support operations look a lot more like Afghanistan and a lot less like Cyprus, and where Russia and China are not happy with peace and security in the world – the status quo for Western militaries is no longer valid. The biggest challenge to implementing the 2017 Defence Policy is that the Department of National Defence (DND) and CAF get in their own way. Current personnel processes and procedures will slow the adaption of personnel policies to meet future demands. This paper will focus on the importance of people in achieving defence objectives.

Managing Human Resources

The military human resource legacy in Canada has been an ongoing and frustrating inability to realign resources to fund human resource programs. This has created a growing disenchantment in younger military personnel, for whom changes or updates to training do not keep up with evolving requirements in military occupations. It is time to prioritize certain activities, capabilities and funding for training and development in specific high-value occupations. Indeed, the most distinguishing characteristic in defence human resources management is that although the flexibility in the current year may be minimal, the impact of decisions made on specific training programs, reform of certain trades or classifications, and the reallocation of military personnel across different occupations in future years can be significant.

Many exceptional men and women at all levels lead the CAF and the calibre of military personnel matches or exceeds our allies. Indeed, the CAF can produce leaders who can be both entrepreneurial in outlook and innovative in nature. Yet, this exceptional talent is unexploited in a risk-adverse and

bureaucratic personnel management system. Change requires adopting the lessons that have become integral to the knowledge economy. The private sector must also adapt to a dynamic HR environment dominated by fluid and powerful changes to skill sets in a rapidly changing workplace. Both the DND and CAF are very good at developing structures and organizations. However, they are less capable when they have to tear down and rebuild existing structures. The defence establishment in Canada is now at the point where it needs to focus on people issues, as this will fundamentally impact its ability to implement the 2017 Defence Policy – *Strong, Secure, Engaged* (SSE). In an international security environment where “we are increasingly seeking talent in markets where demand significantly outstrips supply and our starting point lags well behind contemporary organizations”,¹ attracting, training and employing the right people has become a critical enabler for Western military organizations.

The combination of the CAF's inability to meet its recruiting targets in recent years and an increased attrition rate has left it under authorized strength. This is manifested in staff jobs at headquarters going vacant, shortages in personnel at operational units and demands on recruiting and capacity that exceed existing capacity. In military institutions, the operational positions take priority. In the current environment, recruiting and training positions need to be given greater priority. Rebuilding the CAF's strength while meeting operational challenges and also implementing SSE is a considerable institutional challenge.

While the department and the CAF have the primary responsibility for recruiting, training and developing military personnel, fundamentally a whole-of-government approach is required to achieve transformational change in managing CAF human resources. To some extent, the DND and CAF are shackled by policies that need revision. The impact that military personnel policies can have as a critical enabler in

supporting the achievement of defence objectives is not sufficiently appreciated. The Treasury Board Secretariat (TBS) needs to be closely engaged with the department in staffing changes to personnel policies through the Treasury Board. For example, this could include retention bonuses. The TBS may need to increase its staff capacity in order to prepare for an increased number of defence Treasury Board submissions driven by SSE in the coming fiscal years. Similarly, Public Service Procurement Canada (PSPC) and Innovation, Science and Economic Development (ISED) may also have to increase their staff capacity to support SSE-directed capital equipment procurement projects.

Adapting to the Future Security Environment

The management of human resources in the CAF has gradually evolved in recent decades from that of a supporting function to one of increasing importance as an institutional strategic enabler. Yet, despite considerable focus on human resource issues in the CAF, considerable challenges persist. In the coming decade, informed decisions on recruiting and retention programs, wellness programs and family support are necessary. Furthermore, changes to operational demands will also impact existing skill sets and force structure requirements, and this will consequently require increased attention toward personnel and unit readiness. Indeed, in a situation where the contemporary and future strategic context and operating environment are characterized by “complexity, instability, uncertainty and pervasive information”,² managing human resources effectively is critical.

As the department and CAF move through the coming decade, how the defence establishment prepares its military and civilian personnel for the future security environment (FSE) must be seen as an essential institutional focus. Indeed, the next decade will see a generational change within the Canadian military, and younger members need to be prepared for the future

operating environment. Notwithstanding the capital-intensive nature of the DND and CAF, it is people – both military and civilian – who drive the institution and execute their assigned tasks to the best of their abilities, delivering required outputs. In this environment, where uncertainty is increasing and decision cycles are decreasing, soldiers, sailors and air personnel will need to be able to be deployed without extensive preparation to a complex multinational asymmetric environment overseas. While the government has committed to participating in peace support operations (PSOs), the CAF needs to be prepared to operate in a variety of other environments, including hybrid conflicts. This will be a primary catalyst in the development of future training requirements and will also elevate costs.

The environment in which defence personnel will work into the next decade is evolving in a number of ways. Increased use of technology and data on the battlefield needs to be addressed. First, the combination of steep growth in data, combined with the precipitous expansion in computing power, will mean that military personnel at all levels will be likely inundated with information, and the intensification of technology in both the headquarters and the operating environment will occur. This implies greater automation of the workplace, where armed forces and defence departments “will need to redefine jobs and processes so that their organizations can take advantage of the automation potential that is distributed across them.”³ As a probable consequence, fewer military personnel will be required for the same output.

While this trend is not new, the pace of automation is increasing. The implication for defence is that the training bill and investment in job-related skills will grow – most notably, leadership and decision-making ability will increase in importance, and more training will be needed in those areas to function effectively in the future operating environment. Second, changes in the operating environment will require a rebalance of qualifications and skill sets in personnel at all ranks. Third, greater

emphasis will be needed for recruitment in cyber, information technology, information operations, intelligence and in relationship-building types of jobs – such as liaison officer in a multinational setting or in civil/military relations.

The cumulative effect of demands for additional information technology and information management will require further growth in military and civilian defence establishment positions. In a discipline where the private sector is already aggressively competing for individuals in this field, the DND and CAF need to position themselves to attract these highly skilled and in-demand people. Finally, the need for soft skills will dramatically increase within the military in such areas as digital literacy, cultural awareness, negotiation in a coalition setting, operational adaptability, language skills, self-awareness, flexibility and operational adaptability.

Re-skilling is an essential defence challenge in order to prepare for the future operating environment. To compete for talent, the recruiting process for both military and public servants will need to move to skill sets identified in the private sector as critical enablers for success. Indeed, for all organizations, recruiting is and will remain one of the most difficult tasks. The combination of an aging population and shifting skill sets means that finding and retaining skilled employees will be a central focus of human resource organizations for the foreseeable future. The defence establishment can benefit from the lessons learned by an extensive range of companies and organizations in the private sector. Across a broad range of industries, leading corporations have identified skill sets they are looking for in new recruits.

Private sector leaders are looking for the four skills listed in Figure 1 from employees as critical enablers for success in an environment where they face a relatively common set of human capital challenges.⁴ In terms of business and management skills, this includes an

understanding of business, the ability to establish strategic direction and operational decision-making skills. For leadership impact, corporate executives are looking for the ability to coach and develop others, be able to inspire others and the talent to drive execution. Interpersonal effectiveness includes cultivating both networks and partnerships, having compelling communication skills and the capacity to build relationships externally. Critical thinking skills are deemed indispensable to decision-making. This consists of the resourcefulness to ask questions to gather the necessary information, the dexterity to formulate decision criteria, and finally, the skillfulness to choose an effective option. The CAF's recruitment process evaluates recruits based on the particular employment for which the individual is being considered. However, ensuring that recruits have the four critical skills that industry identifies as drivers of success is essential to enhancing long-term performance improvement in the military.

Figure 1—Critical Private Sector Skills

- Business/management skills
- Leadership impact
- Interpersonal effectiveness
- Critical thinking skills

Each generation of Canadian youth has unique characteristics. The Canadian Forces have focused recruitment on the millennials for a number of years, and they will continue to be a cohort of interest. However, as that generation ages, Generation Z will increasingly be the recruitment focus, necessitating adaption of recruiting, training and career management processes. For both millennials and Generation Z, the CAF will need to foster a culture of innovation in order to attract and retain Canadian youth and second-career individuals. While each generation of military personnel has had its

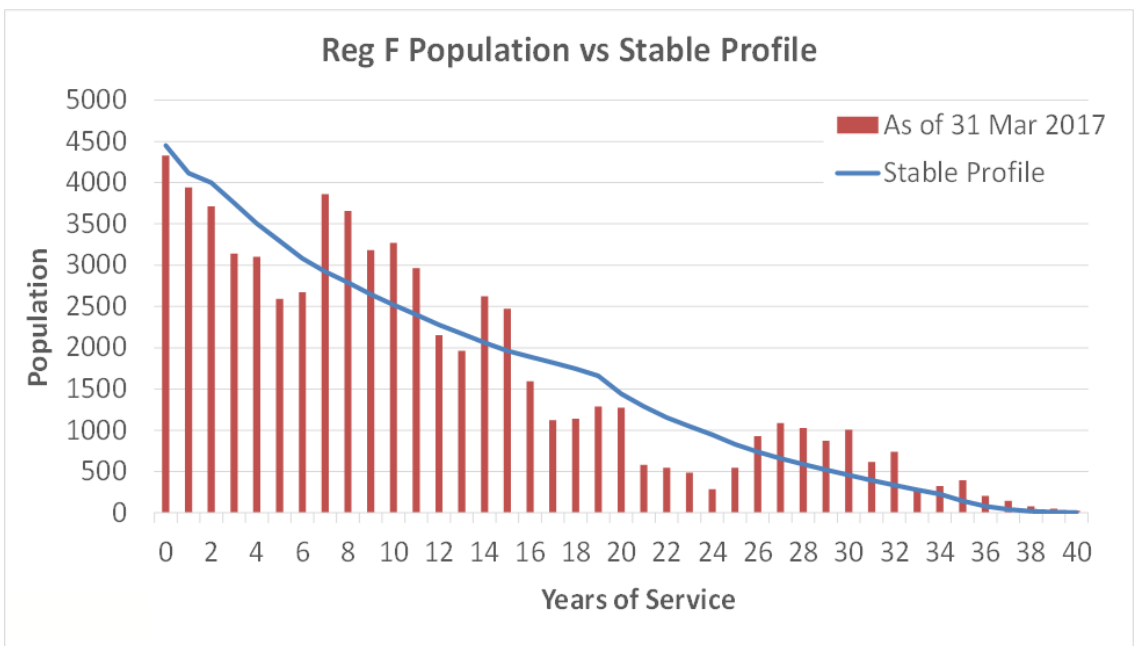


Figure 2

own impact on the CAF, historical experience gaps could affect SSE implementation in the coming years.

The Experience Gap

The CAF places considerable physical and mental strain on its members in training, exercises and operations, due to the rigorous environment in which it functions. In an organization that promotes from within, experience is also a consideration for senior leadership. This largely drives retention strategies to maintain a stable experience profile. Figure 2 identifies a number of significant experience gaps.⁵ The most significant is the nine-year period driven by the 1990s budget cuts and reduction in size of the CAF, where recruiting was limited and serving members were given financial incentives to leave the CAF. More recently, retirements of baby boomers and limitations in recruiting and training capacity, driven by the federal deficit action plan earlier this decade, have contributed to fewer military in the first seven years of service than needed to maintain a stable personnel profile. The age profile of CAF personnel in terms of years of service, together with the limitation in the experience, knowledge

and skill sets of senior military leaders, could also affect the capacity of military personnel to implement the SSE. This experience shortfall could be partially mitigated through increases in experienced corporate-level public servants at National Defence headquarters to move SSE priorities, and a greater use of contractors in recruiting and training to increase throughput capacity.

Conclusion

The defence establishment's ability to recruit and train Canadian men and women with the needed skill sets over the coming decade, and to bring up and keep the CAF at full authorized strength, as well as reduce attrition, will strongly determine the extent to which the SSE can be implemented with the funding allocated. This will require a significant transformation of how the CAF recruits, trains and retains its personnel.

ROSS FETTERLY retired in 2017 from the Canadian Forces after a 34-year career as the Royal Canadian Air Force's director of air comptrollership and business management. He previously served as the military personnel command comptroller, and in other senior positions with the Department of National Defence Assistant Deputy Minister (Finance). He is currently a Fellow with the Canadian Global Affairs Institute.

Retired Col. Fetterly completed a tour in February 2009 as the chief CJ8 at the NATO base headquarters at Kandahar airfield, Afghanistan, where he was responsible for finance, contracting and procurement. While deployed he wrote a paper entitled *Methodology for Estimating the Fiscal Impact of the Costs Incurred by the Government of Canada in Support of the Mission in Afghanistan* with staff from the Parliamentary Budget Office. Col. Fetterly was employed as the deputy commanding officer of the Canadian contingent in the United Nations Disengagement Observer Force in the Golan Heights during the second intifada in 2000-2001. He has served as an air force squadron logistics officer and as a finance officer at military bases across Canada.

An adjunct professor at the Royal Military College of Canada (RMC) department of management and economics, and a Senior Fellow with the Centre for Security Governance, Dr. Fetterly has a B.Comm (McGill), M.Admin (University of Regina) and an MA and PhD in war studies from RMC. His PhD fields of study included defence economics, defence policy and defence cost analysis. His primary research focus is defence resource management. Dr. Fetterly also teaches courses in financial decision-making, defence resource management and government procurement at RMC. Through his company, Ross Fetterly Consulting Inc., he teaches a defence resource management course and a business planning course internationally for the Department of National Defence to senior military officers and defence executives in developing countries.

End Notes

¹ United Kingdom (2017). *Joint Concept Note 1/17: Future Force Concept* (Ministry of Defence, London), 50. <https://www.gov.uk/government/publications/future-force-concept-jcn-117>

² United Kingdom (2017). *Joint Concept Note 1/17: Future Force Concept* (Ministry of Defence, London), 1. <https://www.gov.uk/government/publications/future-force-concept-jcn-117>

³ Michael Chui, James Manyika, and Mehdi Miremadi (2015). *Four Fundamentals of Workplace Automation* (McKinsey & Company, Washington), 2. <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/four-fundamentals-of-workplace-automation>

⁴ The Conference Board of Canada (2017). *Leading through Risk, Disruption, and Transformation: Meeting the Human Capital Challenge* (New York).

⁵ DND (2018). *Regular Force Population versus Stable Profile* (Director General, Military Personnel Research and Analysis, Ottawa)

Lead image: **Canadian Armed Forces Image Gallery**



Modernizing the Military Personnel System: Lessons from the Force of the Future

by **LINDSAY RODMAN**

The Department of National Defence's (DND) new holistic Defence Policy Review, titled *Strong, Secure, Engaged* (SSE) included ambitious and thorough treatments of important new initiatives for the Canadian military. However, the document also leaves some placeholders in areas where further thought and consideration will be vitally important. One of these areas is modernizing the Canadian military personnel system.

Many of the initiatives in *SSE* were laudable but vague – they lacked detail about what specifically DND hopes to accomplish and how it intends to get there. At a CGAI

conference on Oct. 4, 2017, Minister of Defence Harjit Sajjan promised that the public would soon see follow-on efforts from the government to better articulate the path forward. As Canada undergoes the process of fleshing out what will be required to achieve these initiatives, especially those related to military personnel modernization, there are lessons to be learned from a similar effort by the United States.

Former U.S. secretary of defense Ashton B. Carter touts personnel modernization among his proudest achievements during his tenure. During the tail end of the Obama administration, the United States adopted major personnel reforms. Introduced and implemented under the umbrella initiative named Force of the Future (FOTF), they included far-ranging efforts to bring the military personnel system into the 21st century. While many FOTF reforms represented significant improvements to the overall personnel system, there was also much unfinished business.

Canada's specific goals in personnel reform may naturally differ from those of the United States. The two systems do have important

differences, e.g., the U.S. military’s “up or out” paradigm, and the size and global engagement of the U.S. force. Nevertheless, the countries’ societies and current labour market trends are substantially similar and the two systems grew out of similar historical approaches to talent management. Positive and negative lessons learned from the United States could prove helpful as Canada looks toward its next steps.

The Talent Management Agenda

Often the question of personnel modernization is confused with the question of technological competence. Modernizing the military personnel system is not only about employing a qualified and talented cyber-workforce. It is about ensuring that the people who maintain Canada’s defence represent the most qualified talent that Canada has to offer, and that the system itself is not weeding the wrong people out through arcane methods and processes.

The modern North American workforce has different expectations and aspirations than the workforce for which the system was created. Today’s labour market is dramatically different than it was a couple of decades ago. The new reality includes tech companies, millennials’ expectations and the fact that 20-year careers with one organization are practically unheard of in the private sector. Both the Canadian and American militaries need to figure out how to stay relevant and compete in this landscape.

Identifying the Problem

In the United States, FOTF concentrated on these questions, trying to address a slew of pressing challenges across the gamut of personnel issues. In recruiting, there was a concern that accession requirements were arbitrary, and that a pattern of recruiting from the same pipelines might be leading to a less diverse force. With respect to retention, a cascade of articles during the past decade from angry lieutenants and captains (“junior officers”) accused the military of marginalizing top talent and big thinkers in favour of conformists, leading to their attrition. In addition, the obvious paucity of women and minorities in senior leadership convinced some within the Pentagon that at the very least, its promotion and retention programs were selecting white men over all others – a signal that the system is not a meritocracy.

A critique of the current system is implicit in SSE’s personnel modernization initiatives. The seven major initiatives can be distilled into the same three areas of reform: recruitment, retention and diversity.

| |
|--|
| <p><u>Seven SSE Initiatives Related to Personnel Modernization</u></p> <p>2) Implement a recruitment campaign to promote the unique full-and part-time career opportunities offered by the CAF, including hiring more women and increasing diversity.</p> <p>5) Develop and implement a comprehensive Canadian Armed Forces retention strategy to keep our talented people in uniform.</p> <p>6) Undertake a comprehensive review of conditions of service and career paths to allow much more personalized career choices and flexibility.</p> <p>10) Promote diversity and inclusion as a core institutional value.</p> <p>11) Appoint a diversity champion who will oversee the implantation of all aspects of the diversity strategy and action plan.</p> <p>13) Place a new focus on recruiting and retaining under-represented populations within the Canadian Armed Forces, including but not limited to women, indigenous peoples and members of visible minorities.</p> <p>14) Aspire to be a leader in gender balance in the military by increasing the representation of women by one per cent annually over the next 10 years to reach 25 per cent of the overall force.</p> |
|--|

There were, however, detractors from the FOTF effort. Some senior leaders in the Pentagon, especially those in uniform, objected to the underlying assumptions in FOTF, i.e., that recruiting and retention were suffering and that talent was not being sufficiently managed. There was also some skepticism from Congress, primarily from Senator John McCain. FOTF's underlying assumption that the wrong people were being promoted and retained was not backed up by data (because none existed), and implicitly insulted the current top military brass. They were simply not convinced by anecdotes that the U.S. military had a talent problem.

Six tranches of initiatives were rolled out through FOTF. The first, announced on Nov. 18, 2015, included specific efforts aimed at answering some of those critics. An Office of People Analytics was established, and exit surveys were implemented, both of which were intended to provide real data to establish the extent to which talent was being sufficiently managed. The data obtained through those efforts will take years to yield results. While five more tranches of meaningful initiatives were rolled out by the end of 2016, the major prize – legislative reform that would fundamentally change the military's promotion system – remained on the table for a future administration's consideration.

Addressing DOPMA

The United States' "up or out" military personnel system, established through the Defense Officer Personnel Management Act (DOPMA) in 1980, is one important point of difference between the U.S. and Canadian military personnel systems. Under *DOPMA*, there are time limits that govern how long an officer can remain in any rank, before he or she must either be promoted or leave the service. *DOPMA* is still the framework upon which regulations and policies related to U.S. military personnel are built.

This is an important distinction because the Canadian military allows officers who are technically specialized and who do not aspire to move into higher officer ranks – which almost universally require generalist careers – to stay in service. However, the Canadian military does not have ways to promote or otherwise reward subject matter expertise; a characteristic shared by the U.S. military. Though *DOPMA* represents a significant point of departure between the two systems, the similarities outweigh the differences.

The Canadian military otherwise suffers from the same inflexibilities as the U.S. military. Officers are expected to move geographically every couple of years, if not more often. Those constant moves make military service relatively untenable for many members, including those whose spouses have civilian professional careers. From an officer's perspective, job assignments can also be made relatively arbitrarily. In this day and age, military service may not need to be as inconvenient and sacrifice-oriented as it was in the past. At the very least, the assumptions associated with frequent moves should be questioned and validated.

Long-Term Commitment to Change

Now that the administration has changed in the United States, it is unclear what will happen to some of the most forward-leaning initiatives from FOTF. Nevertheless, many of the FOTF initiatives were either fully implemented, or were on a tough-to-reverse path toward implementation by the time of the 2016 election. Some of this was due to extensive budget planning, earmarking 2017 and 2018 funding for FOTF initiatives. For any personnel reform to work, in the United States or Canada, a solid budget plan into the outyears is absolutely essential.

A new government in Canada could affect the course of *SSE* reforms. Luckily, *SSE*'s vision does not appear to depend significantly on legislation. The more explicitly budget commitments in the outyears can be made now, the greater chance of enduring military personnel modernization.

Diversity

Canada has been doing a lot of thinking lately about women's advancement, and that shows in *SSE* as well. *SSE* committed to "gender-based analysis +" and to increasing female representation in the force to 25 per cent from the current 15 per cent. A recruiting campaign to increase female accessions is already underway.

Female promotion and retention are separate matters. The Canadian military has consistently recruited above the 15 per cent mark, yielding officers cadets at well over 20 per cent. However, among general and flag officers, only 11 out of 113 are female (9.7 per cent), and only 7.2 per cent of colonels are female. A variety of factors might play into this drop-off. Two likely contributing factors are: women's under-representation in combat arms or operator-type roles (where promotion potential is higher), and higher attrition from women along the way due to family obligations. Without addressing these problems, recruiting efforts might increase percentages of officer cadets, but they will not significantly impact the number of women in the total force.

Figure 1: CANADA'S FORCE COMPOSITION¹

| Regular Force and Primary Reserve | | | | | | | | | |
|-----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------------|-------------|--------------------|-------------|
| Rank | Strength | Men | | Women | | Aboriginal Peoples | | Visible Minorities | |
| | | No. | % | No. | % | No. | % | No. | % |
| GEN | 1 | 1 | 100.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 |
| LGEN | 11 | 10 | 90.9 | 1 | 9.1 | 0 | 0.0 | 0 | 0.0 |
| MGEN | 33 | 32 | 100.0 | 1 | 0.0 | 0 | 0.0 | 1 | 3.4 |
| BGEN | 84 | 75 | 90.3 | 9 | 9.7 | 1 | 1.4 | 0 | 0.0 |
| Col | 406 | 377 | 92.8 | 29 | 7.2 | 5 | 1.1 | 10 | 2.6 |
| LCol | 1679 | 1468 | 86.4 | 211 | 13.6 | 22 | 1.3 | 54 | 2.9 |
| Maj | 4632 | 3819 | 81.6 | 813 | 18.4 | 72 | 1.4 | 232 | 5.2 |
| Capt | 8302 | 6741 | 81.1 | 1561 | 18.9 | 149 | 1.9 | 825 | 10.3 |
| Lt | 1685 | 1289 | 75.6 | 396 | 24.4 | 47 | 2.6 | 200 | 11.4 |
| 2Lt | 2051 | 1729 | 85.0 | 322 | 15.0 | 33 | 1.6 | 400 | 18.4 |
| OCDT | 2462 | 1966 | 78.9 | 496 | 21.1 | 66 | 2.7 | 388 | 16.3 |
| CWO | 769 | 712 | 91.9 | 57 | 8.1 | 14 | 1.3 | 16 | 1.3 |
| MWO | 2594 | 2346 | 90.6 | 248 | 9.4 | 63 | 2.5 | 72 | 2.4 |
| WO | 4874 | 4238 | 86.8 | 636 | 13.2 | 115 | 2.5 | 135 | 2.2 |
| Sgt | 9433 | 7885 | 83.5 | 1548 | 16.5 | 237 | 2.6 | 438 | 3.3 |
| MCpl | 11505 | 9728 | 85.1 | 1777 | 14.9 | 290 | 2.6 | 684 | 4.9 |
| Cpl | 25088 | 21677 | 87.7 | 3411 | 12.3 | 834 | 3.4 | 2314 | 7.3 |
| PTE | 18344 | 15436 | 85.0 | 2908 | 15.0 | 618 | 3.7 | 1800 | 8.7 |
| Totals | 93953 | 79529 | 84.6% | 14424 | 15.4% | 2566 | 2.7% | 7569 | 8.1% |

Source: DHRD Employment Equity Database (Aboriginal and Visible Minority Statistics)
 HRMS February 23, 2018 (Component, Rank and Gender)

Prepared February 27, 2018

The U.S. military faces a similar problem. The percentage of women in the U.S. military usually hovers between 15-16 per cent, though the figures used in this article, derived from 2016, show 18.8 per cent female representation. Nevertheless, once the general/flag officer ranks were reached, only 7.6 per cent (64/846) of those officers were female.

FOTF included a number of initiatives aimed at directly and indirectly encouraging women to stay in service. The direct initiatives were mostly in Tranche 2, and included things like mothers' rooms on military facilities and extended parental leave. One indirect initiative that the Pentagon often hails as a meaningful reform is the Career Intermission Pilot Program (CIPP), which allows military service members to take a break from service. Similar initiatives that attempt to address the major difficulties of staying in service, especially for women, could yield real results.

Figure 2: U.S. MILITARY GENDER COMPOSITION

| Pay Grade | Army | | Navy | | Marine Corps | | Air Force | | Total DoD | |
|--------------|---------|--------|---------|--------|--------------|--------|-----------|--------|-----------|---------|
| | Male | Female | Male | Female | Male | Female | Male | Female | Male | Female |
| E1-E4 | 177,952 | 32,407 | 95,512 | 28,885 | 100,194 | 9,362 | 98,310 | 23,386 | 471,968 | 94,040 |
| E5-E6 | 103,908 | 15,149 | 92,926 | 17,971 | 36,441 | 3,244 | 80,529 | 18,543 | 313,804 | 54,907 |
| E7-E9 | 43,743 | 5,676 | 27,102 | 3,320 | 12,862 | 725 | 25,637 | 6,357 | 109,344 | 16,078 |
| W1-W5 | 13,195 | 1,380 | 1,554 | 112 | 1,918 | 122 | N/A* | N/A* | 16,667 | 1,614 |
| O1-O3 | 38,943 | 9,722 | 25,362 | 6,771 | 11,077 | 1,079 | 26,782 | 8,075 | 102,164 | 25,647 |
| O4-O6 | 24,264 | 4,613 | 17,495 | 2,883 | 6,070 | 321 | 21,346 | 4,461 | 69,175 | 12,278 |
| O7-O10 | 301 | 18 | 186 | 22 | 85 | 1 | 274 | 23 | 846 | 64 |
| Subtotal DoD | 402,306 | 68,965 | 260,137 | 59,964 | 168,647 | 14,854 | 252,878 | 60,845 | 1,083,968 | 204,628 |
| Total DoD | 471,271 | | 320,101 | | 183,501 | | 313,723 | | 1,288,596 | |

* The Air Force does not have warrant officers.
 Source: DMDC Active Duty Military Personnel Master File (September 2016)

Racial diversity seems to be a harder challenge for Canada. While Canada is a bit over 25 per cent minority from the last census, the military is overwhelmingly white/non-Aboriginal. Much like women, as the ranks progress, Canada also sees a significant drop-off in non-white/Aboriginal representation. Of 113 general and flag officers, only one is a visible minority, and one is Aboriginal. Although SSE mentions improving diversity as a goal, there does not seem to be anywhere near the same attention to this problem within DND as there is to female representation.

The United States is about 38 per cent minority. Although the United States has a long way to go toward achieving proportional representation within its military, it has performed a bit better than Canada on this front, even taking into account U.S. demographics. Achieving racial diversity requires meaningful commitment from leadership. FOTF Tranche 1 implemented an initiative requiring semi-annual diversity briefings. Perhaps more important, however, is what was happening behind the scenes. The undersecretary of Defense for Personnel & Readiness had one of his right-hand assistants personally devoted to diversity. It remains to be seen whether some of the initiatives aimed at improving promotion rates for minority officers that came out of her efforts will yield results, but that attention and focus is necessary for real change. Given the notable difference in the level of attention paid to women’s advancement versus advancement of minorities in the Canadian military, it is not clear that Canada has truly committed to this matter. One possible exception is the level of attention being paid to Indigenous representation in Canadian government, and in the policy-making process, which could yield dividends in the military as well.

Figure 3: U.S. MILITARY MINORITY COMPOSITION

| Pay Grade | Army | | Navy | | Marine Corps | | Air Force | | Total DoD | |
|-----------|-----------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|-----------------|--------------|
| | Racial Minority | Non-minority | Racial Minority | Non-minority | Racial Minority | Non-minority | Racial Minority | Non-minority | Racial Minority | Non-minority |
| E1-E4 | 32.6% | 67.4% | 41.1% | 58.9% | 17.4% | 82.6% | 29.0% | 71.0% | 30.8% | 69.2% |
| E5-E6 | 35.3% | 64.7% | 43.9% | 56.1% | 24.4% | 75.6% | 30.5% | 69.5% | 35.4% | 64.6% |
| E7-E9 | 44.0% | 56.0% | 36.3% | 63.7% | 35.3% | 64.7% | 31.1% | 68.9% | 37.9% | 62.1% |
| W1-W5 | 32.6% | 67.4% | 39.3% | 60.7% | 28.3% | 71.7% | N/A* | N/A* | 32.8% | 67.2% |
| O1-O3 | 25.5% | 74.5% | 22.6% | 77.4% | 19.7% | 80.3% | 22.2% | 77.8% | 23.3% | 76.7% |
| O4-O6 | 24.7% | 75.3% | 18.3% | 81.7% | 17.8% | 82.2% | 17.9% | 82.1% | 20.4% | 79.6% |
| O7-O10 | 17.2% | 82.8% | 10.6% | 89.4% | 11.6% | 88.4% | 7.4% | 92.6% | 12.0% | 88.0% |
| Total | 33.3% | 66.7% | 38.3% | 61.7% | 20.5% | 79.5% | 28.0% | 72.0% | 31.4% | 68.6% |

* The Air Force does not have warrant officers.

Note: Racial minority includes Black or African American, Asian, American Indian or Alaska Native, Native Hawaiian or Other Pacific Islander, Multi-racial, and Other/Unknown.

Note: Percentages may not total to 100 due to rounding.

Source: DMDC Active Duty Military Personnel Master File (September 2016)

What is Missing from Canada’s Agenda?

A great number of FOTF initiatives deal with professional military education. Part of the U.S. military’s focus on talent management is also on talent development, i.e., looking toward experiential and educational opportunities for military officers that will help them develop into the type of strategic thinkers needed at the higher ranks. Such opportunities include corporate fellowships, master’s degree programs and the ROTC program, which pays for officer candidates to go to undergraduate university while they receive additional training in officership. SSE is totally silent about similar initiatives, including no mention of Canada’s Regular Officer Training Program (ROTP).

For the Canadian military to remain relevant and effective, the intellectual capital of Canada’s military leadership cannot be forgotten. Recruiting and retaining the right people is only half of the battle – they must also be educated and challenged to become leaders. If that were not incentive enough, talent development initiatives also contribute to retention goals, since they are often highly sought-after opportunities.

Conclusion

As we all wait for more details about SSE’s implementation, including any initiatives, timelines or other details about how Canada is pursuing the goals articulated in SSE, now is the time to foster discussion about what successful personnel modernization might look like. Lessons to be learned from a similar U.S. experience include:

- Data-driven problem definition can help fight off critics.
- Sustained leadership passion and attention is key to success.
- Committing budget dollars, especially in the outyears, is essential to the survival of new initiatives.
- Retention and promotion are just as important as recruitment to solving talent management problems, especially with respect to diversity problems.

- Attention must be paid to visible minority and Aboriginal diversity, as well as to gender diversity.
- Talent management includes talent development.

LINDSAY L. RODMAN is the Council on Foreign Relations International Affairs Fellow (Canada), placed at the University of Ottawa's Centre for International Policy Studies (CIPS). She is a U.S. attorney and an expert in U.S. defence and foreign policy, and recently joined CFR (a U.S.-based think tank) and CIPS after leaving the Obama Administration, where she served in the Pentagon as Senior Advisor for International Humanitarian Policy. Prior to her political appointment, she was an active duty judge advocate in the U.S. Marine Corps, serving in various roles, including as Deputy Legal Counsel to the Chairman of the Joint Chiefs of Staff, and as the Operational Law Attorney for 1st Marine Division (FWD) in Afghanistan. Her last assignment as an active duty Marine was in the White House as Director for Defense Policy and Strategy at the National Security Council. She remains in the U.S. Marine Corps Reserves. Prior to joining the Marine Corps, Lindsay was an associate at the law firm of Arnold & Porter LLP (now Arnold & Porter Kaye Scholer) in Washington, DC. She is a graduate of Harvard Law School (JD, 2007), the Kennedy School of Government at Harvard University (MPP, 2007), and Duke University (AB Mathematics, 2003).

End Notes

1 Data broken out by active duty and reserve are available from the author.

Lead image: **Canadian Armed Forces Image Gallery**

**Join us on social media
and have your say!**



facebook.com/
CanadianGlobalAffairsInstitute



@CAGlobalAffairs



linkedin.com/company/
canadian-global-affairs-institute



CANADIAN GLOBAL
AFFAIRS INSTITUTE

INSTITUT CANADIEN
DES AFFAIRES MONDIALES

cgai.ca



This is how we deliver Canada's energy safely and securely.

From sophisticated control rooms similar to NASA and air traffic control, to on-the-spot expertise across the country, CEPA members use the latest technology to deliver the energy Canada needs in the safest, most responsible way.



canadian
energy
pipeline
association | association
canadienne
de pipelines
d'énergie

Find out more at aboutpipelines.com



Operationalizing Strong, Secure, Engaged: The Child Soldier Dimension

by **LINDSAY COOMBS**

The security atmosphere of the twenty-first century is fraught with new and complex challenges with which military personnel deployed overseas must be familiarized through training and education initiatives. Of these challenges, the use of children as soldiers has created pressing security- and mental health-related concerns for professional militaries like the Canadian Armed Forces (CAF). Accordingly, in March 2017 the Canadian military released “Joint Doctrine Note 2017-01, Child Soldiers” (JDN 2017-01) to address various issues regarding these children. Designed to provide formal guidance to individuals, units and commanders on how to approach

engagements with children in conflict, JDN 2017-01 is intended to support the ongoing transformation of the CAF and guide the professional development of its personnel. The doctrine note is also connected to a series of initiatives aimed at advancing one of the many objectives outlined in Canada’s latest defence policy, *Strong, Secure, Engaged* – preventing the recruitment and use of child soldiers.¹ While the doctrine note has been heralded as the first of its kind, its method of implementation remains undefined.

Prior to the creation of JDN 2017-01, issues concerning child soldiers were largely unaddressed in Canadian military training and education.² This created situations in which military personnel were ill-prepared to deal with the complex nuances of the threat environments in which they have been deployed. Issues concerning child soldiers were not contained in the pre-deployment training instructions provided by Canadian Joint Operations Command (CJOC) for the army, navy, and air force. This is significant because CJOC is responsible for the management of all force employment during both domestic and international operations.

In short, this means that CJOC provides detailed direction for deployment preparation across the entire spectrum of military operations.³ As part of this, CJOC gives formation instructions to each of the services regarding pre-deployment activities for specific operations, as well as directives to maintain standard readiness through training and education. Given the subject of child soldiers was not included in this material, the topic was not a standardized component of CAF training and education material.

Topics on child soldiers were also not part of the Individual Battle Task Standards (IBTS) for the army or navy. These directives provide the content and measurements for pre-deployment army and navy individual training. Notably, the air force does not have a service-specific IBTS; instead, it uses CJOC's training direction as the main standard for individual readiness for deployed operations. IBTS training normally occurs during pre-deployment preparation and, to a certain extent, on an annual basis. Altogether, this means that issues concerning child soldiers were not an aspect of standardized CAF training and education, either as directed by CJOC or as a component of individual training standards, nor were they a systematized component of pre-deployment training.⁴

With regards to mental health initiatives, the CAF also did not provide specific preparation for personnel to psychologically cope with encountering child soldiers. However, pre-deployment mental health briefs did include a perfunctory acknowledgement that child soldiers could constitute an extreme challenge in combat situations. Similarly, child soldiers were not included in post-deployment mental health assessments, like the Enhanced Post-Deployment Screening (EPDS) process, which is designed to help individuals with deployment-related health problems get into care more rapidly. Prior to the establishment of JDN 2017-01, some segments of the EPDS process included: (1) portions of a patient health questionnaire which assessed physical symptoms of operational stress

injuries (OSI) like depression, suicidality, panic disorder and generalized anxiety, and (2) the review of a patient checklist for post-traumatic stress disorder (PTSD). Despite the fact that the patient health questionnaire is supposed to identify OSIs more generally, most of the questions concerning mental health appeared to be specifically geared towards determining if a soldier is showing symptoms of PTSD. These questions primarily revolved around feelings of fear, helplessness and involvement in horrific events. However, there were no questions related to other types of OSIs, like moral injuries, which would focus on issues of trust, feelings of guilt or shame, or the transgression of deeply held beliefs. While many of the symptoms of PTSD and moral injuries overlap, it is important to note that they are distinct conditions.⁵ Therefore, questions designed to identify PTSD may not uncover moral injuries. Furthermore, even though there were a few questions posed during the EPDS process that asked about engagements with civilians, or if the soldier had difficulty distinguishing between combatants and non-combatants, there were no questions concerning child soldiers.⁶

Evidently, CAF training and education on the topic of child soldiers was inadequate. In order to better prepare CAF personnel for the military activities of the 21st century, it became clear that doctrinal innovation was required. JDN 2017-01 was created with the aim of addressing these deficiencies in CAF training and education. Accordingly, it not only provides guidance for the planning and execution of operations, but also outlines Canada's approach to training and educating military personnel on the subject of child soldiers.

In the doctrine note the issue of child soldiers is considered within the broader context of vulnerable populations. Although the concept of vulnerable populations is not new to the CAF, acknowledging and protecting child soldiers as a vulnerable group is a core component of JDN 2017-01.⁷ Further, the doctrine note's acknowledgment of the need for child soldiering to be considered in relation to other intersecting

issues – like why and how they are recruited, as well as issues of sexual and gender-based violence – is indicative of how pervasive these problems are. It is also important to bear in mind that these issues, their implications, associated legal concerns and the actions required to respond to them are clearly linked to well-established international conventions, like United Nations Security Council Resolution 1325, the Law of Armed Conflict at the Operational and Tactical Levels, and the Geneva Conventions. Military responses to child soldiers, and to vulnerable populations in general, must be reflective of these laws and agreements. Following from this, JDN 2017-01 suggests that future doctrinal guidance to the CAF regarding the issue of child soldiers is likely to be incorporated into “more all-encompassing doctrine related to the overarching considerations related to vulnerable populations”.⁸

The need for training and education on the topic of child soldiers also figures prominently in the doctrine note. In particular, including this subject in professional military education (PME), during pre-deployment training, and in relevant mental health programs is key. In addition, while recognizing the importance of training across the deployment cycle, the doctrine note acknowledges that training on child soldiers should not solely be limited to deploying troops. Consideration of issues regarding child soldiers should be included “in all force generation activities to adequately prepare CAF personnel both militarily and mentally”.⁹ Resultantly, the doctrine note recommends that all CAF personnel be trained and educated regarding the potential presence of children during armed conflict.¹⁰

The doctrine note also suggests that encounters with child soldiers during operations can be particularly traumatic, especially if someone is injured or killed.¹¹ Through educating deploying CAF personnel on issues related to child soldiering, plus the possibility that they may need to engage child combatants with force, the doctrine note suggests that proper

preparation may help mitigate the potential psychological impacts these encounters may have on CAF personnel.¹² Ultimately, ensuring the CAF's readiness to undertake missions that may involve encountering child soldiers is critical for attaining operational success. Readiness stems from the provision of adequate training and education on the topic of child soldiers at all levels of command, during PME and at each stage of the deployment cycle. Coupled with appropriate mental health initiatives, this training will also assist in minimizing the psychological impacts that encounters with child soldiers may create for deployed personnel.

Altogether, JDN 2017-01 serves as a significant starting point to address this knowledge and capability gap in the Canadian military. However, doctrine is only truly useful upon implementation. Given that, it is necessary to operationalize JDN 2017-01 across the CAF. The following recommendations are intended to help inform this process.

- 1) *Issues concerning child soldiers should be integrated into the pre-deployment training instructions provided by CJOC, as well as the IBTS for both the army and navy.*

Information on the topic should be consistently integrated into the pre-deployment training instructions provided by CJOC for force generation from the army, navy, and air force. The subject of child soldiers should also be included in the IBTS for both land and naval operations. Information that should be incorporated into these directives could include how and why children become engaged in armed groups, child soldiers as a vulnerable population, recognizing that child soldiers can pose a threat to professional forces, detaining child soldiers and understanding the six grave violations against children as outlined by the United Nations Security Council.¹³ In particular, the IBTS for naval operations should discuss

subjects related to child pirates. These topics are highly intersectional and could be built in to pre-existing training segments like conducting searches and detaining personnel, conducting checkpoints, conducting observation posts, principles of the use of force and applying rules of engagement. Ultimately, mastery of service-specific IBTS and pre-deployment training materials are critical to ensure that the CAF maintains standard readiness. These materials should incorporate issues concerning child soldiers.

- 2) *Topics on child soldiers should be taught across all levels of professional development, starting with basic training courses.*

The doctrine note recognizes the importance of training and educating CAF personnel during force generation activities in order to adequately prepare soldiers both militarily and mentally for potential encounters with child soldiers. Because basic training courses provide Canadian military members with the core skills and common military knowledge that are required to succeed in military environments, a general awareness of issues concerning child soldiers should be incorporated into training materials. Not only will this ensure a base knowledge of child soldiering across the CAF, but it will also help alleviate pressures placed on pre-deployment courses to cover all aspects of child soldiering.

- 3) *Post-deployment screening processes should consider issues regarding child soldiers and moral injuries.*

To ensure that individuals with deployment-related health problems receive care more rapidly, the EPDS process should screen for interactions with child soldiers, as well as moral injuries. In particular, the patient health questionnaire should include questions concerning child soldiers, war-affected

children, feelings connected to emotions that express moral transgressions (like fear, horror, guilt, shame, or helplessness), and if the soldier was the perpetrator, victim or witness of any acts that may violate fundamental moral values.

- 4) *The Royal Military College of Canada (RMC) should offer undergraduate courses on the topic of child soldiers.*

As of the summer of 2018, a directed reading course on child soldiers will be provided to graduate students at RMC through the War Studies programme. While this is a step in the right direction, graduate students comprise only a small segment of the RMC population. Therefore, providing one course that is only accessible to graduate students does not adequately address concerns outlined in JDN 2017-01 regarding the development of education that is reflective of issues concerning child soldiers. Accordingly, RMC, in particular, should offer in-house and distance learning courses on the topic of child soldiers at the undergraduate level in order to adequately educate and train the future leaders of the Canadian military on this topic.

Ultimately, conflict has changed, and therefore the manner in which the CAF prepares for and conducts operations must also change. Children are integral components of warring parties, including government forces, rebel groups and terrorist organizations. It is therefore incumbent that Canadian soldiers are provided the appropriate competencies to better manage this aspect of conflict and help reduce the exploitation of children in regions afflicted by violence. This includes training and education related to children's protection, rights and welfare, as well as understanding how child soldiers may present a threat to Canadian military personnel. While these needs were recognized in *Strong, Secure, Engaged* and through the creation of JDN 2017-01, the

manner in which the CAF will address these needs has yet to be defined. Given that Canadian soldiers are likely to deploy to regions where child soldiers are prevalent, including some areas in Africa or the Middle East, ensuring that CAF personnel are well-prepared to respond appropriately to potential interactions with child soldiers remains a critical consideration.

LINDSAY COOMBS is a PhD student in the Department of Political Studies at Queen's University and a Graduate Research Fellow at the Centre for International and Defence Policy. Lindsay completed a Master of Arts in Political Studies, also from Queen's University, where she specialized in International Relations. Her Master's thesis focused on innovation in Canadian military doctrine, training, and education on the topic of child soldiers. Lindsay also holds a Bachelor with Honours in Conflict Studies and Human Rights from the University of Ottawa, where she graduated with distinction. Her research interests include the Canadian Armed Forces, child soldiers, women in security and defence, and defence policy. In addition to her studies, Lindsay is the National Chapter Coordinator for Women in International Security (WIIS) Canada, a network dedicated to actively advancing women's leadership in international peace and security. In this role, she coordinates the activities of university and community Chapters across the nation. Lindsay is also the President and Founder of WIIS at Queen's University.

End Notes

¹ Government of Canada, "The Vancouver Principles," last modified April 25, 2018, http://international.gc.ca/world-monde/issues_developpement-enjeux_developpement/human_rights-droits_homme/principles-vancouver-principes.aspx?lang=eng.

² See Lindsay Coombs, "Are They Children? Or Are They Soldiers? Preparing the Canadian Military for the Contemporary Security Environment," *The Royal Canadian Military Institute (RCMI) General Sir William Otter Paper* 16, no. 1 (December 2016): 1-10.

³ See Paul Johnston, Chris Madsen, Paul Mitchell, and Steven Moritsugu, "A Canadian Approach to Command at the Operational Level," *Canadian Military Journal* 14, no. 4 (Autumn 2004): 6-7; Bernd Horn and Bill Bentley, *Forced to Change: Crisis and Reform in the Canadian Armed Forces* (Toronto: Dundurn, 2015); and Canada, Department of National Defence, "Canadian Joint Operations Command," last modified December 8, 2016, <http://www.forces.gc.ca/en/about-org-structure/canadian-joint-operations-command.page>.

⁴ Notably, although the topic of child soldiers was not a standardized aspect of CAF training in 2016, it was addressed by some military instructors. For instance, the Peace Support Training Centre (PSTC) in Kingston, Ontario, has regularly included the subject of child soldiers in their training programs since 2015.

⁵ Megan M. Thompson, "Moral Injury in Military Operations: A Review of the Literature and Key Considerations for the Canadian Armed Forces," *Defence Research and Development Canada*, Scientific Report DRDC-RDDC-2015-R029 (March 2015): 1-36.

⁶ Most of the information used in this section was provided by LCol Suzanne M. Bailey, SSO Social Work & Mental Health Training, CAF Health Services Group Headquarters, Email Friday, March 11, 2016.

⁷ See James Cudmore, "Military to hire gender specialists for operational advice overseas," *CBC News*, October 30, 2015, accessed July 29, 2017, <http://www.cbc.ca/news/politics/military-to-hire-gender-specialists-for-operational-advice-overseas-1.3297680>. Also, the CAF regularly conducts training on vulnerable populations. See Canada, Department of National Defence, "Women in the Canadian Armed Forces," *News Product*, March 6, 2014, accessed July 26, 2017, <http://www.forces.gc.ca/en/news/article.page?doc=women-in-the-canadian-armed-forces/hie8w7rm>.

⁸ Canada, Department of National Defence, *Canadian Forces Joint Doctrine Note 2017-01, Child Soldiers*, 1-2.

⁹ *Ibid.*, 2-3.

¹⁰ *Ibid.*

¹¹ Canada, Department of National Defence, *Canadian Forces Joint Doctrine Note 2017-01, Child Soldiers*, 1-6; Coombs, "Are They Children? Or Are They Soldiers?" 5; North Atlantic Treaty Organization, *Child Soldiers as the Opposing Force* (January 2011), 2-4.

¹² Canada, Department of National Defence, *Canadian Forces Joint Doctrine Note 2017-01, Child Soldiers*, 1-6, 2-12.

¹³ See United Nations, Office of the Special Representative of the Secretary-General for Children and Armed Conflict, "The Six Grave Violations," accessed May 15, 2018, <https://childrenandarmedconflict.un.org/six-grave-violations/>.

Lead image: **Farah Abdi Warsameh/AP Photo**

Joint WiDS-CGAI Fellowship

The Canadian Global Affairs Institute is pleased to partner with Women in Defence & Security (WiDS) to offer a new student fellowship. This opportunity aims to advance the careers of women in defence and security by offering one or more women mentorship, work and research/analysis opportunities with the Canadian Global Affairs Institute, access to our publications and resources. This collaboration will select female graduate or post-graduate students using the WiDS Annual Memorial Scholarship Process. For more information and to apply, visit www.cgai.ca/education.



Congratulations to our 2018 Recipient

Lindsay Coombs is a PhD student in the Department of Political Studies at Queen's University and a Graduate Research Fellow at the Centre for International and Defence Policy. Lindsay completed a Master of Arts in Political Studies, also from Queen's University, where she specialized in International Relations. Her Master's thesis focused on innovation in Canadian military doctrine, training, and education on the topic of child soldiers.



The Past, Present and Future of Academic Engagement with the Canadian Armed Forces

by **STEPHEN M. SAIDEMAN**

One of the big surprises in the *Strong, Secure, Engaged* (SSE) defence review document has been a commitment to improve engagement between the Department of National Defence (DND), the Canadian Armed Forces CAF) and the academic community. The new \$4.5 million annual commitment represents a major sea change from the previous funding of roughly \$500,000 for the Defence Engagement Program (DEP). The DEP, in turn, was what was left of DND's engagement after the death of the Security and Defence Forum (SDF). It has funded

mostly workshops and conferences that address DND's priorities within a calendar year. We do not yet know how the new money will be spent, although there has been a call for proposals for a proto-network to develop a better idea of where to go from here. The good news is that a group of defence scholars and scientists has been attempting over the past five years to build a replacement to the SDF program – the Canadian Defence and Security Network (CDSN).¹ In this essay, I will discuss the need for more systematic engagement between the various parts of the Canadian defence community, what the CDSN is and where it fits in, and where the CDSN stands now.

There is much expertise on a variety of defence issues – personnel, procurement, threats and operations – across Canada outside of the military and outside of DND. A lot of it lies in universities, where scholars have spent much effort to study the Canadian Armed Forces as well as those elsewhere. They have much data, many methods and have much less at stake than those in DND, so they can be more dispassionate. Yet, communicating this

expertise is fraught. The academics work at a different pace than the military, they often do not know what questions various defence agencies are examining, and they often do not understand the language of the military. CAF officers understand the need for more information, for outside eyes and for feedback, but often do not have the time to engage the academics and frequently see the academics as lacking expertise. The common denominator is that these two communities both believe that more knowledge is a good thing and see the advantages of working with their counterparts, but the challenge is mostly how to communicate with each other.

The SDF funded 13 centres across Canada to foster research on defence issues. Along with funding of graduate students, this program helped create a generation of defence scholars. However, interaction with the CAF and various DND agencies like Defence Research and Development Canada (DRDC) was inconsistent. Moreover, there was considerable variation among the research centres in their focus on defence issues. The centres did foster outreach beyond the academic community to the students and communities where they existed, but they tended not to interact much with each other. Ultimately, DND officials killed SDF because they did not value the return on their investment.

The Defence Policy Review process was quite revealing in a number of ways. The official and unofficial meetings related to the review brought together many of the individuals who had worked in or were trained by the various SDF centres, so the meetings served as reunions. The conversations revealed how disconnected these scholars were from each other, demonstrating that there was both significant duplication in research efforts and less cumulation than one would have hoped. The meetings also revealed that the Canadian defence community is aging and is fairly homogenous, making it clear that more effort is needed to foster the next generation, one that is more diverse and representative. The various meetings and documents submitted to DND also demonstrated that many had a strong desire for more engagement with the CAF. It was also clear that the Canadian public lacks

knowledge of the CAF and a key reason has been the absence of linkages between the CAF and the academic community. The latter served as a bridge with the public.

Those drafting *SSE* realized the importance of bridging the various gaps – among academics, between academics and government agencies, between these actors and those in civil society – so that *SSE* makes a commitment to fund collaborative networks of defence experts. The question is how to do that, as DND has experience in funding research centres but not organizing networks. This is where, hopefully, the CDSN comes in. Over the past five years, a group of academics at civilian and military institutions along with defence scientists have been organizing grant applications aimed at funding activities that would connect the different pieces of the Canadian defence community. The effort to apply has helped to foster better connections between roughly 100 academics at Carleton, Queen's, University of Ottawa, CIRRIQC, Manitoba, Calgary, Simon Fraser and elsewhere with the Canadian Forces College, the Royal Military College, Defence Research Development Canada, OpenCanada, the Canadian Global Affairs Institute, the Conference of Defence Associations Institute, CANADADEM, Women in International Security-Canada, NATO Defence College, the U.S. Army War College, Nanos and a host of other actors.

As the CDSN has been working on developing a network for several years, it was in a good position to apply for the DND's proto-network effort. The team has aimed to build a comprehensive and inclusive network that brings together scholars, defence scientists, policy-makers and civil society organizations that are interested in defence procurement, personnel issues, operations, civil-military relations and/or security concerns via a series of network activities. These efforts are aimed at producing policy-relevant knowledge for government, connecting the various elements of the Canadian defence community and fostering the next generation. We hope to move forward the frustrating conversations relating to defence procurement, the challenges of recruitment and retention, and assessing the future

operations that the civilians will ask the CAF to do.

The CDSN has proposed a variety of activities to both build the community and provide insights for government: constructing a year-long series of meetings and workshops advancing specific research agendas; multiple summer training opportunities for advanced graduate students and junior scholars; exchanges at all levels (Carleton has already begun an officer exchange program with Special Operations Forces Command); bridging the efforts by the partners via capstone seminars that bring together the best research on particular themes; systematic outreach using both traditional and social media, and more.

The CDSN's immediate fate is now in DEP's hands.² As indicated above, the effort has already paid off, as we defence academics are better connected now than perhaps ever and at least since the heyday of SDF, and we are also better networked with CFC, DRDC, the CAF and many non-government organizations. Whatever form the DEP efforts take, they represent a recognition that Canadian defence policy is better off if the entire defence community is engaged and connected, and that is progress.

STEPHEN SAIDEMAN holds the Paterson Chair in International Affairs at Carleton University's Norman Paterson School of International Affairs, and is a Fellow at the Canadian Global Affairs Institute. His research interests are in the fields of international security, comparative foreign policy, civil-military relations, and ethnic conflict.

Before joining Carleton University, Prof. Saideman was Canada Research Chair in International Security and Ethnic Conflict at McGill University. Prior to that, Prof. Saideman spent 2001-2002 on the U.S. Joint Staff working in the Strategic Planning and Policy Directorate as part of a Council on Foreign Relations International Affairs Fellowship. He has also taught at Texas Tech University and the University of Vermont.

End Notes

¹ Please note, the author has been leading the CDSN effort over the past 5 years. The views expressed are entirely the author's.

² By the time this is published, the DEP probably will have decided the winner of the proto-network competition.

Lead image: **Sean Kilpatrick/The Canadian Press**



5TH ANNUAL DEFENCE PROCUREMENT CONFERENCE

OCTOBER 25, 2018

CHATEAU LAURIER

OTTAWA, ONTARIO

PRESENTED BY



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

cgai.ca

Thank you to our supporters:



canadian
energy
pipeline
association

association
canadienne
de pipelines
d'énergie



IAMGOLD[®]

C O R P O R A T I O N



cutting through complexity[™]



Use It or Lose It: SSE and DND's Chronic Underspending Problem

by **EUGENE LANG**

On June 7 of last year the Trudeau government gifted the Canadian Armed Forces (CAF) and the Department of National Defence (DND) with a new defence policy, titled *Strong, Secure, Engaged* (SSE), and a corresponding commitment to grow the defence budget (on a cash basis) from \$18.9 billion in 2016-2017 to \$32.7 billion in 2026/2027 – a 70 per cent increase.

A financial boost to DND of this magnitude was totally unexpected from this government. It was not an election commitment. Military funding was conspicuously absent from the Liberal

platform, which made financial promises in virtually every other federal domain.

The coalition of voters that elected the Trudeau Liberals was not calling for an increase in military spending. (Nor is boosting the defence budget ever identified in opinion polls as a top priority for Canadians). Not surprisingly, there were no strong voices in the Liberal cabinet or caucus for a big financial boost to DND.

Moreover, the government isn't running a fiscal surplus such that it can afford a significant rise in the defence budget. The funding committed in SSE represents the first time in a generation that the Canadian military has received a substantial new financial commitment when the government is in deficit.

A strong argument could in fact be made that the SSE budget increase is the only major area of federal policy where the Trudeau government has exceeded expectations.

Which begs the question, why this generosity toward DND? Perhaps the

conventional wisdom is correct; namely, this move was aimed at placating U.S. President Donald Trump in connection with his exhortations for NATO countries to drive their defence spending up to two per cent of GDP (though the Trudeau government's defence spending increases get Canada nowhere near that target). Some have even suggested that it was designed to smooth relations with the Americans in advance of the NAFTA negotiations, admittedly a rather far-fetched linkage.

Whatever the reason, the bottom line is that National Defence got lucky in 2017 and it is now time for DND's senior leadership to capitalize before their luck runs out. Simply put, this means DND needs to figure out how to spend the capital funds authorized to it by Parliament.

As David Perry has documented, over the past decade National Defence has shown a chronic inability to spend anywhere near its approved capital vote. According to Perry, since 2007-2008 DND has underspent its vote 5 capital by \$9.92 billion (in 2014-2015 dollars) in total. By way of comparison, 15 years ago, National Defence was underspending about two per cent of its vote 5 capital, whereas between 2009-2010 and 2013-2014 that number had ballooned to 20- to 30 per cent.¹ The problem persists to this day, such that in the run-up to the release of *SSE*, the Chief of Defence Staff, General Jonathan Vance, told the media "there is no point giving us billions when we can't spend it."² He got the billions nonetheless.

The chief reason for this underspending relates to a dysfunctional defence procurement system. The government acknowledged this to some degree in *SSE*:

"Cumbersome decision-making and approval processes have introduced undue delays. Accountability among departments has been diffuse and at times unclear. Procurement professionals would benefit from greater education, training

and tools. Capability requirements have not always been communicated clearly to industry and Canadians ... And perhaps most challenging, 70 percent of all projects have not been delivered on time."³

These admissions are based on the pre-*SSE* volume of procurement, a level of output about one-quarter of what DND envisages in the medium term. Which means the underspending is poised to get a lot worse absent some significant reforms to the way defence procurement is conducted.

In fairness, *SSE* does contain some streamlining initiatives to address these systemic problems. However, most are holdovers from the 2014 Defence Procurement Strategy of the previous government. Notable among them is a hoped-for increase to DND's contracting delegation to \$5 million, as well as an aim to reduce project approval times within the department by 50 per cent for low-risk and low-complexity projects. Why procurement reform initiatives are focused on low-risk and low-cost projects when *SSE* identifies "a small segment of complex, high-value equipment projects" as the main culprit for the procurement dysfunction, is anybody's guess.

The fact DND offers up these old and rather underwhelming reforms suggests it sees the responsibility for defence procurement problems lying largely outside its domain and inside the realms of the other departments involved in the process – Public Services and Procurement Canada (PSPC), Innovation, Science and Economic Development Canada (ISED), Treasury Board Secretariat (TBS) and the Privy Council Office (PCO). This viewpoint would of course be consistent with the refrain that has emanated for years from National Defence with officials, ministers and their staffs blaming officials, ministers and their staffs in other departments for defence procurement dysfunctionality, and vice versa. Senior officials have also taken to

blaming industry for the department's inability to spend its authorized capital funds.

All of which is part and parcel of the blame game that has afflicted defence procurement for a decade or more in Ottawa. It serves no one's interest to continue this game, least of all DND and the Canadian Armed Forces, especially in the context of the gift they have been given through SSE and its associated funding.

The hard reality, however, is that the other departments involved in defence procurement have no incentive to end the game. They face no pressure to improve or streamline their part of the process to help DND spend its capital. In fact, those other departments couldn't care less about DND's capital spending performance.

Those running National Defence are dreaming in a colour we've never seen before if they think the Treasury Board is going to put in place more meetings solely to deal with DND's increased procurement output, or reduce the rigour with which TB officials and ministers analyze and challenge DND's Treasury Board submissions. Likewise, if they think that ISED will lessen the requirement for industrial and technological benefits requirements to speed up the process, that PSPC will weaken its role in contracting and procurement governance to improve efficiency, or that the Privy Council Office will exempt DND from producing cabinet submissions on major Crown projects to ensure ministerial oversight and decision-making.

During the Harper government's term in office, a conspiracy theory took root among some in the defence establishment to the effect that Finance Canada and the Treasury Board had a deliberate strategy to reduce the federal deficit by frustrating DND procurements, and that this was the source of the department's underspending. Anyone who has ever worked in the central agencies would know they are not sophisticated, co-ordinated or co-operative enough with one another to design and pull off something like that. Nevertheless, it's a safe bet that no one

at Finance or TBS cares a whit if DND spends its capital appropriation, nor will they lift a hand to help fix that problem.

And no one should expect the political level of this government to care very much about whether DND manages to spend its capital. The dominant political view is likely that the National Defence box was more than ticked with SSE, and it's now up to DND to figure out how to spend the money it has been pledged.

In other words, for National Defence, procurement streamlining and reform must begin at home, with a concentration on those aspects of the system over which it has control. Chief among these is getting real on project priority setting; streamlining the byzantine approvals processes within the department and developing better two-way dialogue and transparency with industry. It must also establish more genuine co-operation with other departments involved in the process, and design better governance within DND itself. In short, clean up your own house first, even if you think your neighbour is the source of the mess.

Years ago, some senior military officers were known to have regarded the Harper government's funding commitments contained in its 2008 defence policy statement, *Canada First*, as a contract that the government would not breach. That, of course, was naïve nonsense. Two years after *Canada First* was published, planned funding increases to DND were reduced significantly in the effort to wrestle the recession-induced federal deficit to the ground.

Today, we hear similar optimism from some officials, secure in a belief that SSE is a kind of 20-year plan that cannot be altered. These people would do well to consider the business cycle and recent economic history. Recessions hit Canada about every nine or 10 years on average (the last having occurred in 2008-2009), so we are now getting due for another economic downturn. And recessions usually lead to departmental

spending cuts in Ottawa, chief among them National Defence by virtue of its sheer size in the federal departmental universe. In short, in times of fiscal austerity, cuts to the Defence Department are inevitable because they are driven by math.

A cursory look at the history of defence white papers over the past 30 years should also tell us that the policy and funding commitments made in such well-intentioned documents rarely survive half a decade.⁴ Defence funding pledges can be and have been easily undone in an afternoon's work at the Department of Finance, or in a 30-minute meeting in the Prime Minister's Office, regardless of what is written down in a government white paper. This is one of the few areas of federal policy where there has been consistent bipartisan behaviour over many years.

In the final analysis, the message is straightforward. DND got a big gift in 2017, but it has a narrow window of opportunity to seize upon it. This requires an admission that the department needs to take procurement reform much more seriously than it has to date. Which means DND getting its own house in order so it can spend the largesse gifted by a government that two years ago showed no interest in national defence and to this day is neither philosophically nor politically invested in the file.

EUGENE LANG is Adjunct Professor, School of Policy Studies, Queen's University, and Fellow, Canadian Global Affairs Institute. He was chief of staff to two ministers of National Defence in the Chrétien and Martin governments and served as an official in the Department of Finance.

End Notes

¹ David Perry, "Putting the Armed Back into the Canadian Armed Forces," Vimy Paper, CDA Institute, January 2015, 6.

² Lee Berthiaume, "Canada's Top General Says Military Not Hurting for Money, Defends Spending Delay," Canadian Press, March 30, 2017.

³ National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, 2017, 74.

⁴ See Eugene Lang, "The Shelf Life of Defence White Papers", *Policy Options*, June 23, 2017

Lead image: **Canadian Armed Forces Image Gallery**



Strong, Secure, Engaged So Far

by **DAVID PERRY**

Strong, Secure, Engaged (SSE) is an ambitious defence policy predicated on a significant increase in defence spending and an especially ambitious planned increase in spending on capital procurement (equipment and infrastructure purchases – Vote 5 in the Estimates). Overall, the new funding framework outlined in the policy would see nominal spending increase by 70 per cent from 2016/2017 to 2026/2027¹ – a sizeable increase after years of budget reductions. The bulk of this increase will go towards funding a massive slate of equipment procurement to recapitalize the Canadian Armed Forces (CAF). This spending increase, and the dozens of major projects directed that require the funding, are part of a wider defence policy with a plethora of additional difficult-to-implement initiatives. As SSE approaches its first anniversary, overall funding allocations on defence are tracking

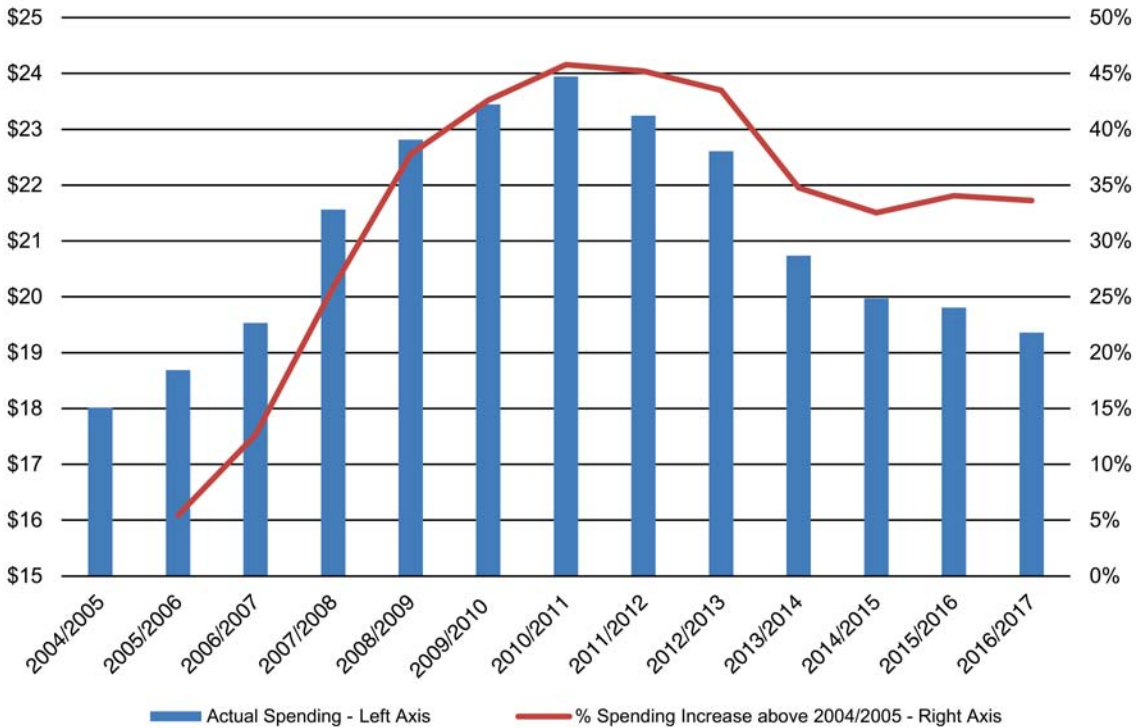
close to the projected levels outlined in the policy, but capital allocations are lagging significantly behind the projection published in June 2017.

To situate why overall funding allocations are increasing more or less on pace with the projection outlined in June 2017, but capital allocations are not, it is useful to compare the magnitude of the spending increases in SSE to the last period of major increases in defence expenditures, which occurred between 2005/2006 and 2010/2011. This analysis shows that while the planned total spending increases envisioned under the current policy are ambitious and ultimately exceed what was achieved a decade ago, they are roughly on the same scale. In contrast, planned spending increases on capital procurement under SSE are an order of magnitude larger than those achieved a decade ago.

In 2005, Paul Martin's government published the *Defence Policy Statement* and injected an infusion of new funding into the Department of National Defence (DND) after a decade of budget cuts that started in 1989, with only modest increases through 2004.

Figure 1

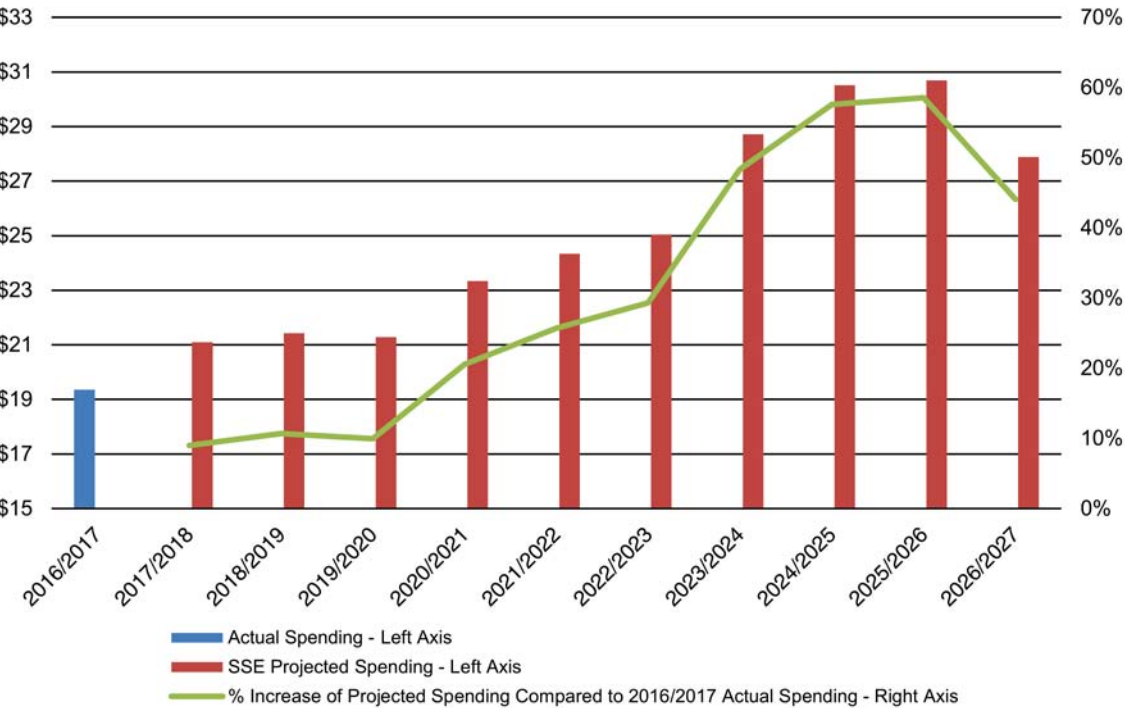
Total Defence Spending and Percentage Increase Compared to 2004/2005



Martin's government was short-lived, but when Stephen Harper became prime minister in 2006 he effectively left Martin's spending plans intact, and added billions more in additional funding in his first budget that year. Two years later, Harper's government published the *Canada First Defence Strategy* which added still further funding covered by a 20-year spending plan. As a result of these successive spending increases and in the context of Canada's war effort in Afghanistan – its largest and most costly military operation since Korea – Canada significantly increased defence spending until 2010/2011. As Figure 1² shows (the blue bar graph using the left axis), from a start point of \$18.0 billion in 2004/2005, the year prior to these increases taking effect, spending rose gradually, peaking at \$23.9 billion in 2010/2011, before reducing thereafter as deficit reduction measures were enacted. (All figures in this article are expressed in 2018/2019 dollars, deflated using the DND Economic Model). In percentage terms (the red line, using the right axis), spending increased gradually at first, rising five per cent in the first year and 13 per cent the next, culminating in an overall increase of 46 per cent in real terms by 2010/2011, relative to 2004/2005. Spending has declined since 2010/2011, but in the last year for which final year-end spending data are available – 2016/2017 – it remains almost eight per cent higher than it was in 2004/2005.

As Figure 2 shows, the spending increase projected in SSE is more gradual, but spread out over a longer period of time. From a start point of \$19.4 billion in actual spending in 2016/2017 (the blue bar in Figure 2, using the left axis) spending under SSE is projected to increase for the next nine years, peaking at \$30.7 billion in 2025/2026 before declining (the red bars in Figure 2, using the left axis). Over the first three years of the policy, overall spending would increase by between nine and 11 per cent (the green line in Figure 2, using the right axis), rising by 29 per cent after six years (2022/2023), for a maximum increase of 59 per cent by 2025/2026; with all comparison to 2016/2017. Relative to the 2005/2006 to 2010/2011 time period, the total spending increase in SSE would proceed

Figure 2
 Projected Total Defence Spending and Percentage Increase in *Strong, Secure, Engaged* Compared to Actual Spending in 2016/2017



more gradually, but ultimately increase slightly more overall producing a 59 per cent increase compared to a 46 per cent increase a decade ago.

To date, the total defence allocations³ since SSE’s release closely follow the projection outlined in the policy. The allocation of funding in Supplementary Estimates C 2017/2018 was \$21.4 billion (the green dot in Figure 3), compared to projected spending of \$21.0 billion (part of the red line in Figure 3). The allocation in the Main Estimates 2018/2019 is \$20.4 billion (the purple dot in Figure 3), compared to projected spending of \$21.4 billion. In short, as SSE’s first anniversary approaches, the overall funding allocations thus far are in line with the policy’s projections.

The story with capital spending, however, is different and it is again useful to compare the projected spending increase in SSE for this component of the defence budget with recent history. As with overall defence spending, spending on capital (infrastructure and equipment) increased significantly between 2005/2006 and 2010/2011. After a decade and a half of post-Cold War downsizing and under-investment in new capital spending, Paul Martin’s 2005 budget contained significant new funding for major purchases to which the Harper government added. This spending increase delivered billions of dollars in purchases of urgent operational equipment for Afghanistan and the procurement of C17, C-130J and CH-147 air platforms (as well as many other procurements). Much of this occurred using non-competitive procurement strategies facilitated by an atypically supportive attitude towards defence procurement during Canada’s first wartime experience in a half-century. During this exceptional period, Canadian capital spending increased from \$2.8 billion in 2004/2005 to \$4.5 billion 2010/2011 (the blue bar graphs using the left axis in Figure 4). As a percentage increase relative to spending in 2004/2005 (the red line in Figure 4 using the right axis) spending increased by one per cent and then five per cent in 2005/2006 and 2006/2007 respectively, rising a total of 60 per cent by 2010/2011.

Figure 3
 Total Strong, Secure, Engaged Allocations to Date

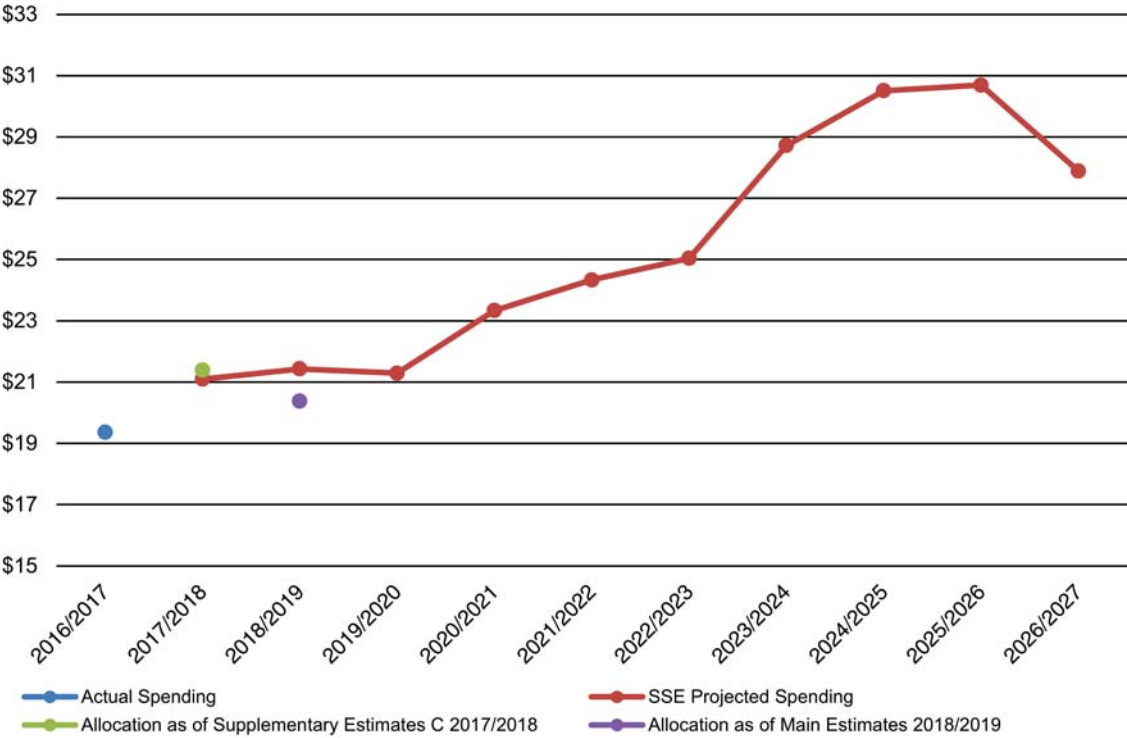
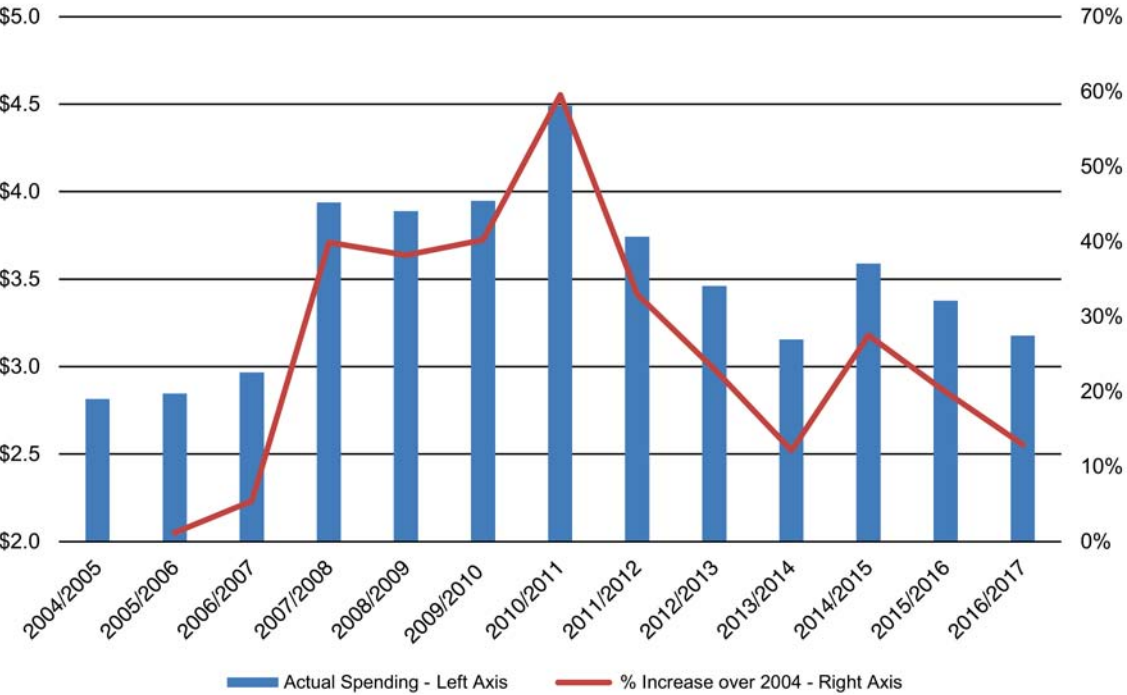


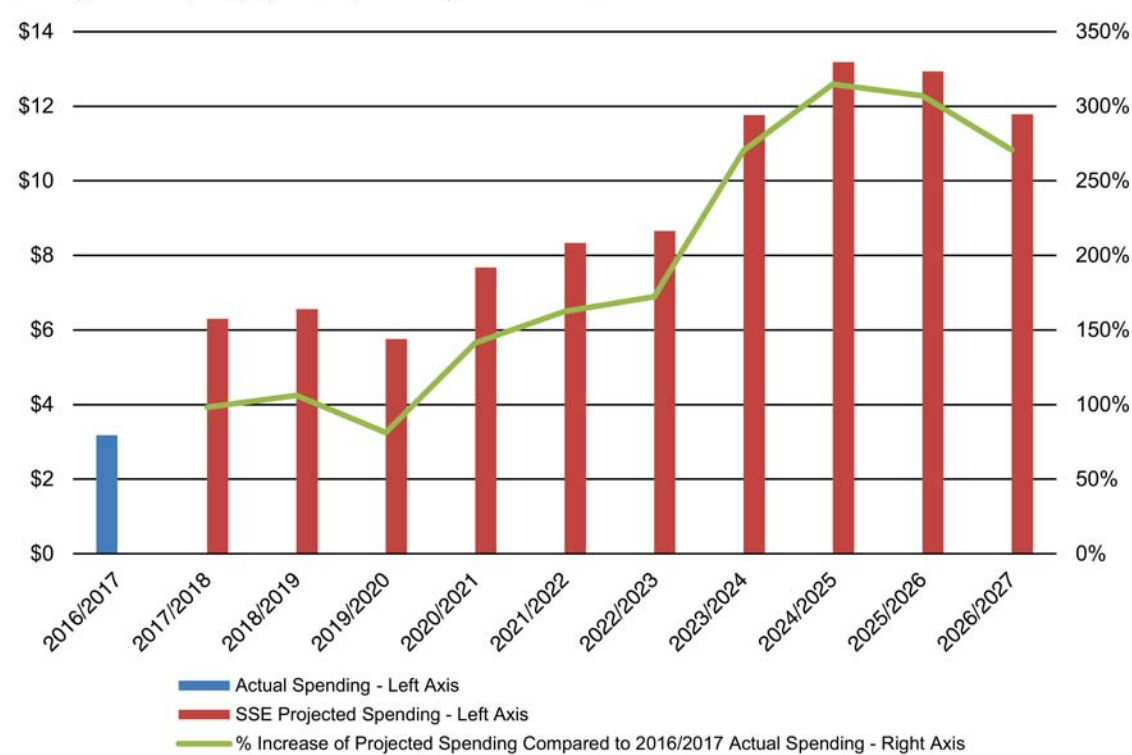
Figure 4
 Capital Spending 2004/2005 - 2016/2017 and Percentage Increase Compared to 2004/2005



Afterwards, as with overall defence spending, capital expenditures experienced an overall general reduction. In 2016/2017, spending on capital was just 13 per cent higher, in real terms, than it was in 2004/2005.

The capital spending plans in *SSE* would see spending increase from \$3.2 billion in 2016/2017 (the blue bar in Figure 5), the last year before the policy took effect, to \$6.3 billion in 2017/2018 and then rise progressively over eight years to a maximum of \$13.2 billion in 2024/2025 (the red bars in Figure 5 using the left axis). As a percentage increase relative to 2016/2017, the capital projections in *SSE* would see spending increase by 98 per cent in the policy’s first year, 106 per cent in its second, 172 per cent in its sixth and by 315 per cent by 2024/2025 (the green line in Figure 5 using the right axis). In short, neither the scale of the capital spending increase in *SSE*, nor the pace with which it was projected to take effect are at all comparable to what was actually achieved between 2005/2006 and 2010/2011. Spending under the new policy is envisioned to rise far faster and the envisioned increase is projected to be far greater than what was actually achieved a decade ago. Notably, this much more significant increase is slated to occur in a peacetime environment and without any major changes to the capacity, processes or institutional structures underpinning Canada’s defence procurement system.⁴

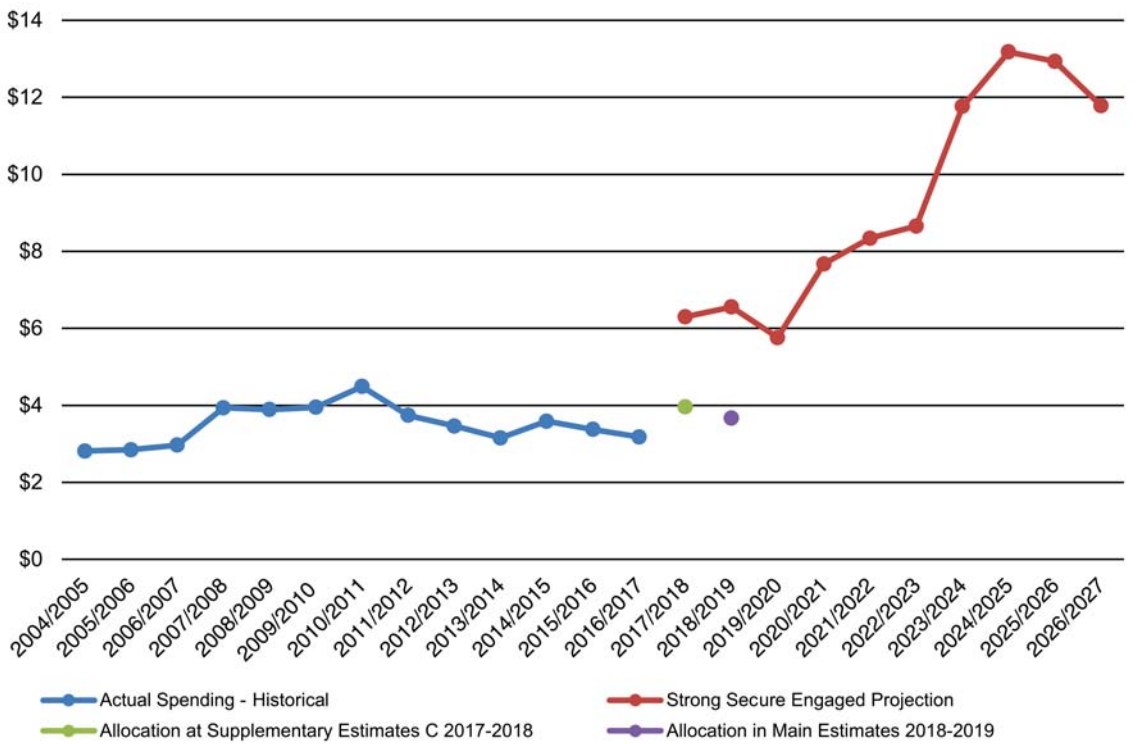
Figure 5
Strong, Secure, Engaged Capital Projection and % Increase



Unlike the total funding allocations for DND, the capital allocations to date are falling well short of the projections contained in *SSE*. The DND’s capital allocation for 2017/2018 as of Supplementary Estimates C for 2017/2018 was \$4 billion (the green dot in Figure 6). This final year-end allocation represents the maximum DND can spend on capital in 2017/2018⁵. This is well short of the \$6.3 billion in capital spending projected for 2017/2018 in *SSE* (the red line in Figure 6). Similarly, DND’s capital allocation in the 2018/2019 Main Estimates (the purple dot in Figure 6), at \$3.7 billion is well short of the \$6.6 billion in spending the policy had projected

would occur in 2018/2019. This is concerning because while the 2018/2019 fiscal year has only just started, over the last nine years DND has never actually spent more on capital by year's end than it was allocated in the Main Estimates.

Figure 6
Strong, Secure, Engaged Capital Allocations to Date



As the allocations to date suggest that actual capital spending will fall short of the projection in SSE in the short term, Figure 7 depicts an estimated capital expenditure projection that assumes DND can achieve the same rate of spending increase it previously achieved between 2005/2006 and 2010/2011. Using 2016/2017 as the base year, the green line in Figure 7 is a projection made by assuming DND is able to increase spending annually from 2017/2018 through 2022/2023 at the same rate that spending actually rose between 2005/2006 and 2010/2011 (the red line in Figure 4). This therefore assumes that capital spending can be increased by a total of 60 per cent by 2022/2023. As Figure 7 shows, if DND can achieve in peacetime the same rate of spending increase reached a decade ago while the country was at war, it will spend significantly less than projected on capital under SSE.

As Figure 8 shows, the capital allocations to date (those as of Supplementary Estimates C 2017/2018 (the purple dot in Figure 8) and the Main Estimates 2018/2019 (the red dot in Figure 8) are far closer to a projection which assumes DND is able to replicate the same rate of capital spending increase achieved from 2005/2006 to 2010/2011 than the projection outlined in *Strong, Secure, Engaged*.

The foregoing analysis was only possible because of the exceptional level of transparency contained in the fiscal projections in SSE; a comparable analysis of previous policies would simply not have been possible. The comparative analysis shows that the increase in overall spending projected in the current defence policy is roughly comparable to what has been

Figure 7

Projected Capital Spending under *Strong, Secure Engaged* Compared to a Projection Assuming Spending Increases at the Same Rate it did Between 2005/2006 and 2010/2011

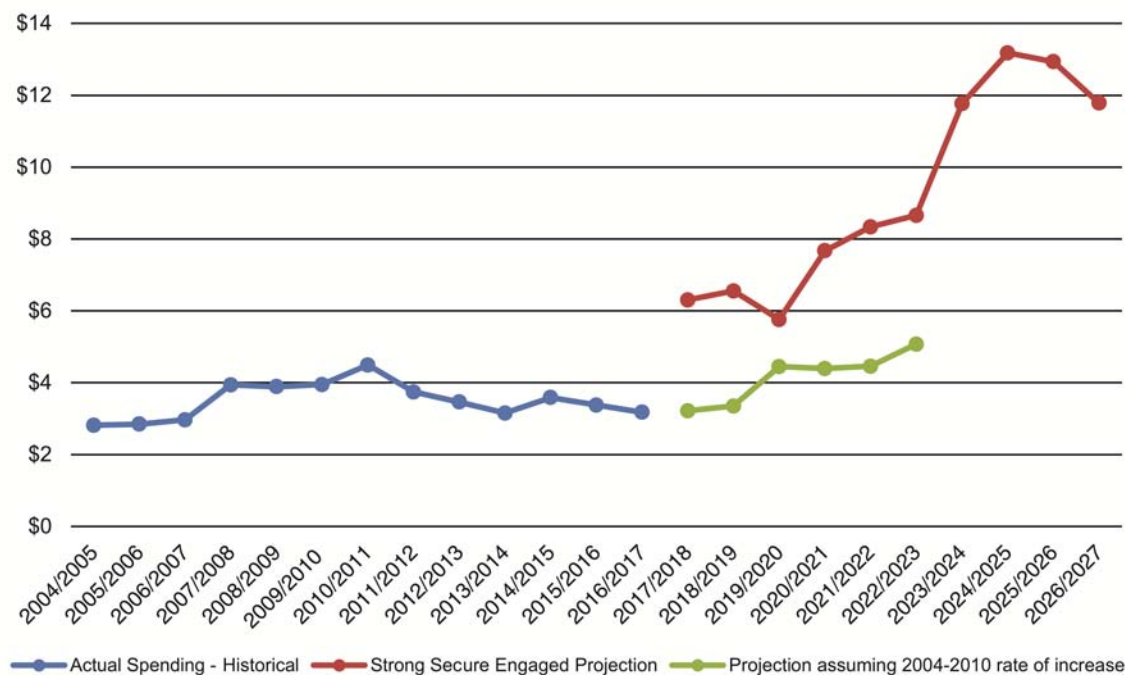
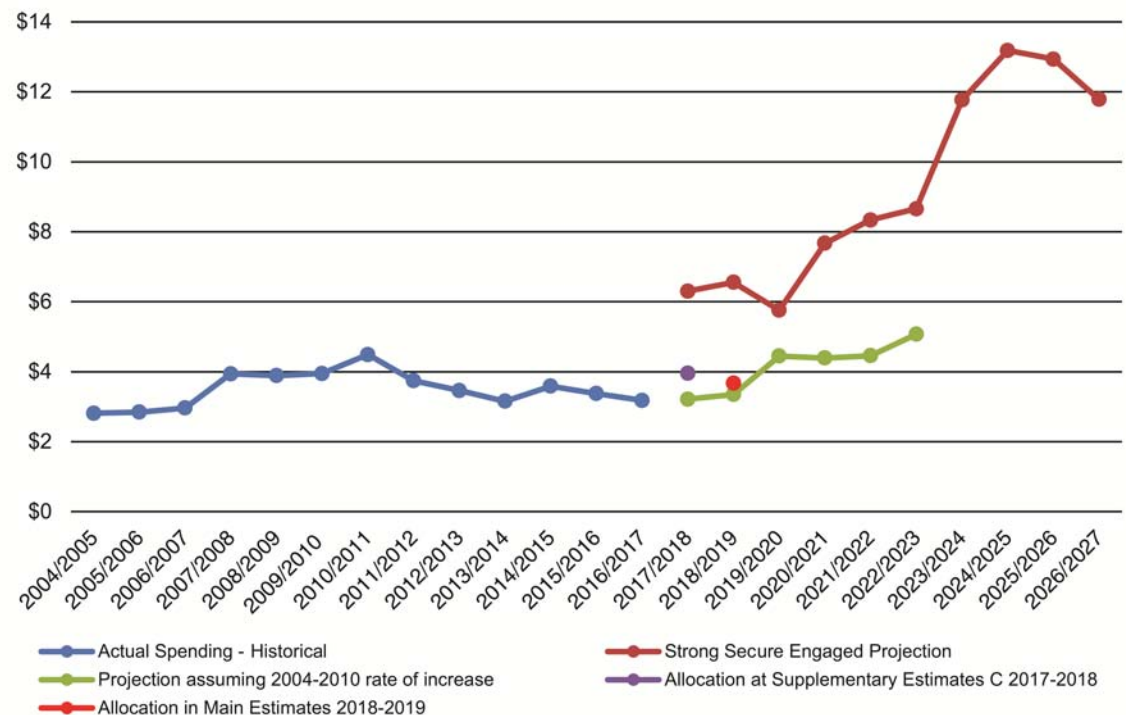


Figure 8

Capital Allocations to Date Compared to SSE and Projection Assuming Past Rate of Increase



recently achieved. In contrast, the projected increase in capital funding under SSE is vastly more ambitious than what was actually achieved in the 2000s.

To date, DND's allocations of overall funding are closely tracking the projections outlined in SSE. Overall defence spending in the early years of this policy is therefore likely to closely resemble the projection outlined in the policy. The capital allocations to date, however, are not tracking closely to the projections outlined in the policy. While enough funding has been allocated for capital purchases that an increase in spending is likely under the early years of SSE (depending upon how much of that money is actually spent) the indications thus far are that the spending increase will fall billions short of the projection made in the policy. Put differently, capital spending is probably increasing, just much slower than SSE had intended.

In sum, the data available on SSE so far suggests that the policy's projections for overall spending will be achieved in the short term, but that those for capital expenditures will not. A comparison with recent history suggests that this record so far is the result of overall spending projections in SSE that were ambitious, but achievable, while the capital spending projections were too ambitious for Canada's existing defence procurement system. If Prime Minister Trudeau wants to see his defence policy implemented as outlined, he needs to change Canada's defence procurement system to enable it to spend procurement money at the rate projected in SSE.

DAVID PERRY is Vice President, Senior Analyst and a Fellow with the Canadian Global Affairs Institute. He is the author of multiple publications related to defence budgeting, transformation and procurement, published with the Canadian Global Affairs Institute, Conference of Defence Associations Institute, Defence Studies, Comparative Strategy, International Journal, and Journal of Military and Strategic Studies and is a columnist for the Canadian Naval Review. He received his PhD in political science from Carleton University where his dissertation examined the link between defence budgeting and defence procurement. He is an adjunct professor at the Centre for Military and Strategic Studies at the University of Calgary and a research fellow of the Centre for the Study of Security and Development at

Dalhousie University. He was previously the Senior Security and Defence Analyst of the Conference of Defence Associations Institute and Deputy Director of Dalhousie University's Centre for Foreign Policy Studies. Embassy Magazine and The Hill Times named him to their "Top 100 Influencing Canadian Foreign Policy" in 2014.

End Notes

¹ All dates shown in this format are Canadian federal fiscal years which run from April 1 to March 31.

² All figures in this article are expressed in \$2018/2019 billions and have been adjusted using DND's Defence Economic Model by the author. All capital data is cash based (not accrual). Historical spending data is from the Public Accounts of Canada, Vol. II.

³ With *Strong, Secure, Engaged*, funding was put into the fiscal framework for DND to fund the policy. This funding must still be **allocated** to DND on an annual basis through the Estimates process, and then actually **spent** to translate the funding made available to DND as part of SSE into actual policy outcomes.

⁴ Initiatives 94 through 100 in SSE are, however, all oriented around streamlining defence procurement to "better meet the needs of the military, and deliver projects in a more timely manner." (p. 75) In the author's estimation, these are all very worthwhile initiatives but do not constitute major changes.

⁵ Over the last decade, DND has never spent by year's end more than 93 per cent of its capital allocation as of Supplementary Estimates C and has spent on average only 80 per cent of its capital allocation. Actual spending for 2017/2018 will not be known until the *Public Accounts of Canada* is published in the fall of 2018.

Lead image: **Canadian Armed Forces Image Gallery**



People, Partisanship and Political Games: The Defence File

by **ALAN STEPHENSON**

People are at the core of Canada's new vision for Defence. Ensuring that our women and men in uniform are prepared and equipped to succeed on operations, and that they are fully supported from recruitment through retirement and beyond, is fundamental to our success.

– Strong, Secure, Engaged 2017

People are Defence's most important resource... Looking ahead, several major equipment fleets will reach the end of their operational lives within the next 10 to 20 years, and will need to be replaced. Decisions on acquiring critical new systems to replace these ageing fleets must be made in the near term.

– Canada First Defence Strategy 2008

Reflection on the first anniversary of *Strong, Secure, Engaged* (SSE), the Liberal government's defence policy, demands evaluation of its political promises against the real-world consequences of government behaviour. Hope is woven throughout the document with its chapters assuring enhanced personnel care, long-term investments in capabilities and the comprehensive funding commitment. There are many positive, well-intentioned pledges, but hope may be the first casualty as political gamesmanship continues to define the defence file.

Central in the "soldier's" acceptance of "unlimited liability" are faith in leadership and hope for support from the system they are bound to defend. Leadership starts with the prime minister of the day, but hope transcends governments. The rank and file of the Canadian Armed Forces (CAF) – the "people" – are well aware of unaltered facts surrounding defence issues despite government strategic communications. Military personnel understand and accept that politics is the essence of national defence decision-making in a liberal democracy. However, they lose faith in both

leadership and the Canadian polity when political gamesmanship and interference continually take precedence over their well-being – where well-being is more than personnel policies, it is the well-being of their military institution as a whole.

Successive governments have let capabilities atrophy for short-term parochial political purposes. It is not as if government was unaware that the Royal Canadian Navy (RCN) needed to replace its replenishment ships and that the Royal Canadian Air Force (RCAF) fighter fleet was at the end of its operational life – the *Canada First Defence Strategy (CFDS)* identified those in 2008. Ten years later, Canadians continue to witness the political gaming that surrounds the recapitalization of these core military capabilities, none more apparent than that of replacing the CF-18. The Harper government initiated the politicization of the fighter replacement and the successive Trudeau government continues apace.

Once elected in 2015, a responsible government would have taken the time to understand the fighter file, made use of the 40,000 person-years of public service analysis, and immediately run a fair and open competition as promised. A responsible government would be directing the \$1 billion needed to refurbish and operate the used Australian F-18s toward cost avoidance to fund a modern replacement fleet instead of unnecessarily delaying the decision past the next election. A responsible government would not have fabricated a narrative to favour a specific aircraft and forced public servants to sign an unprecedented non-disclosure agreement to prevent the military's factual analysis from being disclosed. Although *SSE* increased the size of the fighter fleet to where it should have been originally, it provides no strategic rationale for this determination. In continuing the fictitious “capability gap” narrative to further justify program delays, the government brought into question the integrity of its own leadership.

One may ask, so what? The problem is that the CF-18 replacement file is endemic of

problems with Canadian defence policy writ large – political gamesmanship. By refusing to articulate defined political objectives in an overarching national security strategy document, successive governments have made use of policy imprecision for short-term partisan purposes. As James Cox notes, *SSE*'s “intellectual reach extends only as far as military considerations associated with the CAF”¹ and fails to articulate national goals and security interests. The Harper government's approach was similar in producing the *CFDS*, another so-called 20-year plan. The “people” referred to in both these documents are well aware “that the policy and funding commitments made in such well-intentioned documents rarely survive half a decade [and] ... have easily been undone ... in a 30-minute meeting in the Prime Minister's Office.”²

David Perry reinforces this understanding when he writes that although “the overall funding allocations on defence are tracking close to projected levels outlined [in *SSE*] ... capital allocations are lagging significantly.”³ To observers, this does not bode well for the progress of the two most expensive recapitalization projects in Canadian history that require funding following two future elections, the CF-18 replacement and the Canadian Surface Combatant (CSC). Thus, the minister of national defence's words ring hollow when he declares that “*Strong, Secure, Engaged* is a long-term, fully funded plan built around people”⁴, as few believe the particulars will survive past the next election.

The “people” are conscious of the political gamesmanship and are voting with their feet. Retention is becoming increasingly harder across the services, while recruitment cannot keep up with the attrition rate. It is no wonder that fighter pilots flying aircraft built before they were born are leaping at the opportunity to fly commercially when their military career prospects are tied to a 50-year old platform. The pull factors from opportunities in industry are only increased by the push factors of questionable leadership and government commitment to their well-being. The factors associated with retention are

complex and multifaceted, but the loss of a single fighter pilot, for example, represents the loss of a \$7 million investment. *SSE* attempts to address some of the retention issues in chapter 1, but the near-sighted manipulation of defence funding for other political party purposes acts as a disincentive to remain in an organization where “people first” is simply another political slogan.

Elinor Sloan believes that the “Mark Norman case highlights a broken procurement system ... as it sheds light on an unwieldy, politicized and complex process that seems incapable of producing military equipment in a timely fashion.”⁵ Under Canada’s parliamentary system, the cycle of major Crown projects is progressively out of sync with the electoral cycle and political parties take short-term advantage of the procurement process. The CSC project will span more than four electoral cycles. As the “people” witness government manoeuvring for party electoral self-interest and respected military leaders such as Vice-Admiral Norman being caught in political intrigue, they, as well as industry, cannot help but be dismayed.

The Canadian defence procurement system has evolved to include multiple departments that hold varying responsibilities for success, but there is no single accountable authority until it reaches the prime minister. Sloan writes that *SSE* “promises reforms within DND to streamline procurement but does little to resolve the external dynamics among departments.”⁶ All the institutional changes and restructuring of the military procurement process will amount to little without bipartisan co-operation in some form that allows major projects to transcend governments and a whole-of-government approach that does not rely on the prime minister to be the initial and final arbiter.

If the Liberal procurement plan is indeed fully funded for 20 years, then agreement by the Conservative opposition to retain this funding structure if elected would provide long-term bipartisan incentive to properly equip the CAF. As unlikely as this is within

the parliamentary system of government, the fact remains that until some checks on the domestic jockeying for political power are embraced, the defence file will continue to be used as a political pawn at the expense of the “people” who matter most – the women and men in uniform.

Hope has its limits. Canada will continue to under-perform as a nation on security and defence until some means are established to reduce the short-term gains to political parties for unduly politicizing defence issues. Industry looks for stability and commitment to maximize options and minimize costs when pursuing military contracts. The taxpayer is looking for best value for the defence dollar and allies are looking for a capable, devoted partner. One cannot be so naive as to believe that defence issues can be made apolitical. There is a real requirement in a liberal democracy for legitimate political debate and acceptable ways to shape the issues, but the recent political gamesmanship and interference in the procurement process are unacceptable. They lead to uncertainty and ambiguity, especially for those who serve.

There is a need for a strategic national security policy that links Canadian domestic, international and foreign policy interests. The academic rigour and analysis of national interests required of this developmental process ultimately provide decision-makers with the necessary tools to make informed decisions and provide the overarching direction needed to pursue national security strategies. Political objectives will be translated into achievable and measurable defence objectives by linking ends with means. Establishing an arms-length defence procurement process, whether through a stand-alone agency, Crown corporation⁷ or some all-party agreement⁸ will provide the most balanced approach to delivering defence capability and limit the repercussions of short-term political interests. The best way to put “people first” is to build trust and hope through strong leadership and provision of

good stewardship to the institutions they are dedicated to serve.

ALAN STEPHENSON is an aviation consultant and a 35-year veteran of the Canadian Forces. Stephenson's knowledge of NORAD and NATO follows from his experience as a CF-18 pilot and staff officer at all levels of command. He holds a PhD from Carleton University and is also a Fellow of the Canadian Global Affairs Institute.

End Notes

¹ James Cox, "Canada Still Has No Real Defence Policy," Macdonald Laurier Institute, June 14, 2017.

² Eugene Lang, "Use It or Lose It: SSE and DND's Chronic Underspending Problem," Canadian Global Affairs Institute, May 2018, 4.

³ David Perry, "Strong, Secure, Engaged So Far," Canadian Global Affairs Institute, May 2018, 1.

⁴ National Defence, *Strong, Secure, Engaged: Canada's Defence Policy*, 2017, p. 6.

⁵ Elinor Sloan, "Mark Norman Case Highlights a Broken Procurement System," *Globe and Mail*, April 30, 2017. <https://www.theglobeandmail.com/opinion/mark-norman-case-highlights-a-broken-procurement-system/article34853042/>

⁶ Elinor Sloan, "Organizing for Defence Procurement," *Frontline Defence*, vol. 14, no. 4, 2017.

⁷ Ibid.

⁸ Comments made by Craig Stone, "Creating a Big Bang: Implementing the Procurement Ambition in *Strong, Secure, Engaged*," Canadian Global Affairs Institute, Oct. 26, 2017, 9.

Lead image: **Chris Wattie/Reuters**

The Global Exchange

Editor-in-Chief

David Bercuson
Program Director, CGAI

Managing Editor

Adam Frost
Associate Research and Development Coordinator,
CGAI

Design & Layout

Carri Daye
Administrative Coordinator, CGAI

Main Office

Suite 1800, 421-7th Avenue SW
Calgary, Alberta, Canada T2P 4K9
(403) 232-1387

Ottawa Office

8 York Street, 2nd Floor
Ottawa, Ontario K1N 5S6
(613) 288-2529

The Global Exchange is the official communiqué of the Canadian Global Affairs Institute. Comments and subscription requests are welcome and should be sent to contact@cgai.ca.

Cover

Canadian Armed Forces Image Gallery



A Basic Primer on Naval Shipbuilding

by IAN MACK

The National Shipbuilding Strategy (NSS) is consistent with the “Build in Canada” shipbuilding policy, which when fully implemented will deliver ships for the Royal Canadian Navy and the Canadian Coast Guard, employing two shipyards competitively selected in 2011.

Some suggest other nations have done things that would have resulted in better value for money than is observed with the NSS in implementation. It’s also suggested that Canada’s approach to shipbuilding with the NSS is unusual.¹ In fact, many NATO nations long ago rationalized their shipbuilding activity to one or two shipyards focused on delivering types of ships for their navies, and routinely as prime contractor, just as Canada is now doing. These shipyards have preferred to use major

equipment suppliers they have worked with for decades for various reasons, rather than selecting equipment suppliers for a given project through open competition. The NSS is unique in that it is new for Canada and only now evolving – our allies achieved the equivalent of the NSS model some time ago.

Undeniably, the NSS is not perfect. In terms of the launch, which was done by any standard in record time (three-and-a-half years from conception to birth), hindsight indicates that some things could have been done differently with potentially better results. The early execution was also a learning experience. For example, the parties struggled to adopt practices appropriate to a 30-year program of work rather than a series of discrete shipbuilding projects. But as with every truly complex endeavour of such proportions, NSS has many challenges. The following discussion will examine broad subjects which shape the naval shipbuilding decision-space in all seafaring nations.

Oversight

From the earliest days of 2010 as the competition was launched to select two

shipyards, a multi-tiered governance structure was in place to oversee the work. The overseers were drawn from all stakeholder departments and central agencies, at the directors-general, assistant deputy minister and deputy minister levels. This internal governance hired many companies to independently review various aspects of the execution. More recently, an independent advisor was brought onboard to provide input to the senior decision-makers – Rear Admiral Steve Brunton, retired from the Royal Navy (who incidentally recused himself from the CSC selection activity over a potential perception of conflict of interest with his previous U.K. work with BAE). Ministers have also had varying levels of oversight in various committees.

Every nation building naval ships has had similar oversight mechanisms. But many of our allies have periodically become concerned with performance, to the point of calling in external experts to look end-to-end at warship procurement practices. And while NSS has benefited from many third-party engagements, they have typically been narrow in scope.

Good governance is always a challenge. Too much and you lose agility, with burdensome reporting. Frequent changes in those governing mean that both continuity and expertise suffer. Add attributes such as competence/insight into the business at hand, availability of time invested, behaviours and transparency, and one understands why creating and sustaining good governance is a perpetual challenge everywhere.

Every one of these oversight challenges was present at times in NSS. But in large measure, decisions taken have routinely been informed by those at lower levels who have the experience to do an effective option analysis and/or have access to external parties that do.

The one exception where experience was lacking in government and with third parties was the launch of the original National Shipbuilding Procurement Strategy (NSPS,

now known as the NSS). None of our allies had applicable experience in modern times when NSPS was being conceived, but all of our allies had and still have indigenous naval shipbuilding capability. The objective was never in question – the outcome of NSS as long-term strategic relationships between one or more shipyards and their governments is substantially the international norm. Thus, while not perfect, the governance has generally delivered.

Cost Estimation

Those in Canada well schooled in this area point out that there are two issues at play: the ability to estimate costs, and the communication of cost estimates to the public.

The Cost Estimate – Many primers and standard methodologies are in use to generate cost estimates today. The International Cost Estimation and Analysis Association is one useful source of such information and accreditation. Suffice to say that one starts out with many assumption-based unknowns such that early cost estimates can be expected, with a selected confidence factor, to fall somewhere in a range. As work is done and decisions taken, the level of uncertainty is reduced so that there is convergence on a more realistic cost estimate.

It should be no surprise then that estimating costs to set budgets for complex projects is no easy task anywhere. Our allies have not perfected this either, as is evident from the media if one scans naval shipbuilding articles. Budget overruns of 10 per cent have been common (and in the hundreds of millions of dollars), with some well north of 20 per cent, and delays are also the norm.

There are many reasons for this. It starts with changing requirements – an emerging offensive threat not foreseen (something more common since the Berlin Wall came down) or an in-service fleet calamity leading to the loss of sailors' lives. Regarding inflation, our allies track tailored indices for different types of ships over decades. But in

the uncertain, ambiguous and interconnected global marketplace of modern times, volatility can play a huge role, as happened with the JSS first procurement activity that was terminated in 2008. As well, every budget is based on a schedule, which is based on a plethora of informed assumptions over more than a decade as a minimum. Only in a scenario where ships will be identical to those coming off an existing “hot” production line will the schedule be relatively reliable.

In the case of all the naval shipbuilding projects in train under NSS, every budget was set prior to the conception of NSS – the NSS essentially delaying all shipbuilding projects by at least 3.5 years but more realistically by five to six years. As well, the procurement strategies changed, with the introduction of pre-selected shipbuilders under NSS. The additional time required to launch NSS enabled emerging threats to affect requirements. Inflation allowances were also impacted. But perhaps the largest contributor to the weaknesses in initial budgets was the deterioration of the capability to generate high-end cost estimates for defence platforms. This was a capability that was somewhat sacrificed in the 1990s as part of the 23 per cent reductions in all government departments to address the national institutional deficit created in the 1970s and 1980s. Fortunately, the Department of National Defence has reestablished this skill set and now has an enhanced cost-estimating capability.

Communication of the Cost Estimate – No organization starts an expensive project based on the proverbial blank cheque. In democracies, there is an added responsibility to communicate with the public. And as many international experts have determined, the first number communicated on an expensive defence project is the one that everyone remembers and measures the government’s performance against.

It is not surprising that governments struggle with what to communicate at the launch of any complex procurement, especially a

shipbuilding project. One can understand the tendency to shy away from ranges because of the perception that they do not know and are gambling with taxpayers’ money (“It will cost between x and $3x$ ”). As a result, a single number is preferable, but at what confidence factor? The 100 per cent confidence factor could be $4x-5x$, but is a worst-case estimate that risks the very launch of the project due to sticker shock. So do they choose the 50 per cent or 80 per cent confidence estimate? In many instances due to competing priorities, decision-makers cannot invest the time required to truly understand the complicated set of nuanced options offered.

There is also the question of what to include, and nations differ. Does one include all personnel costs or just the cost of the incremental human resources? What about ammunition (missiles are not cheap) and how much is required up front? Should the forecast of the through-life cost be provided, and based on what assumption set (inflation, period of service, usage/maintenance profile) for an asset not yet even designed? In some cases the announced cost estimate is for the ships alone, which could be only 50 per cent of the all-up cost if all cost contributors are included as is the practice in Canada.

In Summary - All budgets are based on a myriad of assumptions that are typically time-sensitive. Hence, announcing any cost estimate is politically risky, that risk significantly influenced by the importance of defence to the citizens – if you live in daily fear of attack by enemies, the cost of insurance does not matter as much. And the viability of any cost estimate is directly proportional to the timely execution to the assumed schedule. Staying on schedule is a critical factor in mitigating a degree of the risk. Schedule is worthy of a separate discussion because, in the execution of complex projects, schedule is king.

Procurement Strategies

The strategy to be used to execute the procurement is indeed critical to every

weapon system platform acquired. One can buy something (something already designed that is in-service) and decide to either modify it or not. One can decide to design-and-build to a set of requirements. The government can be the integrator and responsible prime or lead on the activity; alternatively a private sector company can do this for the government as prime contractor. One can direct the implementation contract(s), or compete some or all of them. And in every case, one must decide what procurement strategy to employ to provide decades of in-service support after delivery.

In the case of an existing or imminent capability shortfall, ships are often taken up from the merchant fleet or from another nation and modified to satisfy essential needs. This was done recently to address Canada's seagoing tanker deficiency with the Interim Auxiliary Oiler Replenishment project. However, such approaches are typically interim measures as they do not truly address the client's full set of requirements in a sustainable way. Canada also did this in the latter part of the last century to commission HMCS Cormorant as a deep diving ship, which delivered about 20 years of service. The Australians obtained HMAS Sirius in a similar manner as an interim capability. But such an approach is unlikely to endure for three decades, due to such things as the cost to maintain converted ships that were not built for purpose.

The requirements are obviously an important input to selection of the procurement strategy – are we buying something not available on the market (a development approach), something off-the-shelf or a modified product? As with many other nations in this century, Canada is likely to shy away from buying ships that require the expense and risk of bleeding-edge technology development. Also typically, warships cannot be purchased as is from another nation, without modification – what is pejoratively referred to as “Canadianization” in Canada. But it is essential for so many reasons. Our fleet make-up of vessel types and our suite of

missions are different from those of other nations, so what we need to do in any naval vessel will be more in one area or less in another than others need to do. Our environmental laws are different. Our pilots fly off ships a certain way to meet the Royal Canadian Air Force's flight safety standards. We fight our ships differently – and historically very successfully. Our crews have a culture and way of doing business that is not identical to others. Moving away from Canadianization to the actual supplier, we typically see more requirements for change. Unless the ship supplier is merely adding your new ships to an existing hot production line, they can rarely source the same major equipment sets that were in the original design – new models are available which offer greater capability and less obsolescence concerns and/or original company suppliers have gone out of business or merged with other companies and their product lines. Hence Canada's requirements – as with most navies – drive a procurement strategy that is designed to deliver a modified military off-the-shelf ship.

There is often a desire to do a single big bang through competition for a design-and-build contract. This gives a prime great financial certainty once the contract is awarded, typically with all the responsibility. However, there are significant levels of risk involved in expecting a private sector contractor to commit to a price to deliver constructed ships at some time years down the road, which satisfy the client's set of requirements in a design that is not yet defined. This approach unavoidably introduces large contract risk premiums to assure the supplier of his desired profit. The alternative approach is design-then-build, whereby the commitment of funds is more controlled and the risks generally are lower. However, this approach does mean that the government may choose to or have to change agents when it is time to build. This means less certainty of revenue for the shipbuilder or consortia, with potential financial implications – though the intellectual property challenges alone in switching to an alternate builder and the inevitable delay in program delivery render

such a change unlikely. In consultation with the NSS shipyards, Canada chose to employ the design-then-build plan, primarily as a risk treatment measure for all parties. And for Canada, it enabled better control of the commitment of funds to new shipyards that had yet to demonstrate the levels of functionality required.

In defence contracting, the selection of a prime is preferred to be from the capable (agile, knowledgeable and experienced) private sector, and it is usually left to the private sector to self-organize in this regard. For this reason, NSS was silent on who would be prime. However, when you are building high-end combatant warships, the shipbuilding time will typically be many orders of magnitude greater than the design period, so shipbuilders are very often selected as prime contractors. This avoids the overhead of a non-shipbuilding company over the many years of a project focused on ship construction of a finalized design. It can also be risky to change prime contractors between the design and build stages in terms of accountability for performance, as both sides could blame the other for any shortfalls. Very typically, shipbuilders enter shipbuilding competitions as the prime contractor. Thus, there was an expectation for NSPS that, for most shipbuilding projects, the NSPS shipyards would be the prime contractors. Given that NSS set out to create longstanding strategic relationships with the shipyards, their selection as prime would also ensure ongoing co-operation between Canada and the prime who would be performing the key project integration tasks. As well, the integration tasks would be done in Canada to develop and enhance this critical set of skill sets, and hopefully be conducted in time largely by Canadian citizens.

Only CSC was specified under the NSPS competition to have a downstream decision on who would be the prime. This is because most shipyards construct non-naval marine platforms comprised of the hull structure, propulsion equipment and hotel services (e.g., heating/ventilation/AC, galley, accommodation). This is substantially the

case for AOPS, JSS and the CCG ships. But the prime purpose of CSC is the exceptionally complex and unique weapons, sensors, high-end communications equipment and integrating combat management system to be carried by the marine platform. Therefore, Canada specifically reserved the right to designate the CSC project prime contractor to ensure that the decision was intentionally made after careful analysis for this fleet of unique NSS combatant warships.

In terms of in-service technical support, it is obviously important to have it in place when navies accept the first ship in a new class into service. Therefore, one must develop a strategy to achieve this very early on, preferably concurrent with the procurement strategy development to acquire ships. This is important because it is in acquisition of the artifact where such things as the approach to spares ownership, maintenance, intellectual property and the like are enabled. Having it in place well before the ships arrive is prudent, so long as companies are not paid for services not needed. In the case of the Arctic Offshore Patrol Ships and the Joint Support Ships In-Service Support contract (AJISS), the contract could be designed such that there would be no significant incremental cost for JSS before the first new tanker enters service, even if dramatically delayed. This is because the contract will be focused first on the AOPS, the third ship of the class now in construction.

Contracting

The nuances in contracting are legendary. And I beg forgiveness from my many contracting colleagues for the oversimplifications that follow.

Competition has always been favoured to achieve good value for money. This is especially so in Canada – occasional comparisons by Canadian officials with the contract choices of select allies have indicated that Canada awards significantly fewer sole source defence contracts by most metrics.

Competition is based on a request for proposal (RFP) with an evaluation system which is tailored to determine which proposal will deliver value where it is considered most important (e.g., technical, industrial benefits, price). Getting the RFP just right is no small feat. Under the Defence Procurement Strategy, Canada's procurement organization must engage all interested bidders before drafting a contract. While this is a critical step, the bidders are understandably biased to provide advice that favours their own cause over their competitors – so while valuable, it must be scrutinized with great wisdom and business acumen. One cannot ask for too much in the RFP (the budget will be at risk) or too little (over decades, sailors' lives could be at stake). Therefore, the procurement team must find the right balance by working with the naval client (who quite rightly wants it all to safeguard Canada's sons and daughters in uniform) and the suppliers (who offer what they have and often little more). One must insist on seeing evidence which confirms that what is in each proposal is credible. One must worry about thousands of details. One must address the unique requirements of multiple ministerial mandates. And even once released, some bidders decry the RFP and gesture towards litigation. It should not then be surprising that many RFPs require rewrite and amendment or reissue. All of this takes time, and the ability of anyone to forecast how long it will take for this step is questionable.

To win, some companies will resort to over-promising for a low price to win the contract. In such cases, any contract put in place will be challenged from day one, as the client attempts to enforce the agreed trading deal and the supplier works to exploit loopholes and government behaviours and to subsequently reopen the contract to cover their costs and increase profits. Such a scenario almost invariably leads to sour relationships and disappointment on all sides. There are two related truisms. One, you get what you pay for. And point number two relating to competition – quality is more likely to be delivered when companies work with a partner with whom they have a solid

relationship based on past successful delivery of products, albeit at a higher price. (It should be noted that the latter of these two is not a practice embraced universally in public sector procurement). All this is to say, competition is no panacea, especially when the RFP Evaluation plan significantly values lowest price-compliant.

Where there is little complexity (meaning little uncertainty so minimal risk for all), fixed-price contracts are indeed appropriate. Treasuries and the public love the certainty – the price will never change, no matter how high it may be. Regrettably, this is not the case when being asked to design complex naval vessels or significantly modify an existing design. Nor is it the case when building a first ship of class in any shipyard, let alone an NSS shipyard (new facilities, new equipment, new processes and new workforce). A classic example of this fact has been the traditional naval shipbuilding practice in the U.S. to do ship design and low rate production at cost-plus. The batching approach to complex warships is another example used widely where fixed-price contracts are considered once the first batch of ships has been constructed and ship construction has been de-risked. It is true that you can employ fixed-price contracts in such uncertain scenarios, but they include significant risk premiums – this being a key factor to the termination of the first JSS procurement process due to affordability. But once the first batch of three or more ships have been built by the shipbuilder and both parties understand the real costs and profit margins, a fixed-price contract for follow-on ships is often appropriate. (As one overlaps ships on the yard's production line, it is not effective to just build one before moving to a fixed-price deal, for many reasons).

It should be noted that, for NSS, this is not prudent with so few ships of class for most shipbuilding projects. It is also noteworthy that AOPS was not batched either, although six ships were required. This issue was a critical consideration during contract negotiations for the construction of AOPS, and in the end was decided taking into

consideration other factors such as the benefits to the broader NSS program of work and the need to invest in the strategic relationship. But clearly, CSC is a good candidate for consideration of such an approach, as was done successfully in the 1990s for the Canadian patrol frigates.

The decision not to employ fixed-price contracts does not mean a blank cheque. Ship design and initial ship construction contracts typically include ceiling prices (the expected cost, with a contingency to address the risk of uncertainty), after which profits are at risk. Such contracts can be interpreted by shipyards as a penalty for poor performance. Because the risk to the supplier is much reduced, so too is the profit level. Other positive incentives are typically also built in, including the employment of separate shared risk pots for various factors. These sorts of contracts were key contenders for use in the early stages of NSS. With regards to the first ships to be built in the new shipyards, with new facilities, new equipment, new process and a new work force, fixed-price contracting would have been inappropriate.

Contract penalties are often employed in shipbuilding and largely around late or unacceptable deliveries. This can often lead to perverse behaviours that create such difficult relationships that success becomes impossible. Contractors' lawyers make commissions on how often they can find Canada's officials at fault for any and every kind of delay. The government's desired performance specifications are hard fought in negotiations and often dumbed down reach agreement. These approaches and others (secrets, a blame culture and access denied by both parties) cause the shipyard to cut corners in workmanship and ease quality assurance procedures to avoid delays. This is all done with the hope that deficiencies will not come to the client's attention until after warranties have been exhausted. Hence, the navy is displeased with many early performance issues and everyone ends up in court. Under NSS where the launch phase is still underway, there is a strong incentive for Irving

Shipbuilding to do well to obtain follow-on contracts – this being more difficult for Vancouver Shipyard because of the initial order book which makes off-ramping projects difficult (three offshore fisheries science vessels, one offshore oceanographic science vessel, two JSS and one Arctic icebreaker). NSS is about building and sustaining a strong strategic relationship, so selective tough love is more appropriate than continuous challenge. In other words, there are merits to judiciously defining penalties to motivate timely compliance for only the few deliverables that really matter.

Before we leave this section, a word is appropriate about prior relationships and fairness. The NSPS RFP required bidders to show how they would provide a number of ship design and construction capabilities soon after umbrella agreements were set in place. This meant that they either already had indigenous capabilities or that they had a credible sub-contractor team. Therefore, these primary sub-contractors were not competed because they were selected by the NSS shipyards as part of their team under NSPS competition, thereby providing specialist expertise upon award of contracts – expediency being of importance to Canada. However, the selection through competition of major equipment by these sub-contractors is overseen by Canada before they are awarded by sub-contractors.

In a similar vein, Canada typically avoids directing or forbidding partnerships between private sector companies, notwithstanding that there will be cases where previous relationships could lead to perceptions of conflicts of interest. A key consideration in Canada's reasoning is the relatively small number of such private sector companies that are both available and likely to be interested in bidding on Canada's defence procurements. However, this requires Canada to take measures regularly to ensure fairness. Such a situation arose as a result of the pursuit of the AJISS contract, with the resulting perception amongst some that the subsequent but separate CSC competition could potentially be unfair. It falls to the

government of Canada to employ appropriate measures as part of the CSC bid evaluation process to ensure fairness, and such measures exist. Mechanisms to do this could include such things as Canadian officials leading the majority of the evaluation areas and the presence of Canada's officials in all criteria assessments. And one would expect the government to only approve a bid evaluation employing mechanisms that assure an outcome aligned with the core principle of fairness which Canada considers to be an absolute.

Schedule

When schedule is king, repeated delays and failure to explain them to powerful government stakeholders and the public will in time jeopardize full implementation of the NSS.

Canada is well known for the extensive amount of time it takes to acquire weapon system platforms in general. There have been studies – though now dated – to show that our record on timely execution may be the worst in NATO. And when schedule slips, costs always go up – if budgets are not increased commensurately, the scope under contract must be reduced and the RCN potentially receives a less effective fleet of ships.

One should not be surprised by the propensity for delays in execution. Canada enjoys living next door to the U.S. and having strong ties with our southern neighbour. Rightly or wrongly, Canadians see the U.S. as the guarantor of Canada's defence. The corollary is that Canadians view the Department of National Defence as a government entity worthy of less interest than the business of most other departments of government. If one accepts this hypothesis, three corollaries follow. First, Canada still needs to be able to contribute to collective defence to maintain these strong ties – and especially with the Trump administration, where burden sharing by allies who enjoy the U.S. security guarantee remains an objective under the recently released National Defense Strategy. Second, Canadian politicians are

unlikely to invest significant capital in finding ways to accelerate defence procurement, which represents political liability due to its expense and significant risk profile for what is essentially overhead of the undervalued defence program. And third, because it is expensive, they want industrial and technical benefits for Canadian companies from every contract, especially noting that these are high-paying jobs with the potential to fuel national prosperity. In implementation, the delivery of shipbuilding projects under NSS can be assessed as hugely expensive, well north of \$50 billion. All this is to say, successive governments want to do military procurement, but with a minimum of risk. Continuous attempts to de-risk inherently complex and thus risk-laden initiatives such as shipbuilding consume a lot of effort and time.

Delays are therefore common, putting timely procurement execution in jeopardy across the board. But one should manage their expectations for more timely execution. Unless the world goes into a major war, Canada's strategic position changes in the world order, the U.S. applies uncommon pressure, or military procurement gets so broken that the politicians cannot take the political heat – delays will continue. There are things that could be done more expediently within the military procurement system but there must be motivation to identify those opportunities and implement the related changes. Other nations empower external czars to do comprehensive end-to-end reviews of programs and projects to identify options employed elsewhere. Then ministers specifically default to accepting proposed recommendations unless there is a compelling reason not to. Without such an approach or similar, attempts to reduce delays are likely to be more akin to tinkering at the edges.

Noting these comments relating to schedule for Canadian weapon systems platform acquisitions, it follows that significant changes of procurement strategy mid-course run a very high probability of creating even longer delays than staying the course we are now on.

So What

In the end, this is all about the future of the National Shipbuilding Strategy, an enterprise-wide change initiative of national proportions. It is truly a complex initiative that can be expected to take decades to mature, as was typically required when national naval shipyards went into place in other nations in the previous century. And as stated in the opening paragraphs of this paper, challenges will continue to emerge – challenges that will need continual and candid explanation.

For many years, our government has stated they would pursue a list of solutions to the current ills: enhanced oversight, greater shipbuilding expertise and capacity within the government, improved budgeting based on better cost estimates, and four key measures of outcome performance (timeliness of project execution, delivery of vessels within approved budgets, shipyard productivity and economic benefits).

These are not easily achieved. Internationally, nations are struggling to recruit shipbuilding expertise in sufficient quantities to manage more than one or two major naval procurements continuously over a decade and the knowledgeable people to provide mature governance. International associations engaged in complex project management research have said that in truly complex endeavours, the iron triangle of matched requirements and schedule with cost are nigh on impossible to predict with much confidence until actual deliveries occur in a sorted fashion, so an enhanced record on cost estimation is inherently unlikely.

Then there is the issue of shipyard productivity. Interestingly, when various international benchmarking experts were asked to define when the NSS shipyards could be measured to show strong productivity, they were unanimous in saying that, noting the order book for each shipyard (and especially for Vancouver Shipyard), “not for a very long time”. The shipyards are committed to reach something termed

“target state” once they have effectively built a ship and thus demonstrated all the key construction activities. Target state is a set of best practices in shipbuilding, essentially the fundamentals to good productivity. But achieving target state will not necessarily deliver good productivity. Using an analogy, this is similar to being able to master the various skills of driving a car: parallel parking, changing lanes, navigating and the like. But once the driver’s licence is obtained as proof of such competencies, one is not yet necessarily ready to tackle downtown New York traffic in rush hour or the 401 in Toronto during a white-out snow squall. Having the basic skills does not make you a good driver. Under NSS, target state is confirmation that all of the basic skills are present to a reasonable level of competence, but their integration in the face of greater complexity and adversity may not yet be present. Achieving target state does not confirm that the shipyards are meeting some international productivity standard such as “tons of steel per person-year” over multiple ships – and in shipbuilding, such standards themselves are controversial.

For all of these measures, the race is on to deliver in every one of them – but schedule is king. In hindsight and noting the priority of defence for Canadians (or rather, the lack of priority), it could be argued that NSPS was the right thing to do in principle but perhaps too ambitious for Canada. But there is a counter argument if the “Build in Canada” shipbuilding policy prevails. As was apparent from the first JSS procurement activity that was terminated, the alternative in this century is likely to be best described as lurching from one crisis to another, shipbuilding project by shipbuilding project and Canadian shipyard by Canadian shipyard.

NSS is not on the rocks but it is in shoal waters. NSS can offer great benefits if Canada can stay the course. There have been and are challenges today. And because the processes shaping procurements are largely set by the client, the ball is in the government’s court. Therefore, the government of Canada is encouraged to (1) commission an

independent end-to-end review of NSS with the express intent of expeditiously implementing the resulting recommendations, and (2) implement frequent, regular and honest communications with the public, no matter the issues at hand. These two additional actions alone will go a long ways to keeping NSS off the rocks.

IAN MACK (*Rear-Admiral Ret.*) was the director-general in the Department of National Defence responsible for a decade (2007-2017) for the conception, shaping and support to the launch and subsequent implementation of the National Shipbuilding Strategy, and for guiding the DND project managers for the Arctic Offshore Patrol Ships, the Joint Support Ships and the Canadian Surface Combatants. Since leaving the government, he has offered his shipbuilding and project management perspectives internationally. Ian is a longstanding Fellow of the International Centre for Complex Project Management.

End Notes

¹ Michael Byers, "Onto the Rocks: With disaster looming, National Shipbuilding Strategy needs urgent change of course" University of British Columbia, December 2017. <http://byers.typepad.com/files/byers-shipbuilding-report-embargoed.pdf>

Lead image: **Davie Shipbuilding**

**FOR EMAIL NOTIFICATIONS ANNOUNCING
UPCOMING EVENTS, RECENT PUBLICATIONS,
AND OUR LATEST PODCASTS PLEASE SUBSCRIBE
BY VISITING: WWW.CGAI.CA/SUBSCRIBE**



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

cgai.ca



Unarmed Warships: What are the AOPS for?

by ADAM LAJEUNESSE

When the Canadian government released *Strong, Secure, Engaged* (SSE) in June 2017, Arctic security was highlighted as an emerging challenge for the Canadian Armed Forces (CAF). Described as an “international crossroads where issues of climate change, international trade, and global security meet”, SSE assumes the melting of the Arctic sea ice will lead to a more accessible North and, in turn, a more complex and pressing security environment as “state and commercial actors from around the world” erode the isolation that Canada has long assumed to be the Arctic norm.

In response, SSE offered a list of initiatives designed to increase Canada’s northern situational awareness, communication, and command and control capacities – long-

standing Achilles heels for CAF operations in the region. This focus was not fundamentally new, however, nor was the largest investment being made in regional security: the construction of five (and maybe six) Arctic and offshore patrol ships (AOPS). The first of these ships, HMCS Harry DeWolf, is nearing completion in Halifax and is set to be launched this summer.

Considerable (and often justifiable) criticism has been levelled at the long delays in ship construction and the program’s high price tag. Building locally has added to the cost and political inertia has inflated the sticker price. Yet, the most important debate has been over the concept of the program itself: what are these ships for, what are they meant to achieve, and is that operational concept even appropriate?

Criticism of the AOPS capabilities and design arose early in the development process, with DND Deputy Minister Robert Fonberg famously referring to them as “Frankenboats” made from a compromise design which limited their utility as either Arctic or patrol craft. A 2009 NDP criticism of their icebreaking capability left the enduring

term “slush-breakers” and this criticism was crystallized in 2013 by an oft-cited policy paper authored by Michael Byers and Stewart Webb, entitled *Titanic Blunder*. In it, the authors noted that the ships were too slow for open ocean patrol, too unstable, too lightly armed and too limited in range and icebreaking power. These criticisms are normally noted in academic/expert analysis and often embraced by journalists in opinion pieces and newspaper stories. Recently, defence commentator Robert Smol reignited a debate, begun years ago by political scientist Rob Huebert, surrounding the vessels’ limited armaments. What good, they argue, is a warship that can’t go to war?

While most of these criticisms are based on legitimate concerns, they all seem to miss the forest for the trees, misunderstanding the intent of the ships and how they fit into Canada’s evolving Arctic security situation. Defining a role for the AOPS, *SSE* states that the vessels will “provide armed, sea-borne surveillance of Canadian waters, including in the Arctic. They will enforce sovereignty, cooperating with partners, at home and abroad, and will provide the Government of Canada with awareness of activities in Canada’s waters.” To put specific missions to this broad objective, the Navy’s 2015 “Concept of Use” lists the following tasks: search and rescue, support for other government departments (OGD); maritime domain awareness; assistance to law enforcement; aid to civil power; logistical support to the CAF and OGD; and sovereignty protection.

Despite their flying the naval ensign, the AOPS are not intended to be warships. That is not a mistake, it was a careful decision stemming from several years of government and CAF assessment of threats and requirements. The security threat to the Canadian Arctic is unconventional, and will likely remain so, centred on monitoring, policing, and assisting civilian and commercial activity. These are the low-risk, high-probability security threats projected to emerge as a result of the increased use and development of the Arctic. Comparisons to more heavily armed Scandinavian

equivalents, such as the Norwegian *Svalbard* or Danish *Knud Rasmussen* class, miss the point. Both Norway and Denmark will have a real need for ice-strengthened warships in the event of a conflict with Russia in the Baltic, Barents or Norwegian seas. There is simply no realistic possibility of the RCN engaging in high-intensity kinetic operations in the Canadian Arctic or surrounding areas.

Nor are the AOPS icebreakers. Their limited ice-strengthening (Polar Class 5) will not allow them to enter parts of the High Arctic, or to operate in the Northwest Passage during the winter months. Designed primarily to monitor, assist and police activity in the region, these ships really only need to be able to operate in the North when other ships are there, too. If ice conditions are too dangerous for the AOPS, it stands to reason that the same ice will close off the Canadian Arctic to most other activity as well. In 2015 Tim Choi addressed many of the more technical complaints surrounding ship speed, helicopter support capability and fuel capacity. Its armaments and speed are limited but suited to the kinds of constabulary duties it is likely to support, while its range is sufficient when paired with new facilities at Nanisivik.

Rear-Admiral David Gardam, then commander of Maritime Forces Atlantic, best described what the AOPS offer. According to Gardam, they are a “a big empty ship” that can “embark doctors, dentists, scientists, marine biologists, police and fisheries officers, environmentalists and many other personnel with an interest in, or a mandate for, the development and sustainment of Canada’s north.” They are versatile, general-purpose vessels which should be able to contribute to Arctic security across the spectrum at a lower price than icebreakers at the times of the year when shipping and other activity in the Northwest Passage really demand a presence.

Because threats to the Canadian Arctic will likely fall in the safety and security categories, rather than defence, the RCN will never play a leading role in Arctic security. Rather, it will have to support other

government departments and agencies in fulfilling their northern mandates. This is what the AOPS will be doing with their time. They will be assisting in hydrographic surveying with the Canadian Hydrographic Service, fisheries patrols with the Department of Fisheries and Oceans, and constabulary operations with the RCMP. In such cases, the RCN will enable others rather than engage in typical naval operations, a less glamorous role than that which frigates and submarines normally play but an equally important one.

No discussion of the AOPS is complete without reference to the defence of sovereignty. That term is frequently used in government publications on the subject, and sovereignty protection is listed as a key operational task in the Navy's Concept of Operation for the DeWolf class. While a patrol ship (or several) will not directly affect the Northwest Passage's legal status, or convince the United States to recognize Canada's long-standing position that these are internal waters, the presence and control that they represent are essential.

The AOPS were designed to provide that measure of control, manifested in the increased awareness and response and support capability which they will provide. It is not the physical act of being there which is so important – they are not intended as floating flagpoles. Rather, it is the ability to support and police activity as it increases in the region and to support OGD as they invariably see their responsibilities expand. The Statement on Canada's Arctic Foreign Policy (2009) explains that "Canada exercises its sovereignty daily through good governance and responsible stewardship. It does so through the broad range of actions it undertakes as a government ... We exercise our sovereignty in the Arctic through our laws and regulations, as we do throughout Canada." That policy statement, while slightly dated, is not going to change under a Liberal government and the AOPS will be an important tool in enforcing those laws and regulations and enabling that good governance and responsible stewardship.¹

ADAM LAJEUNESSE, PhD, is the Irving Shipbuilding Chair in Canadian Arctic Marine Security Policy and an assistant professor at the Mulroney Institute of Government, St. Francis Xavier University. He is the author of *Lock, Stock, and Icebergs* (2016), an award-winning political history of the Northwest Passage, co-author of the 2017 monograph "China's Arctic Ambitions and What They Mean for Canada" and co-editor of *Canadian Arctic Operations, 1941-2015: Lessons Learned, Lost, and Relearned* (2017). Lajeunesse is a specialist in Arctic sovereignty and security policy and has written extensively on CAF Arctic operations, maritime security, Canadian-American co-operation in the North, and Canadian Arctic history. Dr. Lajeunesse is a fellow of the Canadian Global Affairs Institute, the Arctic Institute of North America and the Centre for the Study of Security and Development, and sits on the editorial board of the *Canadian Naval Review*.

End Notes

¹ Adam Lajeunesse holds a research chair funded by Irving Shipbuilding Inc., which was established as part of Irving's value proposition commitments under the National Shipbuilding Strategy. This funding is provided to St. Francis Xavier University to support research into Canadian maritime security and is managed entirely by StFX. This research is not informed or influenced in any way by the Chair's affiliation with Irving Shipbuilding and the views expressed are entirely the author's.

Lead image: navaltoday.com



Strong, Secure, Engaged in a Threatened Space Domain

by **CHARITY WEEDEN**

To say the space domain has changed over the past decade is an understatement. It has transformed into an economic hub, poised to grow into a trillion-dollar industry. Space is also a security nexus where use of space assets is so common that their absence is, at a minimum, a severe disruption to the mission and in some cases, paralyzing. A 2017 Senate report went so far as to recommend the Government of Canada declare satellites as critical infrastructure and seek ways to secure these assets against significant threats.

Canada's *Strong, Secure, Engaged* (SSE) defence policy takes a leap forward by signalling the government's recognition of

this dependency on critical space assets and the growing threat environment they face. It highlights the necessity of deterrence, diplomacy, interoperability and modernization of space capabilities. By describing the space environment as "contested, congested and competitive", the government recognizes that the number of satellites, actors and debris in space is growing; nation-states are testing and investing in technologies to deny access to space; and the competitive nature of the space industry, alongside the growing need for spectrum with which to transmit data, is an important element to consider.

"Complex" is another adjective that would fit well in describing the modern space environment. Space activity is poised to include on-orbit servicing, large constellations requiring careful planning, deployment and end-of-life operations, and in-space manufacturing, mining and private tourism opportunities. These activities only add to the challenge of maintaining a safe and secure space domain.

The SSE policy makes progress in recognizing the changing space

environment and signalled a commitment to invest in space technology as a key capability for Canada's defence. However, it is not clear how the government intends to defend against aggressive and threatening activities, or how to assure mission success when space capability is denied.

The Increasing Space Threat

The *SSE* policy rightfully highlights orbital debris as a core threat to operations in space due to millions of pieces of harm-inducing debris that encircle the planet. Lately, however, the alarm bell has been set off because of the prevalent threat of satellite communications jamming, dazzling of remote sensing satellites, hacking of ground systems and testing of kinetic anti-satellite technologies. These counter-space threats taken together toss out the notion that space is a sanctuary for Canadian defence assets.

Indeed, much has been written lately on the subject of space as a war-fighting domain and the counter-space threats that have made it so. Both the Secure World Foundation (SWF) and the Center for Strategic and International Studies (CSIS) recently released open-source analyses on counter-space capabilities with a number of specific examples to draw from. Some of these technologies, like jamming and cyber-attacks, are easy to access and employ, making a low barrier to entry for states and non-state actors alike.

As stated in the *CS/S Space Threat Assessment*, Russia jammed GPS signals during the Crimean conflict in 2014. The same year, Chinese hackers disrupted National Oceanographic and Atmospheric Administration (NOAA) systems. The SWF Global Counterspace Capabilities Assessment detailed a 2013 test of a Chinese direct-ascent anti-satellite capability that approached the geostationary orbit (up to 30,000 km). It was asserted that a transporter-erector-launcher (TEL) was used – a mobile platform that is employed to launch ballistic missiles.

Clearly, weapons are being developed to disrupt and destroy space capabilities. The United States is establishing a posture to defend itself, but is also looking to deterrence to prevent the use of these weapons. Similarly, the *SSE* policy notes the burgeoning importance of deterrence in a renewed era of major power competition. This is a significant alignment of thought that can be built upon in the Canada-U.S. national security space partnership.

The return of major power rivalry, new threats from non-state actors, and challenges in the space and cyber domains have returned deterrence to the centre of defence thinking. Strong, Secure, Engaged. Canada's Defence Policy (2017)

Deterrence Through Alliances

There are several rationales for Canada to contribute to a national security space alliance with the U.S. and other close partners. Not only does such partnership share the resource burden of funding space capabilities, but it also creates a more costly and complex decision calculus for any actor tempted to disrupt or destroy defence capabilities emanating from space – thus supporting a resilient space architecture. A recent Aerospace Corporation Center for Space Policy and Strategy (CSPS) paper names deterrence as chief among rationales for alliances in space, citing the *2018 U.S. National Defense Strategy*: “the willingness of rivals to abandon aggression will depend on their perception of U.S. strength and the vitality of our alliances and partnerships.”

While there is a legacy of leveraging the North American Aerospace Defence Command (NORAD) relationship for space collaboration in the past, today there is a trend toward multi-lateral partnerships such as combined space operations (CSpO). CSpO is named specifically in the *SSE* policy as a means of co-ordinating Five-Eye community efforts to enhance resiliency and share resources due in part to the critical and frequent role of space assets in a

coalition and shared intelligence construct. Further, the Joint Space Operations Center (JSpOC) will soon transition towards a combined space operations centre that more closely integrates allies and commercial partners into space operations, and the multi-national space collaboration initiative will support co-operation and relationship building for allied space mission requirements.

However, several questions remain. What is the role of Canada within CSpO and these other new collaborative environments, given existing counter-space threats? Does the SSE policy align sufficiently with the United States and other allies should an attack on an allied space system occur? What would be Canada's response to kinetic or non-kinetic attacks on critical Canadian space systems?

What the SSE Policy Tells Us About Canada's Place in Space Warfare

The SSE policy provides a high-level perspective that can be built upon to answer these questions. The good news is that the government recognizes the changing space threat environment, understands the vulnerability of space systems, and is committed to working with allies to deter and, if need be, defend these capabilities. Importantly, the SSE policy asserts that "the Canadian Armed Forces must take its counter-space capabilities into account as it continues to develop the Canadian defence space program". And it highlights the need to work closely with allies and partners on assuring continuous access to space.

Defend and protect military space capabilities, including by working closely with allies and partners to ensure a coordinated approach to assuring continuous access to the space domain and space assets. Strong, Secure, Engaged New Initiative #83

Further, the Innovation for Defence Excellence and Security program (IDEaS), a research and development program to help solve defence and security challenges, will support the development of technologies to assist new space initiatives outlined in the SSE policy. For example, IDEaS research into technology to characterize space objects and attribute cyber-attacks would help to identify potential threats to Canadian and allied space assets. Proactive deterrence measures can help to strategize and plan for the most effective alliance actions to hinder these threats.

The development and implementation of the SSE policy demonstrates Canada's continued priority to be a leader in defining norms of behaviour in space and to leverage its standing in the world to influence conduct in-orbit. Canada will work within alliances and partnerships to improve the resiliency of space assets. This is likely to signify CSpO holding a key role for the future of allied space operations where Canada can be a participating, responsible and influential partner that consistently adds value.

Filling in the Gaps

Four areas stand out as prime candidates for follow-up in the SSE policy with respect to the space domain. First, there must be an internal understanding how Canada would react to conflict that extends into space against national, commercial or allied capabilities. Canadian participation in the Air Force Space Command (AFSPC)-led Schriever space wargame encourages defence policy-makers and military leaders alike to think through this issue, while current events showcasing counter-space technologies add to the urgency of being prepared for attack against Canadian or allied space systems.

Next, Canada's closest space allies, specifically those within the CSpO, need to understand where each other stands with regard to counter-space threats. A defence space strategy should be developed to answer how Canada will defend and protect military space capabilities. Having a

shareable strategy with allies gives a level of predictability and certainty that encourages further information sharing and collaboration.

Third, Canada must ensure that it does not leave a gap in capability that allies have come to rely upon. Scheduled to launch later this year, Radarsat Constellation Mission will bring this continuity. However, DND's Sapphire surveillance of space satellite has reached its minimum design life and a follow-on project is not expected to be delivered until 2025.

Fourth, shaping norms of behaviour in space can be more easily said than done in today's hyper-political environment. However, Canada has several options at its disposal to lead. Efforts at the United Nations Committee on the Peaceful Purposes of Outer Space (UNCOPUOS) are a long and arduous process, yet its 87 members have agreed upon 21 guidelines on space sustainability. Canada's G7 presidency has space security as a topic of concern, with ministers stating in a recent communiqué: "We confirm our resolve in the face of threats in and from space, and our commitment to build collective resilience against such threats." Additionally, though not an official government activity, Canadians are supporting efforts to develop a better understanding of how international law applies to military space activities through the development of manuals that provide expert guidance on the application of international humanitarian law and the Law of Armed Conflict to space. Finally, there is no better way to lead in developing norms than to lead by example. Canada should instill in national space strategy what it believes to be responsible behaviour in space, and then practise it.

Conclusion

Canada is certainly not immune to disabling or destructive counter-space systems and must play a role in deterring aggressive behaviours that threaten access to space. Canada also has opportunities to be a beacon for responsible actions and

diplomacy. The SSE policy, though not comprehensive in addressing how Canada will defend against such counter-space threats, sets the tone for increased co-operation with the United States and allies in deterring such conflict. Providing further definition in a space defence strategy would help to frame the extent to which Canada will be involved in deterring aggressive action and defending assets in the space domain.

CHARITY WEEDEN is President and co-founder of Lquinox Consulting LLC, an independent space and data management consulting company fostering international partnerships and providing expert advice on the economic, security, scientific, and societal benefits of satellite applications, and Fellow at the Canadian Global Affairs Institute. Prior, Ms. Weeden was Senior Director of Policy at the Satellite Industry Association, responsible for advancing industry interests in government services, regulatory, legislative, defense, export-control and trade.

As a 23-year veteran of the Royal Canadian Air Force, Weeden served as operator, manager, and diplomat for air and space applications in various posts. Her last assignment was as Assistant Attaché of Air & Space Operations at the Embassy of Canada in Washington, DC, liaising with the U.S. Government and Embassy space community. Weeden has also held positions at the Canadian Space Agency, NORAD and USNORTHCOM Headquarters, and U.S. Air Force Space Command, where she was responsible for providing analysis of U.S. Space Surveillance Network satellite observations. She started her Air Force career as a long-range maritime patrol Air Navigator on the CP-140 Aurora, conducting sovereignty operations in the North, fishery and pollution patrols, search and rescue operations, and submarine tracking.

Weeden is a graduate of the Royal Military College of Canada (BEng) and the University of North Dakota (MSc). She has also participated in certificate programs at both the Brookings Institute (Policy Strategy) and the International Space University.

Lead image: NASA



THE SCHOOL
OF PUBLIC POLICY

Canada's Leading Policy School

**Leading The Conversation
On Energy & Environment**

Visit Us At
www.policyschool.ca

Learn About The
Master of Public Policy





The Train Long Departed: Canada and Ballistic Missile Defence

by **DAVID HIGGINS**

Despite the international community's interminable efforts to stop, prevent or otherwise constrain it, the worldwide proliferation of ballistic missiles and their associated technologies has continued apace over the course of several decades. While only nine states possessed ballistic missiles in 1972, more than 30 boast this capability today, with others working diligently to acquire it. Indeed, the acquisition of ballistic missiles by states and actors of concern, fully intent upon attaining the capability to employ them as delivery systems for weapons of mass destruction, represents a particularly ominous threat. It is therefore hardly surprising that the efforts undertaken by the United States in developing wide-ranging capabilities to

counter this threat have not only been maintained, but significantly increased and broadened in recent years.

The Canadian government has long demonstrated a willingness to work with like-minded nations and organizations in contending with the global risk posed by ballistic missiles in general. Yet, it has exhibited a curious disinclination to act on its own behalf where such weapons constitute a more immediate potential threat. The most notable miscreant in this regard, North Korea, has well out-paced earlier intelligence assessments concerning the viability of both its ballistic missile and nuclear weapons programs. Indeed, despite recent overtures of rapprochement and the stated intention to suspend attendant testing programs, the capability Pyongyang has attained thus far, combined with its erratic pattern of behaviour, renders it a serious ongoing concern. Iran possesses an established and growing ballistic missile inventory and, irrespective of both international agreement and stated national policy, remains a nuclear weapons aspirant. These and other malefactors can also be expected to persist in their dissemination of associated illicit

materials and technologies as a matter of course. Taking into account the corresponding cascade effect of weapons proliferation, it is evident that rogue entities will continue to acquire ballistic missile materials and technologies, adding to the gravity of what constitutes an increasingly imminent threat.

Over the past several decades, Canada's ballistic missile defence dialogue has largely occurred in the context of its partnership with the United States in continental aerospace defence. For years, this dialogue has followed a pattern of repeated consultation, contemplation, deferral and ultimately, refutation. This pattern has been induced by several influences, including political ideology and interests, sovereignty, international obligations and the country's self-sanctified role as a voice of moderation in international peace and security. While these enduring factors have underscored Canada's security discourse generally, they have specifically impacted the cornerstone North American Aerospace Defence Command (NORAD) Agreement with the United States, within which ballistic missile defence-related stipulations have figured prominently in its successive renegotiations and renewals. While ballistic missile defence consultations have long taken place as a matter of course, a critical phase occurred from the mid-1990s to the mid-2000s. This concerned Washington's proposal for Canadian participation in the territorial expansion of its then-latest national anti-missile program – United States Ballistic Missile Defense (U.S. BMD).

Sometimes referred to as Ballistic Missile Defence of North America (BMD/NA), the proposal for Canadian participation, logically envisioned as an extension of the North American Aerospace Defence Command mission, has been controversial from the outset. To say the least, perceptions on the Canadian side have been fraught with suspicion and misperception, particularly among a number of senior foreign and defence policy officials. On the American side, while there existed a clear desire to include Canadian territory within the system

to optimize its construct and add to its legitimization internationally, officials were also mindful about placing undue pressure on Canada regarding its involvement beyond that. As such, they demonstrated considerable flexibility in allowing Canada to determine exactly how it would want to involve itself in terms of a technical or operational contribution/investment. Nevertheless, by the late 1990s, more than one senior U.S. official had metaphorically stressed that “the train was leaving the station” and a timely decision would be required. Pressed towards a decision, the Canadian side's resultant angst was palpable. As might be expected, many Canadian officials believed that U.S. BMD was strategically destabilizing and would only undermine international peace and security. Another concern pertained to Canada losing control of its foreign and security policy under BMD/NA. Some were openly suspicious of what Canada would be expected to specifically contribute as a BMD partner, while others still were simply doubtful of the system's operational viability.

Some of these misperceptions and doubts are understandable. From its earliest conceptual constructs in the 1950s, a host of United States ballistic missile defence programs had undergone successive iterations, delays and cancellations. By the 1990s, however, U.S. BMD constituted a much-evolved defensive system, specifically designed to protect American territory and population centres against limited rogue, unauthorized or accidental ballistic missile launches, rather than massive attack. Envisioned to be grafted onto NORAD's existing Integrated Tactical Warning and Attack Assessment architecture, the system included new Space-Based Infrared System satellites for precision detection and tracking of incoming missiles, an In-flight Interceptor Communications System and improved ground-based Ballistic Missile Early Warning System radars to provide dual phenomenology-based confirmation and tracking. It also contained ground-based X-Band radars for precision target tracking and the deployment of Ground-Based Interceptors – missiles employing kinetic

Exoatmospheric Kill Vehicles. In 2002, the system was renamed Ground-Based Midcourse Defense (GBMD), to differentiate it from other segments of what had transmuted into the United States' overarching National Missile Defense (NMD) program.

For Canada, principal considerations have focused upon GBMD's legitimacy within the international legal regime and the strategic implications of its operational concept. BMD/NA advocates have argued that the near-state of apoplexy reached by many officials in Ottawa over the United States' 2002 withdrawal from the 1972 Anti-Ballistic Missile Treaty -- required to enable GBMD -- had been largely assuaged by the successor Strategic Offensive Reduction Treaty brokered that same year and further mitigated by subsequent accords. Moreover, dismay over the prospect of defensive nuclear weapons should have been allayed by the system's employment of kinetic weapon technology to destroy incoming missiles, rather than nuclear or other explosive interceptor warheads. Indeed, supporting rationale has emphasized that GBMD's evolved concept actually contributes to international stability by enabling a benign "shoot-look-shoot" approach to missile defence. That is, an initial non-nuclear, limited defensive engagement provides additional time to further analyze and confirm the situation, including an assessment of the event as being deliberate, unauthorized or accidental. American officials have long regarded this capability as a crucial means through which to expand their defensive options, which would otherwise be limited to absorbing a potentially catastrophic initial attack and launching, by default, a massive retaliatory nuclear strike. Irrespective of the arguments presented for and against GBMD as a stabilizing or destabilizing defence initiative, the development of the system, together with that of other NMD segments, has steadily progressed.

Within Canada's Department of National Defence, senior military staff have generally been in favour of BMD/NA, whereas a

greater proportion of civilian officials have tended to share their Global Affairs colleagues' consternation. Differences aside, most have wanted to see NORAD's existing aerospace warning and control mission sustained, with acknowledgment that non-participation would have some bearing upon both the bi-national command directly and strategic defence partnership generally. In this respect, a select few have opined that, regardless of the proposed system's operational viability, it would be better to participate, rather than risk damaging the partnership. Regardless, persistent opposition, generally defaulting to prototypical Canadian values and principles, has largely overshadowed this and other supportive views.

A critical element concerning Canadian participation in BMD/NA is what this would specifically entail in terms of contribution. As previously noted, American officials had, to a large extent, left much of this up to Canada; that is, to do what was deemed appropriate and feasible. Canadian NORAD planners had noted that the inclusion of Canada's landmass alone constituted an important contribution. That is, in terms of system kinematics, fundamental utility existed in the creation of a single continental defended area, rather than the segmented one represented by the contiguous United States and Alaska alone. Moreover, in staff discussions at Colorado Springs, Washington and Ottawa in the late 1990s and early 2000s, it became apparent that the use of Canadian territory for select components could prove valuable to improving system coverage and performance. Accordingly, an offer of Canadian basing could have constituted a significant contribution and commitment that, arguably, no modest financial or technical involvement could match. This alone may have enabled Canada to play a more meaningful role in continental aerospace defence and better secure its interests, despite inherent military and other national limitations.

As might be expected, sensitivities associated with Canadian basing directly

related to BMD/NA were acute. While it had been made clear from the outset that no ground-based interceptors themselves would require Canadian basing, there was clear opposition to virtually any component directly linked to the system. To wit, an informal bilateral military staff-level discussion in 1998 had examined the possible no-cost acquisition, relocation and operation by Canada of a PAVE PAWS phased array warning system radar (designed to detect and track intercontinental and sea-launched ballistic missiles, along with Earth-orbiting satellites) that was in storage at Robins Air Force Base, Georgia. Although such an acquisition was primarily regarded as a way of providing an adjunct space surveillance contribution and sensor enhancement, senior National Defence policy staff quickly shut down the discussion, evidently due to unease over perceptions of PAVE PAWS as more of a weapon system component than a sensor.

A more tolerable alternative to direct Canadian involvement in BMD/NA concerned the employment of more benign “asymmetric” contributions. At that time, the Department of National Defence’s Joint Space Project was envisioned as a possible avenue through which to augment the acquisition of space surveillance data in support of the United States Space Surveillance Network, as ultimately achieved with the Sapphire space situational awareness satellite in 2013. Other oblique approaches received various degrees of consideration. Among them was the potential employment of the National Research Council’s Algonquin radio telescope, notionally paired with U.S. systems as a bi-static or multi-static array, as a means of contributing further to deep space surveillance and space object tracking. Another entailed collaborative research and development of hyperspectral interferometry applications for ballistic missile detection/characterization, as well as high-frequency surface-wave radar applications for small target detection. While largely circumlocutory in nature, these and other potential areas of research and development, within and beyond the scope

of established and ad hoc defence collaboration arrangements, may have served as legitimate contributions to a BMD/NA partnership. Moreover, they would have been largely consistent with extant Canadian defence policy concerning “the examination of ballistic missile defence options focused on research and building upon Canada’s existing capabilities in communications and research.” Nevertheless, a number of Canadian officials expressed their aversion to assigning limited resources to single-purpose, large-scale projects specifically linked to ballistic missile defence.

Over the course of seemingly endless consultations, deliberations and equivocations, it had become increasingly apparent that the Canadian government was acquiescing to non-participation, seemingly bolstered by the assumption that NORAD would, for the most part, be preserved. This rationalization was reinforced at least in part by the wholly erroneous pronouncement of some senior government officials that, even if it opted out, Canada’s population centres would still be protected under United States GBMD as a matter of course. Ottawa largely overlooked or dismissed attempts by NORAD’s senior Canadian military leadership to set the record straight on this and other misperceptions, as well as provide a complete understanding of GBMD to enable an informed decision. Finally, on Feb. 24, 2005, then-Foreign Affairs Minister Pierre Pettigrew announced that Canada would not join the United States in ballistic missile defence.

The implications of Canada’s decision, while regarded by many as largely innocuous, have been anything but. Lacking a response from Ottawa, Washington had carried on with GBMD development as a U.S.-only system, operated by the U.S. Army and supported by the U.S. Air Force, with United States Strategic Command designated as the responsible unified command. In January 2005, a month prior to Ottawa’s formal announcement, a joint functional component command was established within Strategic Command to oversee integrated global missile defence operations

and support. Subsequent accommodations to suitably de-conflict NORAD's legacy surveillance, control, warning and attack characterization operations with GBMD's defensive engagement functions have since added a measure of complication to the overall continental aerospace defence construct. For example, from an integrated command-and-control perspective, as GBMD has evolved, Canadian involvement under the aegis of NORAD has become increasingly restricted in areas deemed U.S.-only or shared exclusively with other partners, necessitating alternative arrangements having to be made, where practicable. As might be expected, such exclusion and compartmentalization have proven decidedly sub-optimal to preserving NORAD's integrity and best serving Canadian defence interests. Accordingly, NORAD, absent a formalized role in ballistic missile defence, has been increasingly relegated and marginalized outside of it.

Since 2005, U.S. NMD has continued to evolve and expand to meet existing and emergent threats, with a view to enabling interception in all three phases of ballistic missile flight trajectory: boost, mid-course and terminal. This overarching system now comprises an increased number of fielded and planned ground-based interceptors located in Alaska and California; additional X-Band and other radars; expansion of the ship- and land-based Aegis Ballistic Missile Defense System; integration with the U.S. Army Terminal High Altitude Area Defense (THAAD) system and the employment of other, shorter-range defensive missile systems. Partners in this expanding "system of systems" include the United Kingdom and Denmark/Greenland in existing system upgrades, other European NATO allies under the European Phased Adapted Approach, as well as Australia, Israel, Japan and Gulf Cooperation Council states. Clearly, the evolution of NMD's varied sub-components is merging into an increasingly coherent global missile defence system that will continue to expand coverage and provide protection to several partner nations.

Meanwhile, in the fall of 2017, Canadian media reported the "revelation" that, if

Canada were targeted in a ballistic missile attack, the United States would not defend it, as stated by Lieutenant-General Pierre St-Amand, Deputy Commander of NORAD, to the House of Commons Standing Committee on Defence. St-Amand appeared as part of the committee's study of the potential threat posed to Canada by North Korea, given the advancing state of its nuclear and ballistic missile test programs. He reminded the committee that, while Canadian and American NORAD personnel work together in the detection, warning and characterization of aerospace threats to North America, Canada would play no role in any defensive action to be taken in a ballistic missile attack and that GBMD was a United States system only. Despite Canadian media reporting that St-Amand's comments had "demolished" the long-held political assumption that the United States would intervene in a ballistic missile attack on Canada, a senior Global Affairs official was quick to assert that there existed no direct threat, adding that North Korea regarded Canada as a "peaceful and indeed, friendly country." Sadly, this rather facile assertion is consistent with the long-established Canadian perception of strategic threats being largely predicated by stated intent rather than demonstrated capability and behaviour. This perception has been reinforced by Prime Minister Justin Trudeau's ensuing confirmation that Canada's position of non-participation would remain in effect, with the possibility of any future consideration only ambiguously acknowledged. It is therefore apparent that the Canadian government has elected to disregard an exigent threat that increasingly involves the risk of an accidental/errant launch or defective trajectory, against which GBMD has been specifically designed to defend.

While Canada has been blessed by the security afforded by its proximity to and friendship with the United States, ballistic missile proliferation has aptly reminded us that mere assumptions associated with geography, association and good will are simply insufficient. Longstanding limitations as a middle power, chronic military

deficiencies and inescapable dependency upon its principal ally leave Ottawa with few choices in dealing with the significant and growing threat that ballistic missiles pose. With continental defence arrangements having long constituted a critical factor in achieving our security objectives, it only makes sense to invest further in suitable collaborative courses with the United States. In this respect, values and principles need to be put in their proper perspective and greater pragmatism applied in securing vital interests. The Canadian government can no longer afford to merely wait and hope for the best; rather, it needs to earnestly prepare for the worst.

Thirteen years following Canada's decision to abstain from participation, the ballistic missile defence "train" has long departed the station. While the United States would almost certainly welcome involvement at this late stage, associated requirements will have changed with the maturation of ballistic missile defence architectures, technologies and operational dynamic. Accordingly, the price of admission will also have changed. Given this, the Canadian government needs to recover lost ground by not only signalling its desire to join, but also determining how to render itself a useful participant within a much-expanded international partnership. While there will invariably remain those who will decry it, participation would remain consistent with a precept long-embodied in NORAD; that is, the indivisibility of North American aerospace defence. It is, therefore, only reasonable to accept partnership in ballistic missile defence as a necessary graduation in securing Canada's vital defence and security requirements.

DAVID HIGGINS served in the Canadian Forces Reserve before enrolling in the Regular Force in 1980. An Air Combat Systems Officer, he served as a tactical and long-range navigator and mission specialist on various Canadian Forces and allied nation aircraft. He was also employed in a variety of aircrew training capacities, including Tanker-Transport-Bomber Instructor and Chief of Standardization and Evaluation (United States Air Force Air Education and Training Command) and Advanced Flight Commander (Canadian Forces Aerospace and Navigation School).

His senior appointments have included Commander 9 Wing/CFB Gander; Director of Continental and Western

Hemisphere Policy, National Defence Headquarters; Vice Director of Plans, North American Aerospace Defence Command (NORAD) and Commander 8 Wing/Canadian Forces Base Trenton. He also served as Policy Advisor to the Canada-United States Permanent Joint Board on Defence, Policy Member of the Canada-United States Military Cooperation Committee, a Command Director of the NORAD-United States Space Command Operations Centre and Air Mobility Advisor to the Commander 1 Canadian Air Division. His final military appointment was as Director Arms Control Verification in the Strategic Joint Staff, responsible for the planning, coordination and implementation of Canada's proliferation security and confidence- and security-building programme, as prescribed by the treaties, agreements and arrangements established within the framework of the Organization for Security and Cooperation in Europe, the North Atlantic Treaty Organization, the Organization for the Prohibition of Chemical Weapons and the United Nations, including the Conference on Disarmament.

David is a graduate of the Canadian Forces Command and Staff Course and National Security Studies Course. He holds a Doctorate in War Studies from King's College London, Masters degrees in Defence Studies (Royal Military College of Canada) and Diplomacy (Norwich University) and a Bachelor of Arts from the University of Toronto.

Lead image: **Getty**



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Canadian Global Affairs Institute

Board of Directors

George Brookman

West Canadian Industries

Don Douglas

Jetstream Capital Corporation

Sheila McIntosh

Corporate Director

Kelly Ogle

Canadian Global Affairs Institute

Craig Stewart

Corporate Director

Ian Wild (Chair)

Corporate Director

Canadian Global Affairs Institute

Management and Staff

Kelly Ogle, President & CEO—Calgary

Colin Robertson, Vice President—Ottawa

David Perry, Vice President & Senior Analyst—Ottawa

David Bercuson, Program Director —Calgary

Adam Frost, Associate Research and Development Coordinator—Calgary

Brittany Noppe, Events and Outreach Coordinator—Ottawa

Jared Maltais, Digital Coordinator—Ottawa

Carri Daye, Administrative Coordinator—Calgary

Canadian Global Affairs Institute

The Canadian Global Affairs Institute focuses on the entire range of Canada's international relations in all its forms including (in partnership with the University of Calgary's School of Public Policy), trade investment and international capacity building. Successor to the Canadian Defence and Foreign Affairs Institute (CDFAI, which was established in 2001), the Institute works to inform Canadians about the importance of having a respected and influential voice in those parts of the globe where Canada has significant interests due to trade and investment, origins of Canada's population, geographic security (and especially security of North America in conjunction with the United States) or the peace and freedom of allied nations. The Institute aims to demonstrate to Canadians the importance of comprehensive foreign, defence and trade policies which both express our values and represent our interests.

The Institute was created to bridge the gap between what Canadians need to know about Canadian international activities and what they do know. Historically Canadians have tended to look abroad out of a search for markets because Canada depends heavily on foreign trade. In the modern post-Cold War world, however, global security and stability have become the bedrocks of global commerce and the free movement of people, goods and ideas across international boundaries. Canada has striven to open the world since the 1930s and was a driving factor behind the adoption of the main structures which underpin globalization such as the International Monetary Fund, the World Bank, the International Trade Organization and emerging free trade networks connecting dozens of international economies. The Canadian Global Affairs Institute recognizes Canada's contribution to a globalized world and aims to educate Canadians about Canada's role in that process and the connection between globalization and security.

In all its activities the Institute is a charitable, non-partisan, non-advocacy organization that provides a platform for a variety of viewpoints. It is supported financially by the contributions of individuals, foundations, and corporations. Conclusions or opinions expressed in Institute publications and programs are those of the author(s) and do not necessarily reflect the views of Institute staff, fellows, directors, advisors or any individuals or organizations that provide financial support to, or collaborate with, the Institute.



CANADIAN GLOBAL
AFFAIRS INSTITUTE

INSTITUT CANADIEN
DES AFFAIRES MONDIALES

Charitable Registration No. 87982 7913 RR0001