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DEPARTMENT OF NATIONAL DEFENCE EQUIPMENT PROCUREMENT AND CAPITAL ACQUISITION IN THE 21ST CENTURY. A STUDY OF THE DEFENCE PROCUREMENT PROCESS AND NEW DEFENCE PROCUREMENT STRATEGY: A TRUE REFORMATION OR MERELY TENTATIVE STEPS FORWARD?

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JCSP 39

Master of Defence Studies

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PCEMI 39

**Maîtrise en études de la
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MASTER OF DEFENCE STUDIES – MAÎTRISE EN ÉTUDES DE LA DÉFENSE

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LIST OF ABBREVIATIONS

ADM Mat - Assistant Deputy Minister Materiel

AIAC - Aerospace Industries Association of Canada

AG - Auditor General

ANAO - Australian National Audit Office

AOPS - Arctic/Offshore Patrol Ships

CADSI - Canadian Association of Defence and Security Industries

CCC - Canadian Commercial Corporation

CDAI - Conference of Defence Associations Institute

CDS - Chief of Defence Staff

CF - Canadian Forces

CAF - Canadian Armed Forces

CDFAI - Canadian Defence and Foreign Affairs Institute

CEFCOM - Canadian Expeditionary Force Command

CFDS - Canada First Defence Strategy

CFTT - Canadian Forces Transformation team

CMS - Chief of Maritime Staff

COTS - Commercial Off-The-Shelf

CT - Chief of Transformation

DAG - Defence Acquisition Guide

DE&S - Defence Equipment and Support

DFO - Department of Fisheries and Oceans

DIPTF - Defence Industrial Preparedness Taskforce

DMO - Defence Materiel Organization (Australia)

DOD - Department of Defense (United States)

DOI - Department of Industry

DMGC - Deputy Ministers Governance Committee

DMND - Deputy Minister of National Defence

DMS - Defence Management System

DND - Department of National Defence

DPMS - Defence Programme Management System

DPP - Defence Production

DPS - Defence Procurement Strategy

EMS - Expenditure Management System

EPA - Effective Project Approval

FWSAR - Fixed Wing Search and Rescue

GDP - Gross Domestic Product

GOCO - Government Owned and Contractor Operated Company

IC - Industry Canada

IRB - Industrial and Regional Benefits, Canada's Former "Offsets" policy

ITB - Industrial Trade Benefit

KIC - Key Industrial Capabilities

MCP - Major Crown Project

MCCRT - Management Command and Control Re-Engineering Team

MRG - Management Review Group

MOD - Ministry of Defence (United Kingdom)

NATO - North Atlantic Treaty Organization

NDHQ - National Defence Headquarters

NFPS - National Fighter Procurement Strategy

NSA - New Shipborne Aircraft

NSPS - National Shipbuilding Procurement Strategy

PWGSC - Public Works and Government Services Canada

PCO - Privy Council Office

ROM - Rough Order of Magnitude

RMA - Revolution in Military Affairs

SAC - Shipbuilding Association of Canada

SCONSAD - Standing Committee on National Security and Defence

SCONDVA - Standing Committee on National Department of Veterans Affairs

SOCD - Statement of Capability Deficiency

SOR - Statement of Requirement

SPA - Single Point of Accountability

SPAC - Senior Project Advisory Committee

TBS - Treasury Board Secretariat

VP - Value Propositions

ACKNOWLEDGEMENTS

This thesis paper would not have been possible without the assistance of many individuals who have given me their full support over the past year. Firstly and most importantly thank you to my wife Barbara, children Ryan, Cassandra and Paula along with my many family and friends who have offered so much support, patience, and understanding during my extended study period. It has been much appreciated.

In addition I would like to thank my academic advisor Dr. Craig Stone, both for his insightful comments and overall review of my work, but also for his patience in receiving my submission. I would like to take this opportunity to thank my co-workers at Naval Reserve Headquarters in Quebec City for their assistance and understanding during my study period, merci a tous. Finally, special acknowledgement goes to Massey Library at Royal Military College of Canada, the Canadian Forces Fleet School Quebec Library and Western University Libraries for their support in obtaining research material.

ABSTRACT

For a generation of Canadians successive governments have struggled with the issue of procurement of equipment and materiel for our military. Both citizens and politicians alike realise that procurement of expensive and technologically advanced systems is both complex, expensive and at the same time of critical importance to permit our men and women in uniform to complete the missions assigned to them. Military procurement must obtain the correct equipment for the Canadian Armed Forces and maintain the preservation of a transparent, equitable and open competition in a timely and cost efficient process to the taxpayers of Canada. It is therefore crucial that the procurement planning process and any decisions made incorporate a complete appreciation of current and potential future requirements. Past procurement missteps including the lengthy and costly replacement timelines for helicopters, ships and fighter jets and the outright cancellation of projects involving Army vehicles have shown that reforming Canada's defence procurement system is a priority that must be acted on.

The previous Conservative government made a public commitment to renew the Canadian military and in February of 2014 introduced Canada's new Defence Procurement Strategy. The stated primary goals of the DPS are to: provide the correct equipment to the Canadian military in a timely fashion; leverage Canada's acquisition of defence equipment to generate employment and economic growth in Canada; and to simplify the defence procurement process. As we are just over a year and a half into the new procurement strategy no clear consensus exists as to whether DPS has truly made a significant improvement or merely tweaked an already broken process. The following paper will offer insight both past and present into the Canadian procurement experience, how it compares with other allied procurement strategies, and argue that in fact additional reforms should be applied to further improve the recently introduced DPS and our military procurement structure. The reforms to be studied as principles of this thesis

statement include key issues that propose DPS does not adequately address, including: adequate budgetary allocations, the size and capacity of the acquisition workforce, the potentially incongruent aims of closer engagement with industry and Government's value for money and proposed streamlining of the capital acquisition process without the application of a single point of accountability as a number of experts advocate. The author concludes that these additional DPS reforms if implemented would further enable our government to progress defence procurement methodology to one that places emphasis on the timely delivery of equipment to meet the transformational and operational needs of the Canadian Armed Forces as we move further into the 21st Century.

CHAPTER 1: INTRODUCTION

Canadian equipment purchases had always involved politics, right back to the 1880s's decision to dress the militia in high cost, low quality Canadian made uniforms in deference to Sir John A. Macdonald's National Policy. - Desmond Morton, *Understanding Canadian Defence*¹

Canadian defence policy and the associated military procurement of materiel have been influenced over the decades by many competing forces. Inherently within our democratic system they include political favoritism, our responsibilities to alliance partners, economic considerations, geo-political and global activities and associated government actions.² As a nation we face a growing level of global uncertainty, regional conflict, acts of terrorism and failed states.³ The procurement of military armaments and equipment in Canada has usually been presided over by partisan political deliberations rather than any notion to improve the capacity of our military. Similarly, the actual strength and capability of our military has characteristically been given a lower level of concern by many elected government leaders, who as politicians have not properly assessed the importance of the Canadian Armed Forces.⁴ Professor Douglas Bland wryly pointed out back in 1999 that "Canadian politicians are not interested in defence policy. Neither are they conversant with nor much interested in the Canadian Forces, except in a kind of folksy regard one has for the family pet."⁵

As a result, past history indicates that Canada has repeatedly bungled the effective design, manufacture, or even acquisition of weapons and equipment which are essential for our

¹ Desmond Morton, *Understanding Canadian Defence*, (Toronto: Penguin Canada, 2003), 82

² David Bercuson, *Legion Magazine*, "Time to Wake Up on Procurement", November 1, 2005, last accessed 22 April 2015 at: <https://legionmagazine.com/en/2005/11/time-to-wake-up-on-procurement/>

³ Stewart Patrick, "Weak States and Global Threats," *The Washington Quarterly* 29, no. 2, (2006):27-53.

⁴ Aaron Plamondon. *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 15.

⁵ Douglas L. Bland, Parliament, *Defence Policy and the Canadian Armed Forces*, (Queens University: The Claxton Papers, No. 1, September, 1999), 3.

military members to perform the requirements prescribed by our national authority.⁶ In most cases, in order for the government to obtain even the most basic apparatus, military procurement specialists must adhere to a series of regulations which are completely irrational from the perspective of military performance. The hierarchy of the Canadian Armed Forces who preside over the activities at National Defence Headquarters (NDHQ) have over the years created additional onerous policies and procedures which have further complicated the procurement process. Thus internally within NDHQ the procurement process has bogged down under a mountain of bureaucratic administrative activities, including innumerable numbers of committees that necessitate continual analysis, re-evaluations, and authorization. The sad account of the Sea King maritime helicopter procurement debacle and the unsuccessful attempts to find a replacement over nearly thirty years is a direct consequence of these vulnerabilities existing inside the Government of Canada's procurement system.⁷

Today's economic global climate has forced significant change initiatives within every organization to become more efficient, productive, transparent, quality orientated, to do more with less. Organizations in both the public and private sector must be able to adapt and change to the ever evolving global landscape of uncertainty that is the 21st century. The CAF/DND has had to react to increased globalization, accelerated advances in science and technology, altered power balances, demographic changes, limited resources, frail and failed states, and growing number of regional conflicts around the world.⁸

The CAF/DND has commenced a number of initiatives to address these constant and rapid changes in the geopolitical landscape, and the new Defence Procurement Strategy aims to improve and streamline the delivery of major capital acquisitions to the CAF to allow operational

⁶ Aaron Plamondon, *Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present* (Calgary: Centre for Military and Strategic Studies, Occasional Paper Number 2, 2006), 1-4.

⁷ *Ibid.*, 18-20.

⁸ Craig Stone, *The Public Management of Defence in Canada*, (Toronto: Breakout Education Network, 2009), 213.

capability to support missions deemed required by the Government of Canada. In Canada military procurement methods have steadily evolved over the years. But even with these numerous changes all procurement processes contain a series of fundamental elements, namely: a description of the military requirement; substantiation of the requirement; government authorization of the project; decision on a procurement strategy; solicitation of bids and supply selection; negotiations and granting of contract; management of the contract to procure the quantity of equipment decided on; delivery of the manufactured goods, life cycle maintenance, and materiel disposal at the conclusion of the equipment useful lifespan.⁹ An indication of the burgeoning levels of bureaucracy and administrative documentation that ultimately lengthened Canadian military procurement timelines was witnessed during the Sea King acquisition and subsequent replacement. Helicopter procurement mid-century in the 1940's to 1960's necessitated merely a few pages to state the prerequisites; but when the New Shipborne Aircraft (NSA) procurement project commenced in 1985, these same few papers were now stated in specifications contained in stacks of volumes.¹⁰ In fact on August 4, 1986 the Canadian government granted approval of the project definition phase for the NSA, followed shortly after by the Request for Proposals. The RFP was an enormous eleven volume manuscript that delineated Canada's initial acquisition policy including what Canada's challenging requirements both mechanically and in the area of avionics and sensors would be in the maritime helicopter platform, for which industry was expected to meet.¹¹

⁹Douglas Bland ed., *Transforming National Defence Administration* (Kingston: School of Policy Studies, Queen's University, 2005), 61.

¹⁰ Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*. (Vancouver: UBC Press, 2010), x

¹¹ Thomas Lynch, "Stuffing NSA: DND and Canadian Industry Gear Up to Provide Comprehensive Mission Suite", *Canada's Navy* (Annual, 1987-88), 102.

To properly and fairly address the subject of procurement it must be pointed out that complications with defence procurement are not exclusive to Canada.¹² More than a few of Canada's closest allies have reviewed and completed considerable transformation of their procurement structure. Despite these reforms, which have incorporated key departmental restructuring, legislated reorganization and schemes to contract out procurement management to the private sector, they have not eliminated procurement projects from becoming difficult to administer and see through to completion for a number of key allies.¹³ In Australia as an example, Defence Minister David Johnston is recommending a reform of the country's military procurement institution known as the Defence Materiel Organisation (DMO). This proposal is one criteria of an evaluation that will direct Australia's 2015 Defence White Paper. Johnston told members of a defence conference in July of 2014 that the review was needed to guarantee a "commercially astute, focused and accountable materiel acquisition and sustainment capability".¹⁴ In addition Johnston has directed that the White Paper evaluation panel review three possible procurement processes for the DMO. These encompass: a method similar to the DMO's current structure but with attributes included to advance business and project supervisory skills; the re-integration of the DMO into the DoD with an announced focal point on defence

¹² Martin Shadwick, "Procurement and the Perfect Storm", *Canadian Military Journal* (Winter 2013), 65.

¹³ (Allies have also tried to improve procurement; a number of legislation reforms in the United States, in the United Kingdom the government ended a proposal to privatize its defence procurement organization when only one company made a bid for the contract, and in Australia the introduction of a single department in charge of materiel procurement and lifecycle maintenance and support. Unfortunately, notwithstanding the significant changes that each of these new initiatives introduced considerable difficulties remain.); for additional information see United States Senate, Committee on Homeland Security and Governmental Affairs, Permanent Subcommittee on Investigations, *Defense Acquisition Reform: Where do we go from Here?* October 2, 2014, last accessed on 12 May 2015, 2015 at: [file:///C:/Users/Iain/Downloads/REPORT%20-%20DEFENSE%20ACQUISITION%20REFORM-A%20Compendium%20of%20Views%20\(10-2-14\)1.pdf](file:///C:/Users/Iain/Downloads/REPORT%20-%20DEFENSE%20ACQUISITION%20REFORM-A%20Compendium%20of%20Views%20(10-2-14)1.pdf) ; also "Defence procurement privatisation plan axed," *BBC news*, December 10, 2013 last accessed on 12 May 2015, 2015 at <http://www.bbc.com/news/uk-politics-25321111> ; and Jon Grevatt, "Plans emerge to restructure Australian Defence Materiel Organisation," *Janes.com*. July 28, 2014. Last accessed April 4, 2015 at: <http://www.janes.com/article/41293/plans-emerge-to-restructure-australian-defence-materiel-organisation>

¹⁴ Jon Grevatt, "Plans emerge to restructure Australian Defence Materiel Organisation," *Janes.com*, July 28, 2014, last Accessed April 4, 2015 at: <http://www.janes.com/article/41293/plans-emerge-to-restructure-australian-defence-materiel-organisation>,

contract management; and a DMO that embraces greater independence and commercial enterprise, completely or partially as required.¹⁵

As indicated earlier in this paper, the fragility of the economic global climate at this time, along with funding limitations has pushed organizations to become more efficient and to maximize all available resources. Globally, defence organizations are trying to introduce radical revisions to procurement methodology without concurrently altering the actual mechanism through which it is delivered. Senator Colin Kenny noted in February 2006 that “Equipment procurement is a huge problem. The time lag between identifying a need for a piece of equipment, and delivery, is so long that the equipment is obsolete when it arrives. The average length of time it takes to acquire a piece of major equipment, under the current system is 14 to 16 years. That may be hard to believe, but it is true”.¹⁶ Alan Williams was able to determine a more definitive procurement timeline and back up Senator Kenny’s statements when he analysed available acquisition files. Williams was able to establish and report that “From an examination of 241 files active on 28 August 1998, it was determined that the acquisition period from the identification of a deficiency to the close-out of a project was 15.8 years.”¹⁷

Regrettably, expenditure overages, project delays and failures in meeting operational requirements are continuing struggles for many contemporary Western defence organizations.¹⁸ This is another clear indication of the fact that defence procurement remains an intricate and complicated activity in which political intervention is always part of the process and eventual completion.¹⁹ As a consequence, governments and military organizations strive to improve the process to appease taxpayers, who demand that their tax contributions to the central government

¹⁵ *Ibid.*

¹⁶ Senator Colin Kenny, Chair of SCONSAD, “DND Equipment Procurement,” *Ottawa Citizen*, 23 February 2006.

¹⁷ Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Montreal and Kingston: McGill-Queen’s University Press, 2006), 95.

¹⁸ David Bercuson, “Time to Wake Up on Procurement”, *Legion Magazine*, November 1, 2005 last accessed 22 April 2015 at: <https://legionmagazine.com/en/2005/11/time-to-wake-up-on-procurement/>,

¹⁹ Craig Stone, Canadian-Australian Opportunities for Defence Procurement and Industry Cooperation, *CIGI Papers* no. 22, (January 2014), 6

are spent wisely on what is actually needed. These expectations take on even more significance within the current fiscal climate, where many nations have reduced defence budgets and have introduced stricter oversight of exactly how these defence funds are being expended.²⁰ Defence procurement reform in the West has been the focus of studies and revision for many years. In 2009, Bernard Gray, a former special consultant to the UK minister of defence, noted that “Acquisition Reform, as it is generally known, is a subject only about 5 minutes younger than the acquisition of military equipment itself”.²¹ Colonel Ross Fetterly’s paper reviewing defence procurement reforms underway in other countries commences with a citation from Steven Reeves, who speaks directly to the fundamental nature of this issue noting: “During the past 50 years, defense acquisition reform panels, studies, reviews, and commissions occurred with such frequency that they could virtually provide lifetime employment”.²²

Program funding increases and delivery delays are a global issue affecting many countries, as the environment of defence procurement is intrinsically complex and encompasses a full spectrum of risks. Consequently, it is patently impractical to anticipate that in the near future defence procurement in Canada can be truly completely repaired. Especially, as defence analyst Dave Perry points out if repaired is deciphered as multi-billion dollar acquisition projects commencing from initial conception, to end of project delivery and eventual procurement closure with no significant hurdles during what is inevitably a decades long and drawn out procurement process. As an alternative, he feels the objective must be focused on the design of a procurement process that addresses and can adapt to the innate complexity of the defence procurement process.²³

²⁰ *Ibid.*

²¹ Bernard Gray, *Review of Acquisition for the Secretary of State for Defence*, (London: October 2009).15,

²² Ross Fetterly, “Defence Procurement Reform in Other Nations”, *Queen’s University School of Policy Studies The Claxton Papers* 10, (2009), 30.

²³ Dave Perry, “Putting the Armed Back into the Canadian Armed Forces, Improving Defence Procurement in Canada”, *CDAI Vimy Paper* 21, (January: 2015), 4.

Our defence and procurement policy are increasingly being influenced by amplified levels of domestic and intercontinental security threats. For more than 50 years, and reemphasized in the governments Canada First Defence Strategy (CFDS) in 2008, Canadian defence policy has incorporated the ability to defend Canada and our citizens, maintain the protection of North America in partnership with the United States, and contribute to global peace and stability.²⁴ Almost paradoxically yet in true Canadian form successive governments have sought to achieve the often lofty goals of our Canadian defence policy and procurement initiatives at the lowest cost possible to taxpayers. The most elementary obligation of Parliament is to maintain the government accountability for the spending of taxpayer's money. On a yearly basis, the federal governments' budget contains expenditures in the area of \$200 billion. Even with ongoing budget oversight and departmental reductions spending by the DND continues to be the main discretionary portion of government spending.²⁵ One of the main concerns relating to the DND portion of the budget as noted by Douglas Bland back in 2004 when the DND's budget was approximately \$12 billion, is his observation that it is astounding that Parliament appears to endorse DND's enormous budget with minimal oversight.²⁶ As a comparator for current DND funding for the period from 2011 to 2017 actual, forecast and planned spending ranges from a high of \$20.2 billion in 2011 to a low of \$17.6 billion in 2016 a net decrease during this timeframe of \$2.6 billion dollars, but still a significant sum of money requiring studious oversight.²⁷

²⁴ Department of National Defence, *The Canada First Defence Strategy*, (Ottawa: DND, 2008).

²⁵ Peter Jones & Philippe Lagassé, "Rhetoric versus reality: Canadian defence planning in a time of austerity", *Defense & Security Analysis*, 28:2, (2012):140-151.

²⁶ Douglas L. Bland and Roy Rempel, "A Vigilant Parliament: Building Competence for Effective Parliamentary Oversight of National Defence and the Canadian Armed Forces," *Policy Matters*, Vol. 5, No. 1, Institute for Research on Public Policy, Montréal, (February 2004), 25.

²⁷ Department of National Defence, *Report on Plans and Priorities*, (Ottawa: DND, 2014) last accessed 15 Oct 2015 at http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/DND-RPP-2014-15.pdf

Requirement for the Paper

Defence Procurement is the one sector that has progressively weighed down successive governments. Government policy must solve significant issues, and the ineffective effort to improve military procurement over the past few decades has resulted from an institutional tendency to rely primarily on a procurement policy that became antiquated at the conclusion of the Cold War.²⁸ The policy has been restricted by a highly structured and inflexible internal procurement model that is fixated on internal process, rather than an outward one which could adapt to the changing external operational milieu. This dated policy has seen minimal transformation and as such places constraints on procurement flexibility, its ability to adapt and capacity to respond. Unfortunately, these factors all act to diminish the effectiveness of recent attempts at procurement reform.²⁹ Lagasse and Robinson noted the discrepancies within Canada's defence policy for its inability to convene "means with ends" proposing Canada's defence objectives surpass its capacity and significance as a secondary power."³⁰ As Dymond and Hart articulated "Canadian foreign policy seems increasingly detached from reality. A strong tendency has emerged favouring sentiment over interest and posture over position, informed by a lingering belief that Canada is, or should be, as important a nation today as it was in the immediate postwar period. This tendency is reinforced by the continuing pretence that Canada is a middle power with global interests, rather than a regional power with significant regional interests and modest global interests."³¹ It is interesting to note that these comments were made twelve years ago in 2003, and yet they seem quite relevant today given the former Conservative government's deployment of CAF assets and their positions on activities in the Middle East, but

²⁸ Ross Fetterly, "Arming Canada: Defence Procurement for the 21st Century" (PhD thesis. Royal Military College of Canada, 2011), 3-5.

²⁹ *Ibid.*

³⁰ Philippe Lagassé and Paul Robinson, "Reviving Realism in the Canadian Defence Debate", Queen's Centre for International Relations, *Martello Paper* No. 34, (2008):42-43.

³¹ Bill Dymond and Michael Hart, "Canada and the global challenge: Finding a place to stand," *Commentary* 1 80, *CD. Howe Institute, Toronto*, (March 2003), 2-3

more prevalently panned regarding our stance in the Ukraine.³² The inability of the CAF to adequately acquire and replace major equipment through an effective capital procurement process; one that occurs in a timely manner while providing necessary apparatus for the mission at hand has contributed immensely to these concerns.

The heavy political influence that permeates the Canadian capital acquisition process has significant capability to manipulate, sway and ultimately delay the entire process. As Craig Stone noted, “politics will always be an important part of defence procurement, in Canada and elsewhere.”³³ In referring to delays of capital procurement projects in Canada, author Aaron Plamondon points out that the greater the time period of a defence project “the more politically vulnerable it becomes.”³⁴ One clear example of this situation was the ongoing saga of the replacement for the Sea King helicopters. Political fallout from a change of government in 1993 resulted in newly elected Prime Minister Jean Chretien cancelling the New Ship-Borne Aircraft (NSA) along with the previous Conservative government’s EH-101 contract, with no review of the financial ramifications of this project cancellation.³⁵ Former President of Paramax Paul Manson contractor for the EH-101 said at that time; “The contract was terminated by Jean Chrétien within hours of being sworn in as Prime Minister. That decision, which has been compared with the cancellation of the Avro Arrow 35 years earlier, forced me to lay off more than 750 employees the following day, and it set the maritime helicopter procurement back by at least 15 years.”³⁶ This paper will look at Canada’s procurement, history, politics, analyze Allied

³² Murray Brewster, Canada talks tough on Ukraine, but cuts \$2.7B from defence in 2015, *The Canadian Press*, September 1, 2014, Last accessed May 13, 2015 at <http://www.macleans.ca/politics/ottawa/canada-talks-tough-on-ukraine-but-cuts-2-7b-from-defence-in-2015/>, Haroon Siddiqui, Stephen Harpers Empty Sloganeering on Ukraine, *Toronto Star Editorial*, Last accessed on May 13, 2015 at http://www.thestar.com/opinion/commentary/2014/03/16/stephen_harpers_empty_sloganeering_on_ukraine.html

³³ Craig Stone, "Defence Procurement and the Need for Disciplined Capital Investment," *The Public Management of Defence in Canada*, (Toronto: Breakout Educational Network, 2009), 98.

³⁴ Aaron Plamondon. *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 29.

³⁵ *Ibid.*, 125.

³⁶ *Ibid.*, 126.

procurement policy and review the current Defence Procurement Strategy and argue that it is merely a step in the right direction requiring additional procurement measures such as adequate funding, appropriate acquisition workforce, industrial engagement review, and the introduction of a single point of accountability to create a truly efficient procurement model, one capable of providing appropriate capital equipment within improved timelines and at the best possible cost.

Purpose of the Paper

Purchasing military equipment for our Canadian Armed Forces in an efficient, cost effective and timely manner has caused significant and continual controversy, and effectual reform has eluded successive governments seemingly from the Pearson era. As respected political analyst Jeffery Simpson noted even experts such as Kevin Page, the former Parliamentary Budget Officer, believes the procurement system is “completely broken”; while Dan Ross, former Department of National Defence Assistant Deputy Minister Materiel (ADM Mat) one of the Defence Department’s most senior positions calls it “broken.”³⁷ To most Canadians it appears as though every major military procurement process is fraught with controversy, cost over runs and both financial and project mismanagement, and in the view of many the management of these often complex military procurement projects will remain a significant challenge in the foreseeable future. The introduction by the current Conservative government in February 2014 of the Defence Procurement Strategy (DPS) was aimed at addressing the long running problems of military procurement within the Department of National Defence (DND).³⁸

The following paper will offer insight both past and present into the Canadian procurement experience and how it compares with other allied procurement strategies. As noted

³⁷ Jeffery Simpson, How broken is military procurement? It’s time for a blue-ribbon panel, *Globe and Mail*, March 6, 2013, last accessed 22 May 2015 at [HTTP://WWW.THEGLOBEANDMAIL.COM/GLOBE-DEBATE/HOW-BROKEN-IS-MILITARY-PROCUREMENT-ITS-TIME-FOR-A-BLUE-RIBBON-PANEL/ARTICLE9831465/](http://www.theglobeandmail.com/globe-debate/how-broken-is-military-procurement-its-time-for-a-blue-ribbon-panel/article9831465/)

³⁸ Diane Finley, MP, Minister of Public Works and Government Services (Announcement of the Defence Procurement Strategy, Economic Club of Canada, Ottawa, Ontario February 5, 2014)

previously, the author will argue the implementation of the current DPS in its initial construct will require additional reforms applied to truly improve our military procurement structure. The new Defence Procurement Strategy presents a blueprint for much needed improvements in our major capital acquisition process. But rather than true reformation this paper will argue that the Conservative governments DPS can be best described as a tentative step forward in the right direction. The author will argue that additional procurement measures including; adequate budgetary allocations, reviewing the size and augmenting the capacity of the acquisition workforce, examining the possible incongruent aims of closer engagement with industry while seeking the best value for tax payers' money and proposing streamlining of the capital acquisition process via a single point of accountability will be required to truly make the current DPS model an effective procurement model. This separate procurement agency or single point of accountability model has been adopted by allied nations Australia and Britain and a number of experts including former ADM Alan Williams and defence analyst Craig Stone advocate that this will be the most efficient accountability model.³⁹ This singular point of control reduces the bureaucratic approval process and increases the opportunity for a functional procurement model, while delivering the right equipment at the right time for the right price. This enhancement and reformation of the current Defence Procurement Strategy will better enable our government to improve our defence procurement methodology to one that places emphasis on the timely delivery of equipment to meet the transformational and operational needs of the Canadian Armed Forces as we move further into the 21st Century.

In order to adequately argue this thesis statement the paper will be presented in a number of analytical, flow-through sections which will guide the reader through the process of evaluation and conclusion for each chapter, with the ultimate aim of solidifying the main premise of the

³⁹ Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Queen's School of Policy Studies, 2006); J.Craig Stone, "A Separate Defence Procurement Agency", *Canadian International Council and Canadian Defence and Foreign Affairs Institute*, (February 2012).

initial thesis statement. To accomplish this, an initial literature survey outlining the body of research and academic material reviewed will be presented. A thorough evaluation of the research material will then allow the author to present a brief historical context of military procurement in Canada and then an introduction to procurement strategy and process. A brief analysis of Allied procurement methods and reforms will be the lead in to a chapter discussing the objectives and key initiatives of the Government of Canada's recently introduced Defence Procurement Strategy, including defence sector and industrial input. Following this discussion on DPS and to further support the author's main thesis statement, a chapter will discuss in detail, suggested reforms to the current DPS that will enhance the capability of DPS to meet Canada's procurement needs in a timely and efficient manner. Lastly, a chapter will be devoted to recommendations and concluding final comments that argue in defence of the main thesis statement. One that concludes the former Conservative government's DPS can be best described as a tentative step forward in the right direction. The author will argue that additional procurement measures including; adequate budgetary allocations, reviewing the size and augmenting the capacity of the acquisition workforce, examining the possible incongruent aims of closer engagement with industry while seeking the best value for tax payers' money and proposing streamlining of the capital acquisition process via a single point of accountability will all be required to truly make the current DPS model an effective procurement model.

Literature Survey

The first action in the examination of the thesis statement noted above is to evaluate the historical and contemporary body of literature available on the subject matter of Defence Procurement and equipment acquisition. This survey of available literature will permit an evaluation and provide a background of the history and development of Canadian defence procurement and offer insight into how we arrived at the current governments Defence

Procurement Strategy. The literature survey also offers an ability to research the evolution that has occurred to bring the process to its present state, while presenting the challenges and systemic issues intrinsic to the procurement procedure. A look at external literature will permit a review of how our Allies such as Australia, the United Kingdom and the United States perform military procurement to enable an analysis of other procurement models and their effectiveness when compared to the Canadian structure. The review will also make available an analysis of current defence procurement policies by key industry groups, academic policy and defence organizations such as the Conference of Defence Associations Institute (CDAI), Canadian Association of Defence and Security Industries (CADSI), the Aerospace Industries Association of Canada (AIAC) and the Shipbuilding Association of Canada (SAC).⁴⁰ These groups and their experts offer insight, research papers and proposals via which the government's procurement process may be enhanced, permitting the operational requirements of the CAF and its ability to conduct operations and missions to be more effectively achieved. One such advocate retired Vice-Admiral Peter Cairns President of the Shipbuilding Association of Canada noted; "Today as the world's largest maritime nation we are confronted with major issues regarding arctic sovereignty, the harvesting of offshore hydrocarbons, increased demand for seaborne passenger transportation and the renewal of the federal naval and coastguard fleet. As the industry enters a

⁴⁰ CDAI, CADSI, AIAC, and SAC are organizations that support and or represent leading defence, aerospace and shipbuilding organizations, and promote the interests both domestically and abroad of the Canadian defence, aerospace, shipbuilding ship and repair industry. These important stakeholder groups and numerous procurement reviews, papers and technical analysis can be found on the web at their respective sites: <http://www.cdainstitute.ca/>, <https://www.defenceandsecurity.ca/>, www.aiac.ca/, <http://canadianshipbuilding.com>

See also specific procurement papers for these groups by Dave Perry, "Putting the Armed Back into the Canadian Armed Forces. Improving Defence Procurement in Canada", *CDAI Vimy Paper 21*, (January 2015), 4. and Perry, "Budget 2013, Defence Austerity: The Impact to Date", *CDAI Report* (March 2013), "Striving For a Coherent Shipbuilding Strategy", *Shipbuilding Association of Canada Policy Paper*, (April 2014), CADSI, "A Vital Partner Supporting Canada's Economic and National Interests: Industry Engagement on the Opportunities and Challenges Facing the Defence Industry and Military Procurement", *CADSI Paper* (December 2009).

new era and as the body representing this vital national industry, the SAC has never been so strong”⁴¹

Prior to presenting any proposals on how to develop and create greater synergies within the equipment procurement process, an initial and extensive review of the available body of literature on the subject both from a historical context and how the existing procurement strategies have been reached and are functioning has been carried out. Concurrently, the writings by a number of senior academics, institutional and government department leaders, advisory groups along with key industrial partners will offer insight and sage guidance on a number of proposals to streamline and make the capital acquisition and procurement structure a more efficient and timely process. The author will review the available literature and analyze the procurement strategies of our partner allies, various academic papers, industry articles, expert comments and strategic reviews from numerous subject matter experts. In support of the thesis statement on the effectiveness of the current DPS the author will through the following structured paper, argue that additional procurement measures should be considered to make it truly a responsive and more efficient procurement model. As previously introduced proposed reform measures will include a requirement for adequate and flexible budgetary allocations, discussions of the size and capacity of the acquisition workforce, reviewing the possible incongruent aims of closer engagement with industry and value for taxpayers’ money and the possibility of introducing a single point of accountability to improve streamlining of the capital acquisition process. The author will argue the enhancement and reformation of the current Defence Procurement Strategy through these DPS reforms will better enable our government to improve our defence procurement methodology to one that places emphasis on the timely

⁴¹ Peter Cairns, President, *Shipbuilding Association of Canada*, commentary, last accessed 17 May 2015 at http://canadianshipbuilding.com/?page_id=1195,

delivery of equipment to meet the transformational and operational needs of the Canadian Armed Forces as we move further into the 21st Century.

The topic of procurement in Canada has been the subject of much discourse and writings by various government departments, academically and within the broader defence industrial establishment, much of it offering negative opinions of current procurement structures. Historically, leading academics such as Desmond Morton, C.P. Stacey, and Aaron Plamondon provide the necessary literary background on how our Canadian procurement structure has evolved from its early pre-confederation days to the reforms that have been enacted since World War Two.⁴² The literature survey has noted an overall distinct lack of adequate studies and review regarding defence procurement. Dan Middlemiss' comments in *Defence Procurement in Canada* penned in 1995 stated "Notwithstanding the availability of many useful procurement case studies, what is lacking is a general overview of weapons acquisition in Canada."⁴³ In fact, much of the available information speaks negatively towards senior military and government leaders, research groups and academics that for the past few decades have reviewed and administered military procurement in Canada. The literature annotates the complexity and ongoing lack of cohesive ability to line up required capital procurement acquisition with the existing operational setting, a challenge exacerbated by the long procurement timelines. Many of these non-effective reforms to improve defence procurement strategy are a result of a reliance on the antiquated procurement policies and procedures applied during the Cold War period which effectively ended nearly 25 years ago. Authors such as Douglas Bland, Charles Davies, Aaron Plamondon, Dan Middlemiss and Joel Sokolsky

⁴² Desmond Morton, *Understanding Canadian Defence* (Toronto: Penguin Canada, 2003), Desmond Morton, *A Military History of Canada, 5th edition* (Toronto: McClelland & Stewart, 2007), C.P. Stacey, *The Military Problems of Canada: A Survey of Defence Policies and Strategic Conditions Past and Present*, (Toronto: Canadian Institute of International Affairs; Ryerson Press, 1940), Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010).

⁴³ D.W. Middlemiss, "Defence Procurement in Canada", in *Canada's International Security Policy*, ed. D.B. Dewitt and D. Leyton-Brown (Scarborough: Prentice-Hall, 1995), 391.

provide insight into the role of government, Cabinet and how domestic politics affect our procurement process.⁴⁴ Colonel Elgin Fetterly's Doctoral Thesis "*Arming Canada: Defence Procurement for the 21st Century*" provided expansive insight into the examination of how the Canadian Government practices procurement and after extensive analysis he presents arguments to support his claim that a separate Crown Corporation is best situated to "supporting timely and effective procurement of capital equipment".⁴⁵

A number of well-respected authors whose expertise involves defence policy have presented numerous procurement articles in journals including the Canadian Military Journal, Canadian Naval Review, Frontline, Defence Magazine and Canadian Defence Review. Although not an exhaustive review the authors' present reasonable outlines of the defence procurement process and the struggles of major capital acquisitions. Ken Bowering Director of Naval Affairs with the Ottawa Branch of the Naval Association of Canada presented a solid overview of the National Shipbuilding Procurement Strategy (NSPS), but failed to adequately discuss prospective concerns with the overall procurement strategy.⁴⁶ As far back as 2009 former Chief of Maritime Staff (CMS) Vice-Admiral Dean McFadden spoke to the requirement for a Canadian shipbuilding capacity, one that generates domestic industrial capacity "to design, build and sustain the modern warships" Canada will require in the future while creating thousands of permanent high skilled jobs across the nation.⁴⁷ The Canadian Military Journal has presented a number of senior defence analyst's opinion pieces on military acquisition projects including a

⁴⁴ See also the following: Douglas Bland, House of Parliament, Testimony 38th Parliament Session, Standing Committee on National Defence and Veterans Affairs, Ottawa, 25 Oct 2005, Charles Davies, "Canada's Defence Procurement Strategy: An End or a Beginning," *CDAI Vimy Paper 20*, (September 2014), Aaron Plamondon, "Equipment Procurement in Canada and the Civil-Military Relationship," *Calgary Papers in Military and Strategic Studies.2* (2008), Danford William Middlemiss. and, Joel J Sokolsky, *Canadian Defence : Decisions and Determinants* (Toronto : Harcourt Brace Jovanovich, Canada, 1989)

⁴⁵ Elgin R Fetterly, "Arming Canada: Defence Procurement for the 21st Century" (doctor of philosophy thesis, Royal Military College of Canada, 2011), iv.

⁴⁶ Ken Bowering, "National Shipbuilding: Where We Are and Where We're Headed," *Canadian Naval Review 8, No.2* (Summer 2012): 19-23.

⁴⁷ Vice-Admiral Dean McFadden, "Report on Canada's Navy," *Canadian Defence Review Vol 14, Issue 4* (August 2009): 16-17.

number of informative procurement articles relating to NSPS, Capability Gaps, and strategy by resident defence commentator Martin Shadwick.⁴⁸

Retired Commodore Eric Lerhe's 2013 NSPS procurement update for CDFAI reviewed the progress of the shipbuilding program and analysed a number of concerns raised to date while providing suggestions for the government on how to rectify them. It is interesting and positive to note that he was generally supportive, and a proponent of the Secretariat Management aspect of the NSPS, a format the new DPS has incorporated. He proposes that the NSPS will be able to overcome these concerns including ongoing budgetary and slippage through the firm application of the Secretariat management structure (which will be discussed in detail later in this paper as it is incorporated within the new DPS).⁴⁹ Former Vice Chief of the Defence Staff George Macdonald who served from 2001-2004 wrote in a 2014 edition of Frontline magazine that although industry in Canada has high hopes the newly introduced DPS will progress and streamline current procurement practices, it will be imperative to exhibit patience as government departments exert their efforts to enable these new schemes into becoming actual functioning, working strategies.⁵⁰

Author Elinor Sloan in a December 2013 CDFAI paper provides a solid overview and analysis of major acquisition projects valued at over 100 million dollars and presents facts and figures to quantify the staggering number of these military procurement files that have not met timelines. It allows an insight into the complexity and difficulties that companies who bid on these major capital projects have in dealing with the myriad of procurement rules and the

⁴⁸ Martin Shadwick, "Procurement and the Perfect Storm," *Canadian Military Journal* (Winter 2013): 64-67., Martin Shadwick, "The National Shipbuilding Procurement Strategy and the 'Ambition-Capability Gap,'" *Canadian Military Journal*, (Spring 2014):79-82., Martin Shadwick, "Procurement, Optics and Cyclones," *Canadian Military Journal* (Autumn 2014):77-80., Martin Shadwick, "Bridging Maritime Gaps," *Canadian Military Journal*, (Winter 2014):64-68.

⁴⁹ Eric Lerhe, "The National Shipbuilding Procurement Strategy – An Update", *CDFAI Strategic Studies Working Group Papers*, (Feb 2013): 3-10.

⁵⁰ George Macdonald, "New Defence Procurement Process : The Devil is in the Details", *Frontline Magazine.com*, Vol. 11, No 2 (2014), last accessed 14 June 2015 at http://www.frontline-defence.com/index_archives.php?page=2158,

challenges they face in complying with government design and build requirements within our procurement process.⁵¹ Former Canadian Forces College students Robyn Locke, D.J. Horan and Major K. Kennedy all wrote informative and insightful papers relating to the difficulties currently experienced within the Canadian Armed Forces procurement system.⁵² Additionally, maritime industry proponents Janet Thorsteinson and President of the Shipbuilders Association of Canada Peter Cairns both advocate strongly for procurement reform and support to their constituent marine based companies in well written papers. Both Cairns and Thorsteinson express concern for the instability in the shipbuilding capacity of Canadian industry and the loss of skilled marine based workers during the long periods between shipbuilding procurement cycles in Canada. Thorsteinson in a *Canadian Naval Review* article penned in the summer of 2008 expressed her concern with regards to the state of ship procurement and the outlook for the shipbuilding industry in Canada when she wrote; “In fact, major naval procurements are sailing into a perfect storm that decision-makers hope will be short term and survivable.,” and considers the Canadian shipbuilding industry with economically viable and competent shipyards as “an essential element of Canadian sovereignty.”⁵³

Informative earlier papers on procurement reform by authors Ken Bowering and Alan Williams offer insight into the machinations of the procurement process and inner the workings of the selection procedure. But they also provide additional background knowledge for industry groups like the Shipbuilding Association of Canada (SAC), who in April of 2014 released the

⁵¹ Elinor Sloan, “Canadian Defence Commitments: Overview and Status of Selected Acquisitions and Initiatives”, *CDFAI SPP Policy Papers*, Vol 6, Issue 36, (December 2013)

⁵² Robyn Locke, “Defence Procurement Strategy: Effectiveness over Efficiency”(JCSP Course Paper, Canadian Forces College, 2013); D.J. Horan, “A Vulnerable Royal Canadian Navy: The National Shipbuilding Procurement Strategy and the Threat to the Navy’s Long Term Vision” (Master of Defence Studies Paper, Canadian Forces College, 2012); and Major K. Kennedy, “Unmilitary People and Defence Procurement: Why Canada Should Use a Rational Approach to Procure Major Equipment Platforms” (Master of Defence Studies, Canadian Forces College, 2012)

⁵³ Janet Thorsteinson, “A Managed Approach to Fleet Acquisition,” *Canadian Naval Review* 4, no. 2 (Summer 2008): 28 - 30; Peter Cairns, “Shipbuilding and Industrial Preparedness,” *Canadian Naval Review* 2, no. 3 (Fall 2006): 16 – 23.

informative *Striving for a Coherent Shipbuilding Policy* document which offered a number of proposals and recommendations and the Canadian Association of Defence and Security Industries (CADSI), who developed their own industry centric procurement reports offering advice with respect to contractor capabilities, project design and in service maintenance and support.⁵⁴ Academics and defence analysts including Dr. Craig Stone, Binyam Solomon, Alistair Edgar, David Haglund, Aaron Plamondon and more recently Dave Perry in CDAI Vimy papers, have all presented substantive evaluation work associated with the economics of defence, the relationship between existing defence policy and industry, capital procurement processes, expenditures and funding limitations. This body of literature serves as a solid foundation from which one can gain additional insight into the overall process of procurement, including the effects of questionable government management, budgetary restrictions, and the omni-present requirement for both industrial and regional benefits to be obtained.⁵⁵ Phillippe Lagasse and Peter Jones along with Martin Shadwick and Douglas Bland address the challenging and ongoing issues of funding and recapitalization within the Canadian Armed Forces and how this

⁵⁴ Ken Bowering, “General Sir Arthur Currie Paper 1-08: Military/Naval Procurement in Canada: A Flawed Process”, *Conference of Defence Associations Institute*, (2008), 10; Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Queen’s School of Policy Studies, 2006); Marine Industries Working Group, *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*, *CADSI Paper*, (May 2009); Canada’s Defence Industry: A Vital Partner Supporting Canada’s Economic and National Interests: Industry Engagement on the Opportunities and Challenges Facing the Defence Industry and Military Procurement, *CADSI Paper* (December 2009); “Striving For a Coherent Shipbuilding Strategy”, *Shipbuilding Association of Canada Policy Paper*, (April 2014).

⁵⁵ Craig Stone, ed., *Public Management of Defence in Canada* (Toronto: Breakout Educational Network in association with the School of Policy Studies, Queen’s University, 2009); J. Craig Stone and Binyam Solomon, “Canadian Defence Policy and Spending”, *Defence and Peace Economics*, Vol.16(3) June 2005, 145-169.; Alistair D. Edgar and David G. Haglund, *The Canadian Defence Industry in the New Global Environment* (Montreal: McGill-Queen’s University Press, 1995); John Treddenick, “*The Economic Significance of the Canadian Defence Industrial Base*,” in Canada’s Defence Industrial Base: The Political Economy of Preparedness and Procurement, ed. David G. Haglund (Kingston, Ont., Canada: R.P. Frye, 1988), 15–48; Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010),9; Dave Perry, “Putting the Armed Back into the Canadian Armed Forces, Improving Defence Procurement in Canada”, *Vimy Paper 21*, (January 2015), 4. and Dave Perry, “The Growing Gap Between Defence Ends and Means: The Disconnect between the Canada First defence Strategy and the Current Defence Budget”, *Vimy Paper 19*, (June 2014)

potentially impacts the role and capability of our military and the government's commitment to achieve and maintain the goals of its Canada First Defence Strategy.⁵⁶

The Government of Canada including all major stakeholder departments, the Department of National Defence (DND), Fisheries and Oceans (DFO), Industry Canada (IC) and Public Works and Government Services Canada (PWGSC) provided a number of significant procurement backgrounders and departmental informational documents that provided basic guidance, policy and in the case of Public Works and Government Services Canada actual chronological timelines of milestones for projects including the NSPS, NFPS and FWSAR.⁵⁷ Martin Auger of the Parliamentary Information and Research service presented an excellent overview of the Canadian Defence Procurement structure along with an introduction to the key tenets of defence governance and accountability and looked extensively at how procurement is carried out in other nations.⁵⁸ In addition, the Minister of Public Works and Government Services selected Mr. Tom Jenkins as Special Adviser to lead a committee in the development of a Defence Procurement Strategy (DPS). Jenkins report called *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities* was released in February of 2013 with the government's primary stated goal being "to outline an approach to maximize the overall benefit of the government's CFDS investment. This involves identifying and supporting key industrial capabilities (KICs) to enable Canada's defence related industries to better meet the

⁵⁶ Peter Jones & Philippe Lagassé, "Rhetoric versus reality: Canadian defence planning in a time of austerity", *Defense & Security Analysis*, 28:2, 2012, 140-151, M. Shadwick, "Recapitalizing the Forces," *Canadian Military Journal* 10, no. 1 (2009): 87-90; Philippe Lagassé, "Recapitalizing the Canadian Forces' Major Fleets: Assessing Lingering Controversies and Challenges," *CDFAI Strategic Studies Working Group Papers* (December 2012): 1-8; Douglas L. Bland, "In defence of Canada's defence", *Policy Options*, (November 2010), Last accessed June 12 2015 at <http://policyoptions.irpp.org/issues/afghanistan/in-defence-of-canadas-defence/>

⁵⁷ PWGSC; NSPS Chronology at <http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/chronologie-chronology-eng.html> ; NFPS Chronology at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/vnmntsjlms-vntsmstns-eng.html> ; FWSAR Chronology at; <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/chronologie-chronology-eng.html> , all websites last accessed May 22, 2015

⁵⁸ Martin Auger, "Defence Procurement Organizations: a Global Comparison", *Library of Parliament Backgrounder*, (October 2014)

operational requirements of the Canadian Forces while generating sustainable economic growth.”⁵⁹

A review of a number of government documents, backgrounders and papers currently available that discuss the recently introduced Defence Procurement Strategy identify key components and goals of the program.⁶⁰ Other more critical documents and writings indicate that although DPS possesses the structure to eventually streamline and improve the overall procurement and major capital acquisition process there is definitely room for improvement. Defence analysts and academics including Dave Perry, Martin Shadwick, Dr. Craig Stone and retired Colonel Charles Davies have all wrote expansive papers on the new DPS providing insight into how the major segments of DPS have performed to date, with some writings indicating the major benefits in the near term may be primarily economic.⁶¹ Upon commencement of a literature review of the actual DPS structure, a number of authors including Ugurghan Berkok, Elinor Sloan, Alan Williams and Dr. Craig Stone offer opinions proposing arguments opposing the application of the composite or Secretariat management system of procurement, and indicating that more efficient results would be achieved under a singular and separate procurement agency formed to administer major capital acquisitions for the Department of National Defence.⁶² The government’s earlier guidance to Jenkins as he prepared his *Canada*

⁵⁹ PWGSC, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*, (February 2013), accessed on May 12, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/eam-lmp-eng.html>.

⁶⁰ Diane Finley, MP, Minister of Public Works and Government Services (Announcement the Defence Procurement Strategy, Economic Club of Canada, Ottawa, Ontario February 5, 2014)

⁶¹ Dave Perry, “Putting the Armed Back into the Canadian Armed Forces, Improving Defence Procurement in Canada”, *CDAI Vimy Paper 21*, (January 2015): 4; Martin Shadwick, “The National Shipbuilding Procurement Strategy and the Ambition-Capability Gap”, *Canadian Military Journal*, Vol. 14, No. 2, (Spring 2014):64-67.; Craig Stone, “Improving the Acquisition Process in Canada”, *SPP Research Papers, Vol 8, Issue 16*, (April 2015); Charles Davies, “Canada’s Defence Procurement Strategy: An End or Beginning?”, *CDAI Vimy Paper 20*, (September 2014)

⁶² Ugurghan Berkok, “*Canadian defence procurement*” in *Defence Procurement and Industrial Policy -A small country perspective*, edited by Stefan Markowski, Peter Hall and Robert Wylie, 209 - 227, (New York: Routledge, 2010), 211.; Elinor Sloan, “Something Has to Give: Why Delays Are the New Reality of Canada’s Defence Procurement Strategy”, *CDFAI Paper*, (October 2014), Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Queen’s School of Policy Studies, 2006); Craig Stone, *A Separate Defence*

First: Leveraging Defence Procurement Through Key Industrial Capabilities report regarding expectations of the new proposed Defence Procurement Strategy states this new strategy is expected to “meet the operational requirements of the Canadian Forces in a timely, cost-effective manner, while maximizing related job creation, supporting Canadian manufacturing capabilities and innovation, and bolstering economic growth.”⁶³

A number of defence analysts, academics and commentators including Dave Perry, Sven Tommi Rebien, Martin Shadwick, Michael Byers, Commander David Peer, John Ivison, Jeffrey Simpson, and David Pugliese have all wrote articles or papers critical of the government’s record and approach to military procurement.⁶⁴ Much of the literature took the government to task for major concerns including procurement delays, acquisition capacity, design flaws, budget shortfalls and cost overruns and Rebien’s also takes the government to task expressing his concerns as to whether it can actually maintain “its ability to develop and maintain close and supportive relationships with industry..... second, streamlining procurement while increasing preferential complexity with more stakeholders getting involved in the development, implementation, monitoring, and adjustment of the process.”⁶⁵ He goes on to suggest that the rhetoric sent out by the government is not diminishing the ongoing challenges facing capital

Procurement Agency, *Canadian International Council and Canadian Defence and Foreign Affairs Institute*, (February 2012).

⁶³ PWGSC, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*, (February 2013), accessed May 12, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/eam-lmp-eng.html>.

⁶⁴ Dave Perry, Putting the “Armed “Back into the Canadian Armed Forces, Improving Defence Procurement in Canada, *CDAI Vimy Paper 21*, (January 2015); Sven Tommi Rebien, Canada’s New Defence Procurement Strategy: Has the Pendulum Swung Too Far?, *CDFAI Policy Paper*, (April 2014); Martin Shadwick, Procurement and the Perfect Storm, *Canadian Military Journal*, Vol. 14, No. 1, (Winter 2013): 64-67.; Commander David Peer, Problems with Naval Ship Procurement?, *Canadian Naval Review Forum*, Feb 2013, accessed on June 14, 2015 at <http://www.navalreview.ca/2013/02/problems-with-naval-ship-procurement/>; David Pugliese, Military Procurement is a National Disgrace, *Ottawa Citizen* accessed on April 18, 2015 at <http://www.macleans.ca/news/canada/military-procurement-is-a-national-disgrace/>; John Ivison, \$26B shock- Canada’s largest ever defence procurement handed off in sole-source contract, *National Post*, January 21, 2015, accessed on April 18, 2015 at <http://news.nationalpost.com/full-comment/john-ivison-26b-shock-canadas-largest-ever-defence-procurement-handed-off-in-sole-source-contract>; Michael Byers, Does Canada Need Submarines?, *Canadian Military Journal*, Vol. 14, No. 3, (Summer 2014):7-14.

⁶⁵ Tommi Rebien, Canada’s New Defence Procurement Strategy: Has the Pendulum Swung Too Far?, *CDFAI Policy Paper*, (April 2014),4.

procurement projects and in fact they are zealously promoting and overrating the actual economic benefits that these reforms and industrial defence strategy can in reality attain.⁶⁶

The last section of research that is required to obtain a broader understanding of how military procurement really works within our Canadian government is a review of how political decisions are made, the effects of compromise within foreign and domestic defence policy and the reality of centralized power within our parliamentary structure. Works like *Political Management in Canada: Conversations in Statecraft* by Allan Blakeney and Sandford Borins, and Douglas Bland's numerous papers and comments regarding adequate defence policy development, the nature, understanding and interaction of military officers with authorities in key government positions as they relate to decision making provide a solid level of core background knowledge.⁶⁷ An excellent government backgrounder discussion paper called *Decision-Making in Government: The Role of Program Evaluation* by Peter Aucoin clearly annotates the fact that decision-making in cabinet "is currently highly centralized and integrated at the apex of government around the prime minister and his principal ministerial colleagues and trusted political and public service advisors. Strategic decisions on policy, program design, priorities, and resource allocation are driven by shifting combinations of political responsiveness to public demands and needs, implementation of the government election platform, and the personal policy agenda of the prime minister."⁶⁸ Aucoin goes on to reiterate regarding decision making within government; "The process has been dominated by the twin pillars of the priorities

⁶⁶ *Ibid.*

⁶⁷ Allan Blakeney and Sandford F Borins, *Political Management in Canada: Conversations on Statecraft* (Toronto: University of Toronto Press, 1998); Douglas Bland, "Parliament's Duty to Defend Canada," *Canadian Military Journal* 1, no. 4 (2000): 35–43, Douglas Bland, *Everything Military Officers Need to Know About Defence Policy-Making in Canada. In Canadian Strategic Forecast 2000: Advance or Retreat? Canadian Defence in the 21st Century*, edited by David Rudd, Jim Hanson, and Jessica Blitt, (Toronto, ON: Canadian Institute of Strategic Studies, 2000), 15–29., and Douglas Bland, Parliament of Canada, Testimony, 38th Parliament 1st Session, SCONDVA October 25, 2005.

⁶⁸ Treasury Board, Treasury Board of Canada Secretariat, Peter Aucoin, Discussion Paper, *Decision-Making in Government: The Role of Program Evaluation*, (Ottawa: October 2005), last accessed 16 June 2015 <http://www.tbs-sct.gc.ca/cee/tools-outils/aucoin-eng.asp>

of the government, as enunciated primarily by the prime minister, and the fiscal policies of the Finance portfolio.”⁶⁹ It gives a greater degree of awareness on just how interrelated and complex the procurement process can be with the machinations of political power and control over the actions of the Department of National Defence expenditures, policy and activities, including major capital acquisition.

Conclusion

Overall the initial survey of available literature related to defence procurement and capital acquisition has exposed a highly complex and convoluted bureaucratic process, one that is limited in its ability to react and adequately adapt to the operational requirements of the Canadian Armed Forces in its current structure. It is clear by the research provided that Canadian defence policy and the associated military procurement activities have been subjected to the influences of many competing forces. These include political favouritism, responsibility to alliance partners, economic concerns, geo-political and global activities and the changing landscapes of domestic politics. The review of the history and evolution of the procurement system in Canada from its earliest forms to the current Defence Procurement Strategy enacted in February of 2014 has revealed a potentially promising period of procurement reform and opportunity to advance the implementation of the stated goals; delivering the right equipment to the Canadian Armed Forces and the Canadian Coast Guard in a timely manner, leveraging our purchases of defence equipment to create jobs and economic growth in Canada, and streamlining our defence procurement processes.⁷⁰ The information and statistics gleaned from this literature survey will enable the author through effective observation of the stated positions to analyze and present a paper that will offer insight and review of the recently introduced DPS. The author will include recommendations and reformative measures for DPS including; a requirement for

⁶⁹ *Ibid.*

⁷⁰ Diane Finley, MP, Minister of Public Works and Government Services (Announcement of the Defence Procurement Strategy, Economic Club of Canada, Ottawa, Ontario February 5, 2014)

adequate and flexible budgetary allocations, conversation regarding the size and capacity of the acquisition workforce, assess the possible incongruent aims of closer engagement with industry and value for taxpayers money and the option of introducing a single point of accountability to improve streamlining of the capital procurement process. In support of the main thesis statement these additional reforms should be instituted to mitigate and improve the many procurement maladies that still prevail despite the introduction of the Defence Procurement Strategy, prolonging and limiting the opportunity for true and effective reform of the Canadian military acquisition process. The following chapter will provide a brief history of Canada's procurement structure, an introduction to procurement strategy and process and present information to indicate how our past structural and policy deficiencies have in many ways perpetuated the weaknesses within our procurement strategies that we have today.

CHAPTER 2: PROCUREMENT PROCESS

Procurement in Canada – Historical Context

As military historian Aaron Plamondon so succinctly notes: “For the majority of its history, Canada has been incapable or unwilling to properly equip its military.”⁷¹ This comment is a sad indictment of our military procurement system in Canada, and the challenges that have existed for many decades within our nation’s defence policy in providing the Canadian Armed Forces with the equipment they require in a timely and efficient manner. Plamondon goes on to point out the failure of successive governments and our ongoing inability as a country to develop and maintain an internal, nationally based manufacturing capability to design and create the required military equipment and associated infrastructure to support our Canadian Armed Forces. As a consequence, the government and the Department of National Defence have as a matter of routine been forced to source many procurement projects from foreign suppliers. One of the primary reasons on this reliance on off shore defence equipment procurement purchases is the limited domestic demand and extremely small number of companies that exist in the broader Canadian defence industry and potential lack of capacity to compete effectively and economically against the intense and much more experienced competition at the global level. In essence, countries with a large and highly skilled base of technologically advanced defence contractors whose companies have developed products that are market ready and proven provide economy of scale and remain commercially competitive within the domestic and global marketplace.⁷²

Our dependence on overseas suppliers often results in delays and difficulties during the procurement of military equipment and materiel, and despite the obvious fact that in the genesis of an armed force, providing the appropriate military apparatus is generally accepted as a must,

⁷¹ Aaron Plamondon, *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 15.

⁷² *Ibid.*, 16.

in Canada procurement clearly is not an efficient operation.⁷³ Ominously, in his book *Military Problems of Canada: A Survey of Defence Policies and Strategic Conditions Past and Present* published in 1940, C.P. Stacey pointed out; “Canadian history is full of warlike episodes, and they have proved on many occasions that they can be skillful and determined fighters; but few nations have shown more profound antipathy to the idea of military preparations in time of peace, or less interest in military affairs generally except in moments of emergency.”⁷⁴ As Dr. Aaron Plamondon accurately points out, “Nowhere has this lack of preparation been more obvious in Canada than in the field of weapons procurement.”⁷⁵ It is within this context that Canadians must realize that Canada’s ongoing record on procurement has been less than stellar. Even more troubling is the fact that for nearly this entire time period our nation’s military industrial base has had limited opportunity and political support to develop and mature through effective governmental crafting of an appropriate and truly functional defence policy, one that incorporates an effective and viable industrial strategy.

Although this paper is examining the specifics of procurement change and current procurement processes it will provide valuable background and context to look briefly at the structural changes within the broader span and control of the CAF at both the government and military level. Procurement and its ability to deliver must be implicit within the spectrum of these change initiatives. Change has the ability to affect a number of organizational entities; culture, structure, technology, the physical setting and its people. It is accepted that no one change approach is a one size fits all answer to remedy all the issues and this is true within the DND/CAF. Business leaders have long proposed to government the application of private sector

⁷³ Aaron Plamondon, “Casting off the Yolk: The Transition of Canadian Defence Procurement within the North Atlantic Triangle, 1907-53” (MA thesis, Royal Military College of Canada, 2001)

⁷⁴ C.P. Stacey, *Military Problems of Canada: A Survey of Defence Policies and Strategic Conditions Past and Present* (Toronto: Canadian Institute of International Affairs; Ryerson Press, 1940), 125-126.

⁷⁵ Aaron Plamondon. *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 16.

change theory for use within the CAF/DND as a means of achieving greater efficiencies and effectiveness. Early change initiatives of Helleyer (Unification and Integration), Macdonald's Management Review Group (MRG) followed by Collenette's Management Command and Control Re-Engineering Team (MCCRT) were all viewed as changes employing private sector methods and principles with aspirations of gaining improved operational effectiveness through increased administrative efficiencies. Although gains in administrative efficiency are applauded, in each of these initiatives a reduction in defence funding was provided by the government of the day.⁷⁶

Helleyer's Unification and Integration initiative that forced unification did not have cabinet or sufficient CAF Leadership support and despite CAF implementation and acceptance of the single CDS, the unification concept floundered. The peacetime Macdonald initiative (MRG) was a disaster as it looked only at "management efficiency" driven by businessmen and no context of "will it work in war" was promoted. Collenette's MCCRT came during the era of the so called "peace dividend", with the ruling Liberals seeking to reduce defence funding and maintain social programs. The January 1995 initiative had 3 main goals, a new headquarters organization for the DND/CF, re-engineer the DND from NDHQ down to the unit level, and identify resource management and support services that can be re-engineered to be done cheaper. However, the public sector management structure is risk averse by nature, preventing any radical alteration from status quo despite the aim of reducing NDHQ overhead by 33% and directing funds to operational resources. No corporate assessment by DND has been made to validate the MCCRT results and debate rages as to the real goals, downsizing or re-engineering.⁷⁷

⁷⁶ Michael Rostek, "Managing Change Within DND," in *The Public Management of Defence in Canada*, ed. Craig Stone, (Toronto: Breakout, 2009), 230.

⁷⁷ Michael Rostek, "Managing Change Within DND," in *The Public Management of Defence in Canada*, ed. Craig Stone, (Toronto: Breakout, 2009), 226.

In 2005 then CDS General Hillier's CF Transformation sought to make the CF more effective, relevant and responsive through excellence in operations both domestic and internationally. Hillier focused on 6 guiding principles; Canadian Forces Identity; Command Centric Imperative; Authorities, Responsibilities and Accountabilities; Operational Focus, Mission Command, and an Integrated Regular, Reserve and civilian structure within the CF. Hillier's Transformation saw the formation of an operationally focused command structure, and "dot com HQ's" such as Canada Command and Canadian Expeditionary Command were created, paying little attention to administrative efficiency. Interestingly these commands generated about 700 new positions, diametrically opposite to the restructuring goals of MCCRT.⁷⁸ Hillier's Transformation work was initiated in an era of increased funding by successive governments signalling support politically and socially allowing him to move ahead aggressively with his vision. Interestingly, Hillier's process was successful in procuring new equipment in a relatively timely manner during the Afghan conflict, providing increased support for operational tasking's and troops. At the beginning of the Harper government's term in office they were quickly able to acquire two much needed airborne transport platforms, the C130J and C17 large capacity airlift planes, along with a number of vital equipment pieces for Army support including: armoured vehicles, battle tanks, heavy trucks, Chinook helicopters, additional aviation contracted support and numerous refit projects to provide greater in theatre vehicle survivability.⁷⁹ But, overall in terms of organizational efficiency Hillier's CF Transformation saw limited success. The changing global economic landscape and end of Canada's Afghanistan war resulted in the alteration of Hillier's plans. Gen Leslie's 2011 transformational report indicated the need for Command Structure overhaul, resulting in the restructuring of Hillier's dot com's and a renewed multi-billion dollar austerity push within the DND/CAF. The government

⁷⁸ *Ibid.*, 228.

⁷⁹ Aaron, Plamondon, "Equipment Procurement in Canada and the Civil-Military Relationship." *Calgary Papers in Military and Strategic Studies*, 2 (2008).

has limited funding to the DND/CAF and again the transformational process has begun anew. Although many of the recommendations contained in General Leslie's report came with the caution that further validation would be required, it clearly indicated room for systemic improvement exists. Leslie advocated strongly that we must now moderate our military culture from status quo to "reduce the tail and invest in the teeth" to efficiently meet the defence needs of Canada's future.⁸⁰

One of a limited number of authors in Canada to argue that defence procurement is a vital component of Canadian defence policy is Dan Middlemiss. He states that: "It is what puts the 'arms' into the armed forces and because of the many (sometimes very large) contracts and jobs involved, it is also 'big business' in Canada."⁸¹ In 1988 John Treddenick noted that on the whole the relative impact of defence procurement within the Canadian economy was negligible, pointing out: "Total defence production accounts for considerably less than 1 percent of both gross domestic product (GDP) and total employment."⁸² Notwithstanding Traddenick's economic data, Middlemiss still has a valid comment, as we see even today in Canada there are large value contracts for defence industry companies to compete for. In the eyes of Canadians and more importantly the sitting government there are industrial and regional economic offsets, regional development, and employment concerns that can turn out to be more essential than the actual operational requirement for the military. Craig Stone also pointed out that, "Despite the relatively small impact to the overall economy, the dominance of domestic economic and

⁸⁰ DND, *Report of Transformation 2011*, Lt Gen Andrew Leslie, last accessed 6 July 2015, www.forces.gc.ca/site/reports-rapports/transfo2011/_doc/Report_on_Transformation_2011_eng.pdf

⁸¹ Dan Middlemiss, "Defence Procurement in Canada," in *Canada's International Security Policy*, ed. David B. Dewitt and David Leyton-Brown (Scarborough: Prentice Hall, 1995), 391.

⁸² John Treddenick, "The Economic Significance of the Canadian Defence Industrial Base," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund (Kingston: R.P. Frye, 1988), 42.

political considerations in Canadian defence capital spending, to the relative neglect of security or strategic military factors, is the normal defence climate in Canada.”⁸³

But what is the background and historical context under which this misguided system of military procurement has languished and continues to be seen as inadequately serving our military? If we look back at only a small segment of our procurement history we can determine that our procurement ancestral past was rampant with political cronyism, patronage contracts to party loyalists and beset by poor decision making at the highest levels of government. For much of the early decades of the 20th century private companies had little faith in military contracts. As a consequence the government was forced into operating munitions assembly factories, (which used expensive imported British made bullets and other materiel) heavily subsidizing other weapons contracts, and often seeing poorly designed and overpriced equipment such as the Ross Rifle and numerous clothing and footwear materiel discarded by the troops as virtually useless pieces of kit.⁸⁴ As a precursor to some of today’s modern acquisition debacles and indicative of the complexity and seemingly bizarre nature of procurement from a contractual and financial perspective the Ross Rifle makes for interesting case study. Soldiers in on the battlefields of World War One jettisoned the Canadian government issued but malfunctioning Ross Rifles in favour of the more reliable British rifles.⁸⁵ But in an even more portentous turn of events signifying the level of politics involved, Sir Charles Ross the firms owner, successfully sued the Government of Canada for a sum of \$3 million dollars. The Deputy Minister of Justice at the

⁸³ Craig Stone, “*Procurement in the 21st Century: Will the Present Process Meet the Requirement?*” article submitted for the RMC War Studies Occasional Paper Series, 1999; In addition see James Fergusson, “In Search of a Strategy: The Evolution of Canadian Defence Industrial and Regional Benefits Policy,” in Martin, *The Economics of Offsets*, 108.

⁸⁴ As noted in R.G. Haycock, “Early Canadian Weapons Acquisition: ‘That Damned Ross Rifle,’” *Canadian Defence Quarterly* 14, 3 (Winter, 1984-85): 48-57, R.G. Haycock, “*Policy, Patronage, and Production: Canada’s Public and Private Munitions Industry in Peacetime, 1867-1939*,” in *Canada’s Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund (Kingston: R.P. Frye, 1988), William Johnston, “Canadian Defence Industrial Policy and Practice: A History,” *Canadian Defence Quarterly* 18, 6 *Special no. 2* (June 1989): 21.

⁸⁵ George Stanley, *Canada’s Soldiers: The Military History of an Unmilitary People*, (Toronto: MacMillan, 1974), 317.

time informed the government that as a result of the ambiguity of his contract his suit was justified. Eventually, Ross received \$2 million dollars as part of an out of court settlement, even though his Rifles were clearly sub-standard and not suitable for the rigours of battle.⁸⁶ If this disturbing account of our government breaking a procurement contract and subsequently handing over money to defence contractors sounds familiar it should, because it has happened again in 1993 when the Liberal government of Jean Chretien cancelled the previous Conservative governments contract for 50 EH-101 helicopters which were procured to replace the aging Sea King and Labrador helicopters. As compensation to E.H. Industries Ltd. and Paramax Canada the Liberal government agreed to compensate the two contractors nearly 500 million dollars for work already completed.⁸⁷ Canadians could clearly see by this debacle that our procurement system was ineffective and often a poor use of tax payer dollars.

It was within this environment of contractual favouritism, procurement disinterest, government ineptitude, and the defence requirements of two World Wars and the Korean conflict that the procurement process sought development. From its early beginnings in 1940 during the war years and initially known as The Department of Munitions and Supply (DMS), this department was allocated extensive authorities via emergency legislation. DMS held control over purchases, sales, rations, allocations, setting the prices of vital provisions and overall management of precedence. In summary, the DMS was sanctioned to supervise and direct war production requirements in any manner required in sustaining maintenance of the war endeavours.⁸⁸ After a series of internal re-organizations recognizing the end of the war and no longer requiring special emergency powers, DMS became known as the Department of

⁸⁶ Haycock, *“Early Canadian Weapons Acquisition,”* 55.

⁸⁷ Canadian Press Article, \$1.7B already spent on troubled Cyclone helicopters, *CBC News*, Jan 10, 2014 last accessed June 22, 2015 at <http://www.cbc.ca/news/canada/nova-scotia/1-7b-already-spent-on-troubled-cyclone-helicopters-1.2491268>

⁸⁸ Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 6. See also, “Administrative History,” *Department of Defence Production Fonds, LAC, RG49M 69/9157* found at <http://www.collectionscanada.gc.ca/>

Reconstruction and Supply and all military acquisitions were now the purview of the Minister of Trade and Commerce. The Minister utilized a civilian operated purchasing department called the Canadian Commercial Corporation (CCC) to look after requirement details, sourcing equipment, tendering contracts, and verification of materiel delivery.⁸⁹ This format existed until the commencement of hostilities in the Korean Peninsula in 1951 and to respond to the requirement for a larger defence department a Department of Defence Production (DDP) was created. This department acted as buyer on behalf of the government in the area of military procurement, while also responsible for inspections, construction and obtaining defence supplies and projects for the Department of National Defence. Additional reform occurred in 1963 when DDP responsibilities were relocated to a newly formed Department of Industry (DOI), who subsequently introduced the Canadian Government Purchasing, Supply and Repair Services. Additional changes occurred as the Cold War receded; DDP was formally replaced by the Ministry of Supply and Services in 1969.⁹⁰

The next significant and profound changes to the military procurement structure transpire after the report of the 1972 Liberal governments Management Review Group (MRG) was released under the direction of then MND Donald Macdonald.⁹¹ It dramatically altered the procurement landscape and recommended the every department in charge of military research, engineering, and procurement would be merged beneath the direct control of a single Assistant Deputy Minister, Materiel (ADM Mat). Furthermore, the desired candidate to carry out this important Assistant Deputy Minister portfolio was expected to be a civilian with a significant

⁸⁹ See "Procurement Service Concepts," a presentation by R.M. Brophy, Deputy Minister, Department of Defence Production, to the *Industrial College of the Armed Forces*, Washington, DC, 12 December 1952, Accessed at <https://digitalindulibrary.ndu.edu/cdm/compoundobject/collection/icafarchive/id/2749/rec/4>

⁹⁰ Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 6.

⁹¹ Michael Thompson, *The Quest for Control in Canadian Defence Policy: The Evolution of Defence Management and Organization, 1963–1972*, (PhD Thesis Paper, Doctorate of Philosophy in History, University of Ottawa: Ottawa, Canada, 2014), last accessed on May 17, 2015 at https://www.ruor.uottawa.ca/bitstream/10393/31844/1/Thompson_Michael_2014_thesis.pdf

level of knowledge within the manufacturing and business setting. The MRG report advocated DND should retain exclusive control over the procurement of military equipment as a direct result of the complex nature and expenditures involved complexity and cost, and unambiguously were to be managed under the direction of newly created ADM rather than the Department of Supply and Services. As part of the massive structural changes that the Macdonald report enacted in 1972, all sections of the civilian components and military members within DND and Canadian Forces Headquarters were incorporated into an innovative composite structure now located in Canadian National Defence Headquarters (NDHQ). The newly created position of ADM Mat was fashioned inside the new managerial structure at NDHQ, and held responsibility for the effective planning of equipment and logistics requirements, but in addition the portfolio also was accountable for the management of the individual contracts, with the expected goal of enhancing the progress of efficient procurement.⁹²

The government's establishment in 1993 of the Department of Public Works and Government Services Canada (PWGSC) saw the amalgamation of the following departments: Public Works Canada, the Translation Bureau, Supply and Services Canada, and the Government Telecommunications Agency. PWGSC after merging became the government's primary banker, accountant, central procurement department, linguistic management, and real property manager.⁹³ PWGSC has continued to act as the primary purchasing agency for the Government of Canada since its inception back in 1993. The establishment of the singular PWGSC agency resulted in the elimination of requirement for unique guidelines that distinguished military equipment procurement from any other Government of Canada acquisitions.⁹⁴ Writing in

⁹² Pierre L. Lagueux, ADM Mat, DND, presentation in House of Commons to SCONDVA, 2 March 1999, Last accessed Jun18, 2015 at <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1039296&Language=E&Mode=1&Parl=36&Ses=1>

⁹³ Full info available on the PWGSC website at <http://www.tpsgc-pwgsc.gc.ca/lr-ar/index-eng.html>

⁹⁴ *Ibid.*

Canadian Defence Quarterly, A. Crosby pointed out regarding an integrated purchasing structure, “that is quite different from what you’ll find in many other countries around the world, such as the United States, Great Britain, and so on, where their department of defence has specific procurement authorities and specific rules.”⁹⁵ Despite the fact that there continues to be an ongoing evolution of our defence procurement process since the introduction of the PWGSC back in 1993, the acquisition of Major Crown Projects (considered to be over \$100 million dollars in value) contains a number of basic fundamentals that are still applied.⁹⁶

Procurement Strategy and the Process of Procurement

The procurement of military equipment in Canada has consistently presented numerous roadblocks for our Canadian Armed Forces, and indeed the Government of Canada. The acquisition of costly, often delayed, technologically complex military apparatus that is seemingly under constant modification and improvement has stymied many cash strapped governments as they struggle to manage the ballooning costs of defence procurement.⁹⁷ Of interest, in the late 1980’s the Defence Industrial Preparedness Taskforce (DIPTF) noted that due to the increasing technical complexity of modern weapons systems the lead times required from notification of capability deficiencies, to ongoing research and development, and eventual operational status of new equipment would be significantly longer. In particular, discussions arising from the Revolution in Military Affairs (RMA) indicated that this concept will affect the procurement of all military components and is especially concerning in those weapons controlled by modern computer based technologies where advances in software and computer technology are occurring much faster than the ability of defence procurement policies to adapt to.⁹⁸ In the current operational milieu that our Canadian Armed Forces operate the 10-15 year acquisition times for

⁹⁵ A. Crosby, "Project Management in DND", *Canadian Defence Quarterly*, 18:6, *Special No.2*, (June 1989), 59-63

⁹⁶ Dan Ross, ADM Mat, Testimony, 39th PARLIAMENT, 2nd SESSION FEBRUARY 2008

⁹⁷ Dave Perry, “Putting the Armed Back into the Canadian Armed Forces, Improving Defence Procurement in Canada”, *CDAI Vimy Paper 21*, (January: 2015), 9-11.

⁹⁸ Craig Stone, *The Public Management of Defence in Canada*, (Toronto: Breakout Education Network, 2009), 94.

military procurement will not be appropriate to meet the needs of our military as we move deeper into the 21st century and the ability to adapt, be flexible and shorten the military procurement process will be fundamental to the security of our nation.

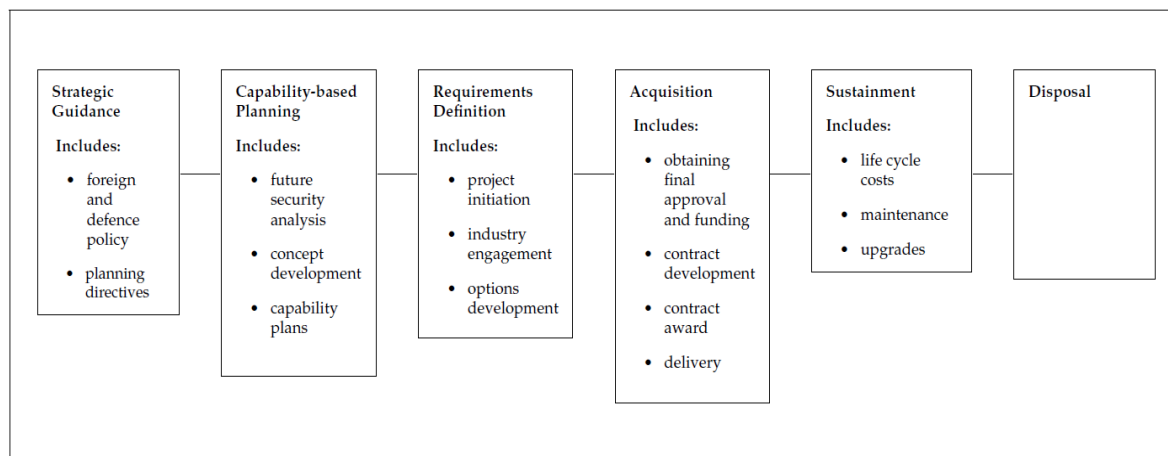


Figure 2.1: A Simplified Force Development Process
Source: Craig Stone, CIGI Papers no. 22 - January 2014

In order to effectively speak to defence procurement and its relationship to that country's defence industry establishments, conversations must commence with an awareness of how countries determine procurement requirements. In Allied and Western countries such as Canada this process is known as Force Development or Capability Development. Acquisition choices and industry contracts are awarded from factors derived from inside this overall process. Figure 2.1, shown above prepared by Craig Stone presents the Canadian military's Force Development Plan, indicating the major issues and determinations that are required in order to adequately establish the capability required for procurement.⁹⁹ Capability development is considered imperative by all military forces and is where all procurement planning commences. It is critical to note that military assets that a country will procure in the future are inherently determined by

⁹⁹ Craig Stone, "Canadian-Australian Opportunities for Defence Procurement and Industry Cooperation", *CIGI Papers no. 22*, (January 2014), 6-7.

an effective capability planning process.¹⁰⁰ In Canada this capability planning process is explained and located within the *DND Capability Based Planning Handbook Ver6.2*.¹⁰¹ As indicated in Figure 2.1 the real procurement process is embarked on after capability-based planning has identified the definitive materiel requirement. Once that actual requirement has been determined the acquisition phase of the capability based planning process is set in motion.¹⁰²

Procurement occurs via funding provided by governments and their elected politicians who have limited comprehension of the functions and equipment requirements of the military and must redirect taxpayer dollars away from other more socially acceptable agencies like education and healthcare to provide scarce financial resources to defence procurement. Therefore governments aim to realize a number of additional non-defence objectives concurrently from the same procurement funding dollars. Procurement is intrinsically a very risky process, handled by governments and politicians that for the most part are extremely risk adverse. For this reason it is to a certain extent surprising that this process can deliver at all. Nevertheless, government procurement does deliver, but in a very inefficient and protracted style.¹⁰³

A drawback of the former Defence Management Procurement System and its associated Defence Management System process remains the friction between the military's external determinants and government's domestic determinants. All defence contractors aspiring to win major procurement contracts must be able to provide industrial and regional benefits within Canada to be considered as contenders. Unfortunately, as our military is relatively small, Canada has a minimal domestic defence industrial base and relies instead on larger foreign companies.¹⁰⁴ In the longer term this reliance on external providers for our military needs may result in

¹⁰⁰ *Ibid.*

¹⁰¹ Department of National Defence, *Capability Based Planning Handbook Version 6.2.*, (Canada: 2010).

¹⁰² Stone, *Canadian-Australian Opportunities...*, 7.

¹⁰³ Pierre Lagueux, "A National Defence Acquisition Strategy", *CDAI Vimy Paper 1*, (April 2006), 20.

¹⁰⁴ Craig Stone, *The Public Management of Defence in Canada*, (Toronto: Breakout Education Network, 2009), 98.

increased costs or reduced capabilities in procuring required systems and equipment for our relatively small military infrastructure, possibly lengthening procurement timelines.

Reviewing Canada's military procurement process the Auditor General noted in 1992 that the Defence Programme Management System (DPMS) was ineffective, cumbersome and expensive due to the resources required to manage all the steps in the procurement process. The criticism noted by the AG resulted in DPMS changing to the Defence Management System (DMS), the government adopting the Expenditure Management System (EMS) in 1995 and along with the Defence 2000 initiative, provided the military with a strategic strategy to promote continuous improvement within the DND/CF in how it manages its operations, supports defence missions and taskings and utilize resources far more effectively. The AG identified that DPMS took on average 17 years from initial proposal to Treasury Board approval, clearly dysfunctional, heavily process driven, and overly bureaucratic.¹⁰⁵

In 2001 a plan was conceived to shorten the acquisition time for military procurement by 30% from initial project approval to operating capability. The baseline template was 15.8 years and it was determined that the biggest time loss was getting project approval, accounting for over half of the project timeline. A major issue is that project approval of military procurements requires other government agency approvals, and depending on the size of the project can take exceedingly lengthy periods of time. Projects of more than 1 billion dollars take on average 12 years to get approved, and almost all major military weapons systems reach this threshold. The new target for military procurement projects is 9 years, but even this ambitious target is doubtful as research indicated that 13% of all projects required multiple approvals due to funding amendments and scope of project changes. A new goal attempts to see the project go from

¹⁰⁵ Stone, *The Public Management of Defence in Canada...*, 100.

identifiable problem to approval in principle within 3 years, but a potential problem on the horizon is whether industry can meet these shortened timelines for procurement.¹⁰⁶

DND should leverage commercial off the shelf equipment suitable for military use, incorporate advances in technology and manufacturing, greater use of contractor supply and maintenance contracts, minimize bureaucratic overhead, to continue to reduce procurement timelines on major projects.

Former ADM Mat Pierre Lagueux in the inaugural CDAI Vimy Paper 2006 presented his opinion that as core requirements, a defence procurement strategy must meet at a minimum the following main goals; the military's equipment must align with both approved and clear operational needs, equipment must arrive in a timely fashion, the procurement must offer the best value for the money, the associated acquisition risks must be shared collectively with industry. Lastly, but filling a pivotal role, the procurement strategy also has to incorporate the government's capacity to leverage additional and meaningful broader goals including industrial and regional benefits, employment and economic gains and technology inputs. He went on to speak passionately regarding the inherent risks involved with major capital procurement. Indicating that inadequate analysis and recognition of the overall risk intrinsic within huge defence acquisition projects is the principal explanation as to why countless major capital purchases have extended timelines and are so expensive to undertake.¹⁰⁷

Interestingly, Lagueux's comments on procurement strategy although similar are not completely in sync with his direction before a parliamentary committee in March of 1999 when he was ADM Mat. Speaking before the Parliamentary SCNDVA Committee regarding the government's desired procurement strategy objectives he testified; "As I said, they apply to DND, as well as to all government departments. They are in ranked order. The first objective is

¹⁰⁶ *Ibid.*, 103.

¹⁰⁷ Lagueux, *A National Defence Acquisition Strategy*..., 20.

to meet the operational requirements through a competitive, fair, and accessible approach; that is, the best value for money. The second objective is to promote long-term industrial and regional benefits. Third is to achieve other national objectives. Lastly, and a more recent addition to the objectives, is to assist Canadian firms in becoming competitive in domestic and world marketplaces. Obviously, the most important objective is at the top, which is to meet operational requirements and the other objectives flow after that.”¹⁰⁸

It is interesting to note that back in 1999 there was no mention by the former ADM Mat of actually aligning procurement with the operational requirements of the CAF, or even any consideration of procured equipment arriving in a timely manner, and there is no recognition of any associated risk sharing with industry. Lagueux’s 2006 Vimy Paper article is more closely aligned with the former Conservative governments recently introduced Defence Procurement Strategy which has its spotlight on delivering the correct equipment to the CAF in a timely fashion, leverage the procurements to generate other economic and employment opportunities, streamlining the process while proposing early engagement with industry and creating improved opportunities for Industrial and Technological benefits. (ITB) These Industrial and Technological benefits which within the new Defence Procurement Strategy are a revision of the former Industrial regional benefits and are associated with the economic term offsets will be discussed in greater detail later in this paper.

In looking at exactly what constitutes a procurement strategy it will be beneficial to look at the policy directly from PWGSCs own policy guidelines. These policy guidelines stipulate that a procurement strategy delineates in basic form how goods, services, or construction are to be procured. The strategy will also contain at the utmost level, the resolve to progress in a competitive or non-competitive manner, and any known information that could support

¹⁰⁸ DND, Pierre L. Lagueux, ADM Mat, presentation to SCONDVA, 2 March 1999, Last accessed Jun18, 2015 at <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1039296&Language=E&Mode=1&Parl=36&Ses=1>

industrial and regional economic benefits and any additional worthwhile national aims. The strategy can be relatively simple as in the application of a standing offer or involve great detail and level of complexity like that of the Major Crown Projects.¹⁰⁹ The implementation of any procurement strategy commences with an initial consultation between PWGSC and the potential client agency. The development of an effective procurement strategy is a vital first step as it directs the scope of requirement and identifies the level of competition expected. At this stage it is mandatory that any strategy adhere to the governments guiding principles of meeting the client's operational needs, be compliant with all legal obligations, obtain the best possible value for money, and promote other national goals as directed.¹¹⁰

Structurally, within DNDs capital acquisition project management process there are five primary phases, and these are carried out in sequence to commence any MCP capital procurement. From beginning to project completion, decision points are incorporated and prior approval must be received before commencing to each successive phase of any project. This process confirms DND is obtaining the required materiel it actually needs and is compliant with all government regulations.

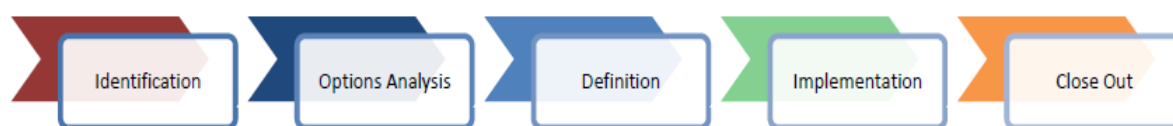


Figure 2.2: DND Five Phases of Capital Project Management

Source: DND Project Approval Guide, 2008/Samson and Associates, PWGSC 2013

As indicated in Fig. 2.2 above the Department of National Defence has classified its Capital Acquisition Project Management into five separate and distinct phases as a component of

¹⁰⁹ PWGSC, Procurement Strategy Guidelines, last accessed June 25, 2015 at <https://buyandsell.gc.ca/for-government/buying-for-the-government-of-canada/plan-the-procurement-strategy>

¹¹⁰ *Ibid.*

the planning and acquisition measures.¹¹¹ The first phase of the capital project management process is referred to as the Identification Phase. It is at this stage where a specific capability deficiency is determined; it is referred to as the Statement of Capability Deficiency (SOCD). After a deficiency is identified it then must be directly associated with a defined government policy. It is at this phase where production of a Statement of Requirement (SOR) and project charter begins, along with possible remedies and drafting of a rough order of magnitude (ROM) estimate of projected costs which outlines in broad terms potential futures expenditure requirements. Level One authority (Commander of a Command) from the appropriate command is required to permit the project to continue to the next phase.¹¹²

The second phase is called the Options Analysis Phase. It is at this phase where a complete analysis of all possible options occurs, viability studies are initiated, and a fine-tuning of the Statement of Requirement is embarked on.¹¹³ At this point a market assessment is carried out along with initiating research and development, a review of available pricing and industrial capacity is actioned. Then an estimate of costs for each and every one of the options within the acquisition phase is completed. If by virtue of the security level of the project an application for exemption under the National Security Exemption is required it could be initiated at this stage. To proceed to the next phase approval is obtained from the MND or if the project exceeds a value of more than \$30 million dollars it must receive Treasury Board authorization.¹¹⁴

¹¹¹ Department of National Defence, “Diagram of Project Management Phases” DND Project Management Approval Guide (Ottawa: Department of National Defence, 2008) Para 2.1.4.

¹¹² Elgin R Fetterly, “Arming Canada: Defence Procurement for the 21st Century” (Doctor of Philosophy thesis, Royal Military College of Canada, 2011), 231-232.; Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 8-12. ; PWGSC, Procurement Strategy Guidelines, last accessed June 25, 2015 at <https://buyandsell.gc.ca/for-government/buying-for-the-government-of-canada/plan-the-procurement-strategy>

¹¹³ PWGSC, Statement of Requirement, last accessed June 21, 2015 at <http://www.tpsgc-pwgsc.gc.ca/biens-property/sngp-npms/bi-rp/livra-deliv/exigences/requirements/index-eng.html>

¹¹⁴ Fetterly, *Arming Canada: Defence Procurement for the 21st Century*...231-232.; PWGSC, Procurement Strategy Guidelines, last accessed June 25, 2015 at <https://buyandsell.gc.ca/for-government/buying-for-the-government-of-canada/plan-the-procurement-strategy> ; Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*...8-12.

The Third Phase is known as the Definition Phase and at this phase the primary goal is to attain a completed Statement of Requirement and what is referred to as a substantive cost estimate, valid for the favoured option. Embedded in this phase is the development of a set of comprehensive system and component designs. In addition a substantive cost estimate is produced incorporating the expected ongoing personnel, operations and maintenance costs associated with the implementation of the project. It also incorporates a review of existing and accessible technology, better known as commercial off the shelf products, appraisal of budget projections, project logistics and support needs; and industrial and technical benefits as delineated from Industry Canada. A critical component of this process is the capability to understand and be aware of the risks and ambiguity of procurement and its possible effects on overall project expenditures. For this reason, the identification of potential risks and the implementation of an appropriate plan to assist in mitigation is a critical component of project planning. A timeline document of project milestones should be prepared as a component of this phase. Lastly, in order to receive Effective Project Approval (EPA) from the Minister or Treasury Board and be granted authority to proceed to the next phase, an effective and solid implementation plan for the project must be created.¹¹⁵

The fourth phase in the capital acquisition project process is the Implementation Phase, which is linked to the delivery of capital equipment. The primary aim of this phase is to manufacture, to the fullest possible extent, the required specific equipment or desired capability in a timely manner and within the acceptable financial limits of the agreed contract. This could include also creating the required infrastructure, necessary training of personnel who will be the

¹¹⁵ Fetterly, *Arming Canada: Defence Procurement for the 21st Century*...231-232; Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*...,8-12.; PWGSC Procurement Strategy Guidelines, last accessed June 25, 2015 at <https://buyandsell.gc.ca/for-government/buying-for-the-government-of-canada/plan-the-procurement-strategy>

end users of the procured equipment and scrutinizing all areas of the acquisition as well as ensuring the proper delivery.¹¹⁶

The fifth and final phase is called the Close Out phase, and as the name implies it deals with closure of the project. The primary goal of this phase is to make certain that the delivered equipment obtains complete operational capability and is actively in use by the unit who requested it. At this phase a detailed chronological history of the entire project should be documented. Included in these reports would be any valuable lessons learned and also expresses opinions on how to improve and render the capital acquisition process more efficient in future procurements.¹¹⁷

The procurement of defence equipment in Canada is a multifaceted process involving numerous federal government departments and agencies, including the Department of National Defence (DND), Public Works and Government Services Canada (PWGSC), Industry Canada and the Treasury Board of Canada Secretariat.¹¹⁸ Individual departments and agencies are accountable for different phases of the defence procurement process. This multi-organizational system of defence acquisition is a uniquely Canadian approach to procurement.¹¹⁹ PWGSC is the Government of Canada's primary procurement department as acknowledged by DND.¹²⁰ The *Defence Production Act* gives sole authority to purchase defence products required by DND to

¹¹⁶ Fetterly, *Arming Canada: Defence Procurement for the 21st Century*...,232.; PWGSC Procurement Strategy Guidelines, last accessed June 25, 2015 at <https://buyandsell.gc.ca/for-government/buying-for-the-government-of-canada/plan-the-procurement-strategy> ; Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*...,8-12.

¹¹⁷ Fetterly, *Arming Canada: Defence Procurement for the 21st Century*..., 232; Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*...,8-12.

¹¹⁸ Public Works and Government Services Canada (PWGSC) at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmpp/sskt-eng.html>, See also Aaron Plamondon, "Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present," *Calgary Papers in Military and Strategic Studies*, Occasional Paper No. 2, Centre for Military and Strategic Studies, University of Calgary, (2008); Craig Stone, "Defence Procurement and the Need for Disciplined Capital Investment," in Craig Stone, ed., *The Public Management of Defence in Canada*, Breakout Education Network, Toronto, 2009, pp. 93–109; and Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside*, (McGill-Queen's University Press: Montréal/Kingston, 2006).

¹¹⁹ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, Library of Parliament, Canada, (October 2014)

¹²⁰ Department of National Defence, found at <http://www.forces.gc.ca/en/business-how-to-do/government-defence-procurement.page>

PWGSC.¹²¹ Both departments have settled on a separation of responsibilities to provide the procurement of goods and services and to ensure the quality of materiel and services related to military specifications obtained for DND.¹²² The *PWGSC Supply Manual* clearly spells out PWGSC's function and responsibilities during the procurement course of action. PWGSC during the definition of technical requirements and procurement development phases is accountable including other duties to:

- Contribute in the evaluation and refinement of the Statement of Work and the development of the technical bid assessment plan;
- Calculate industrial capability;
- Categorize the main contracting policies that have to be considered in achieving the procurement; and
- Create the contracting approach.¹²³

Nonetheless, while DND and PWGSC are communally engaged in each stage of the defence procurement procedure, both organizations maintain individual “lead” tasks. PWGSC, exercises responsibility for the establishment of the procurement plans, the solicitation and assessment of proposals, and both procedure and administration of contracts.¹²⁴ DND retains responsibility to define operational and technical requirements, the creation of the procurement document (requisition), inspect and select all defence products, and ensure the completion of after delivery appraisals.¹²⁵ In summary, DND determines what the requirements are for their defence materiel, but accountability for contracts and acquisition of that materiel belongs to PWGSC.

¹²¹ PWGSC, “Chapter 1 – Public Procurement,” in *Supply Manual*, Version 2014-4 (effective 25 September 2014), Article 1.20.10.

¹²² PWGSC, *Supply Manual* “Chapter 1 – Public Procurement,” Annex 1.1.2.1 and Annex 1.1.2.2,

¹²³ PWGSC, *Supply Manual* “Chapter 1 – Public Procurement,” , Matrix of Responsibilities at <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/1/1/1>

¹²⁴ PWGSC, *Supply Manual* “Chapter 1 – Public Procurement,” , Matrix of Responsibilities at <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/1/1/1>

¹²⁵ *Ibid.*

In the Canadian model of multi-organizational defence procurement no individual department or minister is in charge of the entire process. But, with the new Defence Procurement Strategy a Defence Procurement Secretariat was formed within PWGSC to watch over the defence procurement system and to synchronize the running of the strategy within the numerous departments involved in the process. This Secretariat reports directly to the Deputy Ministers Governance Committee (DMGC), chaired by a member from PWGSC. The DMGC is comprised of deputy ministers from a number of departments and agencies and depending on the procurement project would include DND, Industry Canada, Trade and Development Canada, Foreign Affairs, and Fisheries and Oceans Canada. The DMGC is in fact the primary decision-making group for defence procurement in Canada. The DMGC then offers direction on defence procurement issues to a Working Group of Ministers; presided over by the Minister of PWGSC. Included in the Working Group of Ministers are the Minister of National Defence, Industry, Foreign Affairs, Trade and Development, and Fisheries and Oceans. This Working Group of Ministers was created “to ensure shared accountability in defence procurements” and “act as the forum for discussion, advice and to resolve issues in the implementation of major procurement projects.”¹²⁶

As a summary of the capital equipment project management process, it can be noted from the material presented that it is a well-intentioned and long established process. A number of problems arise out of the fact that within defence acquisition in Canada there are so many players and government agencies involved, and the sheer number of steps undertaken between the start and finish of every project greatly complicates the entire process.¹²⁷ As noted above, Dave Perry points out several government departments have an interest in defence procurement and are involved in the acquisition of defence equipment in Canada. These include but are not limited to

¹²⁶ PWGSC, Defence Procurement Strategy. *Streamlined and Coordinated Decision-Making* at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/streamlined-eng.html>

¹²⁷ Fetterly, *Arming Canada: Defence Procurement for the 21st Century...*, 234.

the Department of National Defence (DND), the Canadian Armed Forces (CAF), Public Works and Government Services Canada (PWGSC), Industry Canada, the Treasury Board Secretariat (TBS), the Privy Council Office (PCO) along with a miscellaneous collection of both foreign and domestic defence contractors. Perry goes on to say he believes that one of the present flaws in our procurement process is the fact that there is no government wide performance review of the overall effectiveness of our procurement system. For this reason it might be adding to the lack of agreement as to what specifically has created problems on certain projects, but more disturbing is the lack of consensus on what conditions need to be developed to further procurement success.¹²⁸

To provide further clarity on the Basic Fundamentals of the Major Crown Project (MCP) Procurement Process, the table below includes the twelve basic fundamental steps for the procurement process.¹²⁹

Table 2.1 Basic Fundamentals of the Major Crown Project (MCP) Procurement Process

The Canadian Armed Forces identify a capability deficiency.
The CAF institutes capability requirements to deal with the deficiency.
The Department of National Defence (DND) validates the capability is warranted by defence policy and allocates the capital funds and other resources essential to commence the Major Crown Project (MCP).
The Minister of National Defence (MND) supports the MCP and presents it to Cabinet, seeking Approval-in-Principle.
The MND presents the MCP at Treasury Board (TB) in search of Preliminary Project Approval

¹²⁸Perry, *Putting the Armed Back into the Canadian Armed Forces...*, 4.

¹²⁹ Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 7-12.

and Expenditure Authority to embark on the project.

Upon obtaining Cabinet Approval-in-Principle and associated Expenditure Authority have been approved, DND creates a project team, encompassing DND, Public Works and Government Services Canada (PWGSC) and Industry Canada (IC) employees who collectively engage with the defence industry companies to carry out the Project Definition Phase, this delineates quantity, location, and category of equipment, how it is to be operated, human resources, operating, maintenance and support costs, contract agreement Terms and Conditions and Industrial and Regional Benefits (IRBs), now under DPS known as Industrial Trade Benefits (ITB's).

Once MCP Project Definition has been concluded, the MND goes back to Cabinet requesting Effective Project Approval to commence the Implementation Phase.

Upon obtaining Cabinet approval, the MND seeks Treasury Board approval for additional expenditure authority to proceed with the project and issues a Request for Proposal (RFP) to be tendered externally to industry.

As soon as Effective Project Approval and Expenditure Authority are approved PWGSC formally releases the RFP and, upon receipt of qualified bids within the RFP timeframe commences the process of bid evaluation.

Bids are assessed by alignment with pre-determined criterion and completed in three separate stages; technical (by DND, contract Terms and Conditions (by PWGSC) and Industrial and Regional Benefits IRBs (replaced by Industrial Technical Benefits ITBs in the new DPS) by

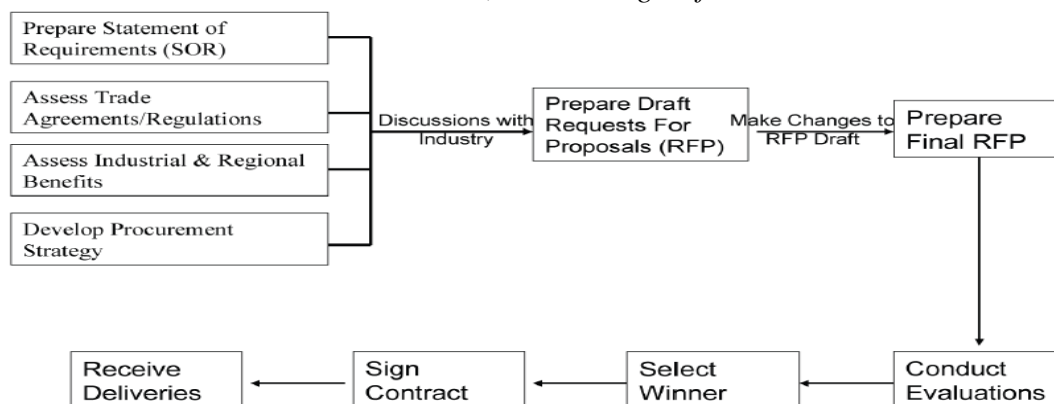
Industry Canada. An analytical evaluation of alignment with all components for each bid establishes the successful company.
Final Approval for Contract Award from Cabinet is requested and when obtained PWGSC awards the winning bidder the contract on behalf of the government.
From this point on, DND takes on overall liability for overseeing project implementation assisted by PWGSC and IC staff as required through final project conclusion.

Source: Plamondon, *The Politics of Procurement* ...7-12.

The author has presented background information on what constitutes a procurement strategy, provided a review of the basic fundamentals of the procurement process and introduced the phases of the Capital Acquisition Management Process. Figure 2.3 indicates the flow of the procurement process from the initial SOR through to the delivery of the project materiel.¹³⁰

Figure 2.3: Major Steps in the Procurement Process

Source: Williams, *Reinventing Defence Procurement*.38.



¹³⁰ Alan S. Williams, *Reinventing Canadian Defence Procurement: A View from the Inside* (Queen's School of Policy Studies, 2006) 38.

In the case of all Major Crown Projects, both a multi-departmental Project Management Office and Senior Project Advisory Committee (SPAC) are established to comply with Treasury Board policy. The multi-departmental Project Management Office has a number of specialized professionals who evaluate and assist with providing the appropriate way ahead on procurement strategy. Its membership as noted previously includes PWGSC and other government agencies and departments like the Privy Council, Industry Canada, Human and Resources Development Canada, Indian and Northern Affairs, Environment Canada, and the National Research Council. The primary factor and main concern for the DND in this procurement process is the military capability of the equipment it is acquiring, the other external departments and agencies that are part of the process have other expectations including regional and industrial benefits and the creation of jobs for Canadians.¹³¹

Former Assistant Deputy Minister of Materiel (ADM Mat) Mr. Dan Ross, presented testimony in 2007 to the Standing Committee on National Defence indicating that ADM Mat is moving to a performance based best-value competitive strategy, one in which industry is given wide ranging, high-level, compulsory performance requirements and asked to propose their solutions. This planned new structure will also strive to guarantee that there will be a singular point of accountability inside the performance based procurement process. This process identifies a particular principal contractor who will be accountable for the both supply of the equipment and will also be liable to ensure the successful functioning of that particular equipment over its lifecycle. Lastly, and whenever possible Ross asserts that the alternative choice of acquiring established commercial off the-shelf (COTS) equipment, rather than taking the risks associated with developing new or job specific technologies should at all times be an

¹³¹ Aaron Plamondon, *The Politics of Procurement Military Acquisition in Canada and the Sea King Helicopter*, (Vancouver: UBC Press, 2010), 6.

option.¹³² The Assistant Deputy Minister went on to emphasize to the Committee that, although these proposals are projected to enhance the current procurement model, they are not designed in any manner or have any intention to bypass or evade the regulations, policies and procedures currently enacted by Treasury Board and Parliament. He added that departmental and interdepartmental authorization and oversight procedures are not affected and contain the same requirements. Assistant Deputy Minister Ross pointed out the basic doctrine of fairness, openness, and transparency has not been altered and remains the foundation of the procurement process.¹³³

As Andrew Godefroy noted; nearing the end of almost ten years of military obligation to combat, counterinsurgency, and regional stabilization missions during the Afghanistan conflict and in other areas, the Canadian government back in 2010 commenced a modification of our national security and economic policies that in due course lead to a significant reduction in the overall funding devoted to the Department of National Defence. A preliminary directive was presented to the DND to initiate an internal audit of all of the activities of the organization. The Canadian Forces Transformation Team (CFTT), at the time headed by Lieutenant General Andrew Leslie, was given direction by the government “to identify areas where we could reduce overhead and improve efficiency and effectiveness, to allow reinvestment from within for future operational capability despite constrained resources”.¹³⁴

The strategy on military procurement does not exist in a vacuum segregated from the other interests of an integrated and comprehensive defence policy. Budgetary pressures and a decision to look inward for potential efficiencies and cost savings resulted in a concerted effort at

¹³² Parliamentary Standing Committee on National Defence (NDDN), Dan Ross, Evidence, February 8, 2007, p. 3.

¹³³ Ross, *Parliamentary Standing Committee on National Defence* . . . ,3.

¹³⁴ Andrew Godefroy, *The Ghost of General Otter: Putting the Canadian Forces Report on Transformation 2011 in Context*, *CDFAI Research Paper*, (November 2012) and also General Andrew Leslie, Report on Transformation 2011, last accessed on 14 June 2015 at: http://mldc.whs.mil/public/docs/library/allportfolios/Canadian_Report-Military_Transformation-2011.pdf

transformational review within the CAF. In early July 2011, Lieutenant General Leslie, acting as the Canadian Forces Chief of Transformation (CT), submitted his simplistically named Report on Transformation 2011, to the Chief of Defence Staff (CDS) for the review of the Deputy Minister of National Defence (DMND).¹³⁵ The report presented the documented outcome of an almost a yearlong consultative process, review and examination of the business and actions of both the Department of National Defence (DND) and the Canadian Forces (CF) as a whole. On a strategic level its delivery embodied one of the most inclusive reviews of the Canadian Forces since the launch of Canada's participation in the War in Afghanistan. The delivery to the government of General Leslie's report also formally represented the commencement of the expected peace dividends, and predictable post-war restraints nearly all militaries experience following a lengthy phase of intensive combat and its associated support related activities.¹³⁶

General Leslie's report immediately drew a tepid response and even criticism from both within and outside the defence community for its radical courses of action, and many of his recommendations required further research. Defence analysts and writers such as Martin Shadwick felt many of the core recommendations were sound but not likely to be implemented by government. As he points out Leslie's report "generated a wealth of invaluable and thought-provoking data for civilian and military decision-makers, and has advanced a plethora of intriguing ideas, concepts, and recommendations".¹³⁷ But, he and others remain skeptical that any cost savings as a result the implementation of segments of the Transformation Plan as endorsed by General Leslie will be applied to improvements to CAF operations. Rather the pervasive thoughts are that these funds will be withheld by the government as a financial win fall

¹³⁵ General Andrew Leslie, Report on Transformation 2011, last accessed on 14 June 2015 at: http://mldc.whs.mil/public/docs/library/allportfolios/Canadian_Report-Military_Transformation-2011.pdf

¹³⁶ Godefroy, *The Ghost of General Otter...*, 1.

¹³⁷ Martin Shadwick, "The report On Transformation 2011", *Canadian Military Journal*, Vol 12, No.1, (Winter 2011): 68-71.

and therefore would not be reinvested in the training development and badly needed equipment required by the Canadian Armed Forces.¹³⁸

In December of 2012, a year or so following the release of General Leslie's report on Transformation the Standing Committee on National Defence chaired by James Bezan heard a number of defence experts testify on the merits and problems with the proposed transformation efforts. Douglas Bland gave notice that Canadians should be very concerned about defence policy myths, what he refers to as defence reductions camouflaged as some new category of transformation. He noted that when applying the old motto of gaining efficiency and completing more work with less, unfortunately in every government project designed to improve efficiency within the CAF since the 1960s has in reality only seen a military that can do less with less.¹³⁹ Still, another section of study prepared by Dave Perry on how budget reductions have affected the CAF in terms of future capability and effects on long term equipment procurement strategy appears to indicate that the government has decided to shrink the level of deployment of the Forces at the moment in order to conserve the capabilities into the future.¹⁴⁰ Perry advocates that this is appropriate action by defence planners, as it conserves trained boots on the ground and needed equipment that take a much longer timeframe to replace than operational readiness.¹⁴¹

In a proposal that may affect the procurement strategy of many nations, military leaders including former NATO Secretary General Anders Fogh Rasmussen are promoting a new cooperative concept called Smart Defence. Smart defence is a NATO concept of operations that promotes cooperation among Allies to develop, procure and sustain military capabilities to deal with contemporary security problems, and aligns with recent NATO strategic concepts. NATO smart defence incorporates: merging and sharing capabilities, creating priorities and improved

¹³⁸ *Ibid.*, 70

¹³⁹ Douglas Bland, Evidence, Parliamentary Report Dec 2012, Report of the Standing Committee on National Defence, February 16, 2012,

¹⁴⁰ David Perry, "Defence after the Recession", *Canadian Defence and Foreign Affairs Institute*, (April 2012), 1- 4.

¹⁴¹ *Ibid.*

coordination during missions.¹⁴² Concurrently, University of Ottawa professor Phillippe Lagasse indicates during Defence Committee testimony that a number of NATO countries have recognized that they cannot afford a full spectrum military force and must investigate a pooling of military resources to maintain modern capabilities.¹⁴³ Professor Joel Sokolsky, from Royal Military College of Canada, informed the Committee during his testimony, “there is a large measure of discretion when it comes to overseas readiness requirements and operations.” We cannot, of course, be ready for everything and entertain every request, but, given our privileged position with regard to our own national security, “we have the luxury of choosing which forces to acquire and which operations we will participate in, and the option of tailoring the size and composition of our overseas military commitments.”¹⁴⁴ Canada lives in a state of relative national security and can determine where, and to what level, the CAF will deploy. Further, Canadians are dedicated to the international community’s conscientiousness to intercede in circumstances where states do not succeed in protecting their own people from violence and murder. This obligation and every CAF deployment have to meet with core Canadian values and interests, while recognizing our capabilities. Sokolsky states, “Decisions can and will have to be made as to which capabilities we should retain and which operations we participate in, since we cannot be ready for everything and accept every request.”¹⁴⁵

Conclusion

To summarize, within DND a procurement strategy exists to obtain major capital equipment identified as a requirement, in a timely and cost effective manner while providing economic and industrial benefits to Canada. As can be seen from some of the procurement

¹⁴² For additional information on NATO Smart defence see: <http://www.nato.int/docu/review/topics/en/Smart-Defence.htm> last accessed July 22, 2015

¹⁴³ Philippe Lagassé, Parliamentary Report Dec 2012 Report of the Standing Committee on National Defence Evidence, February 16, 2012,

¹⁴⁴ Joel Sokolsky, Parliamentary Report Dec 2012, Report of the Standing Committee on National Defence Evidence, February 14, 2012.

¹⁴⁵ Joel Sokolsky, Parliamentary Report Dec 2012, Report of the Standing Committee on National Defence Evidence, February 14, 2012.

missteps described earlier in this chapter our procurement process is in need of improvement. The procurement approval process itself incorporates recognized and coherent sequences, allowing for appropriate authorization to be granted inside all phases. Unfortunately, attaining the required approvals in many cases results in lengthy delays frequently as a result of uncertainty among the agencies involved as to overall control or political interference in the process. The DND/CAF procurement process must continue to reflect domestic economic considerations while showing transparency and good stewardship of the funding allocated to buy and maintain the required equipment. The ongoing refinements to reduce the timelines within the procurement process must be constant, flexible and reflect accountability and vigilance within the DMS and our government. Unfortunately, political pressures and government mandates will continue to add delays to almost all major military procurements. Even with improvements and efficiency gains in the procurement process, the project timelines are likely too long, potentially not able to keep up with technological advances. To recap, the DMS must continue to adapt and officials must work diligently to ensure the procurement process evolves into a more responsive and efficient system that will allow the military force structure and capabilities to meet the needs of our soldiers, airmen and sailors as we move forward into the ever changing global landscape of the 21st century. The following chapter will present a brief overview of the procurement methods utilized by our Allies in Australia, The United Kingdom and the United States and discuss the reforms underway in those nations as they attempt to improve their respective procurement strategies.

CHAPTER 3: ALLIED DEFENCE PROCUREMENT

A Review and Comparison of Allied Procurement Methods and Reforms in Australia, the United Kingdom and the United States of America

The rise in international spending on military equipment in the framework of an erratic and unstable global security setting since the terrorist attacks in September of 2001 has forced governments around the globe into much greater level of awareness with respect to defence procurement.¹⁴⁶ As a result of those hideous acts of aggression, international military expenditures have risen appreciably, from US\$839 billion in 2001¹⁴⁷ to US\$1,747 billion in 2013.¹⁴⁸ A vast percentage of these funds has been exercised in obtaining new weapons and military equipment such as small arms, armoured vehicles, military aircraft and helicopters, warships and submarines, and an array of other defence related merchandise. International arms deals and trading have also grown and overall revenues from the world's 100 principal arms-producing corporations increased 51% between 2002 and 2012.¹⁴⁹

In a number of nations this elevated level of expenditures on military equipment has resulted in an acute awareness relating to costly defence acquisitions within government, industry, media outlets, the public at large and most certainly the military itself. To make matters worse, mounting apprehension regarding cost over runs, project delays and numerous problems occurring with major defence acquisition in a many nations have increased the calls for significant review and reform to defence procurement structures and processes.¹⁵⁰

¹⁴⁶ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014) 1.

¹⁴⁷ Elisabeth Sköns et al., "Military Expenditure," in *SIPRI Yearbook 2002: Armaments, Disarmament and International Security*, Stockholm International Peace Research Institute [SIPRI], 231–265.

¹⁴⁸ SIPRI Yearbook 2015, Military Expenditure, in *Armaments, Disarmament and International Security*, last accessed 15 Oct 2015 at <http://www.sipri.org/yearbook/2015/downloadable-files/sipri-yearbook-2015-summary-pdf>

¹⁴⁹ SIPRI, "SIPRI Top 100 Arms Sales Decreased in 2011: Companies Pursue Diverse Strategies in Response to Austerity Measures," News release, 18 February 2013

¹⁵⁰ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014), 1.

A number of differing types of defence procurement models are utilized by various nations around the globe. Individual countries manage their own diverse military procurement methods, generally customized to meet the particular wants and needs of their armed services, but it will also be a reflection of their individual economies and defence industrial capabilities. Recently, a number of countries have executed new processes to usher in reforms in an attempt to streamline national defence procurement and improve efficiencies within their procurement organizations so as to improve management and speed up their purchases of defence equipment.

The following chapter discusses the diverse models of defence procurement organizations in other allied industrialized nations to which Canada has a close military relationship with; Australia, the United Kingdom and the United States of America.

Following the introduction to the various procurement models of these countries a review of the latest defence procurement reforms Australia, the United Kingdom and the United States will be discussed. This discussion will reveal how different defence procurement methods around the globe have similar problems in the acquisition of major weapon platforms and military equipment for their nation's armed forces.

The unique multi-agency procurement structure that Canada utilizes is not copied by any of our Allies; most other nations apply different forms of procurement to obtain their military goods and services. In general as Martin Auger notes they can be grouped into three distinct types as noted below:¹⁵¹

1. Procurement by individual armed services;
2. Procurement by centrally managed government institutions; and
3. Procurement by independent civilian companies.

¹⁵¹ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014), 3.

In a number of nations it is the armed services of those countries, the Navy, Army or Air Force who are accountable to procure the weapons platforms and military products they need for their individual military elements. Under this procurement model the acquisition process of each of the armed services are administered by the nation's defence organization. This type of defence procurement model, where creation and administration of procurement policies and regulations is instigated by the defence department itself is known as decentralized defence procurement. This procurement model offers nearly total control with respect to defence procurement activities, and this is the model employed to procure military equipment in the United States.¹⁵²

In the United States procurement is administered by the Department of Defence (DOD), an extremely multifaceted and complicated structure that engages the numerous agencies found within the DOD. The management of procurement for the many elements of the DOD is the responsibility of The Office of the Under Secretary of Defence for Acquisition, Technology and Logistics.¹⁵³ In the US each branch of the military (Navy, Air force, Army, Marines and Coast Guard) carry out their own individual defence acquisitions supported by separate procurement administrative centres. These procurement offices each offer independent sub-agencies that provide specialized procurement services in the areas of research and development, weapons and military equipment acquisition, obtaining infrastructures, purchasing and provision of services that support procurement.¹⁵⁴

A number of nations have created centrally managed government institutions to be in charge of their defence procurement process. These departments are accountable for obtaining all of the weapon platforms and military apparatus needed by their country's military establishment. Generally, these agencies function under the direction of their country's defence department, but

¹⁵² *Ibid*, 4.

¹⁵³ United States Department of Defence, Defence Logistics Agency found at <http://www.dla.mil/>

¹⁵⁴ See the following US Navy, Army, Air Force and Coast Guard websites:
<http://www.secnav.navy.mil/rda/Pages/default.aspx> , <http://www.army.mil/asaalt/> ,
<http://ww3.safahq.af.mil/index.asp> , <http://www.uscg.mil/ACQUISITION/default.asp>

usually remain autonomous of the military and have possession of the budget. At some times these procurement institutions may operate as self-determining government branches or agencies. Countries that currently use the single government agency approach for procurement activities include allies the United Kingdom and Australia.¹⁵⁵

In the United Kingdom, defence acquisitions are managed by a single department called the Defence Equipment and Support (DE&S). DE&S was established in 2007 as a result of an amalgamation of the Defence Procurement Agency and the Defence Logistics Organisation within the MOD. The intention of the joining of these two departments was to produce an innovative integrated procurement and support institution.¹⁵⁶ In Australia the Defence Materiel Organisation (DMO) is the government department managing defence acquisition activities, established in 2000 it is a component of the Australian Department of Defence. In 2005 DMO was given prescribed agency status within the Financial Management and Accountability Act in Australia, gaining control over its workforce and resources thus permitting increased independence within the Department of Defence. The DMO is accountable for procurement, lifecycle management and support, as well as disposal of all military weapon acquisitions employed by the Australian Defence Force.¹⁵⁷

One of the primary motivations for procurement reform is that the dramatic increase in military expenditures over the last decade and a half has exerted considerable stress on military procurement structures of a number of the globes largest defence spending nations. A common theme found around the world in military procurement is the inability for most procurement models to adequately provide for increased military demands, mitigate the effects of

¹⁵⁵ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014), 5.

¹⁵⁶ Government of the United Kingdom, Ministry of Defence (MOD), Accessed at <https://www.gov.uk/government/organisations/defence-equipment-and-support>

¹⁵⁷ Australian Government, Department of Defence, Defence Materiel Organisation (DMO), accessed at <http://www.defence.gov.au/dmo/AboutDMO> and http://www.defence.gov.au/dmo/Multimedia/DMO_Flipbook_MAR2012.pdf

bureaucracies and political interference, technological and industrial challenges, inability to stay within allocated budgets, and omnipresent delays in weapons equipment delivery times. Indeed a number of nations as a result of these many procurement issues have witnessed an increase in public consternation and demands for stricter oversight, expenditure reductions, improved efficiency, and shorter delivery timelines.¹⁵⁸

Australia has embarked on a number of military procurement studies and reform activities over the past few years.¹⁵⁹ In 2008 the government of Australia implemented a review of the Defence Material Organisation (DMO) and the entire defence procurement structure. As a result of this study 46 proposals were provided to improve the operation of the DMO and increase efficiency and generate a more cost effective procurement process. Interestingly, the proposal to segregate the DMO from the DOD to be converted into an autonomous executive agency of the Australian government was rejected. The main goal of this proposal was to permit the DMO to exercise a greater span of control over its own actions and resources, in theory allowing it to be more transparent and accountable. In the end in 2009 the government instituted 42 of the 46 proposals but rejected DMO becoming an executive agency on the grounds that there would be no gain in efficiency; it probably would impinge on DOD operations, and could possibly result in greater expenditures.¹⁶⁰ Unfortunately, even with these reforms the Australian National Audit Office (ANAO) noted a schedule slip of nearly 36% on the 29 biggest military acquisition projects during 2012-2013, and expenditure increases of A6.5 billion dollars over the

¹⁵⁸ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa : Library of Parliament, October 2014), 7.

¹⁵⁹ Ross Fetterly, *Defence Procurement Reform in Other Nations*. The Claxton Papers 10, (Kingston: School of Policy Studies, Queen's University 2009):25-33.

¹⁶⁰ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa : Library of Parliament, October 2014), 8

life of these major procurement projects.¹⁶¹ Clearly there is still room for additional improvement in the Australian procurement structure as well.

The United Kingdom has implemented a number of military acquisition reforms in recent times including the introduction of the single point of accountability organisation named the Defence Industry and Support (DE&S). The creation of DE&S resulted in a number of alterations to the procurement process and oversight methods.¹⁶² Regrettably, a similar pattern of major project slippage and inability to remain with allocated budgets was also noted by British government auditors in 2009-10, noting a significant gap in funding from when the military hardware was first ordered and the capacity to eventually make payment.¹⁶³ In 2009, to address ongoing procurement issues the government launched an independent review, resulting in a number of proposals to improve the overall process, efficiency, management of projects and provide greater transparency. One of the significant proposals was to remove DE&S from the MOD and turn into a Government Owned and Contractor Operated Company (GOCO).¹⁶⁴ Again, in 2010 the majority of the 2009 report proposals were accepted by the MOD but the GOCO recommendation was not implemented.¹⁶⁵ Regrettably, procurement issues remained in the UK prompting additional reform measures including reform of the DE&S in 2014 when the Defence Reform Act 2014 presented the option again of implementing a GOCO type corporation at some point in the future if it provided the best return for the money.¹⁶⁶

In the United States there have also been attempts at procurement reform including the drafting of legislation to reform the military acquisition process and rewriting procurement

¹⁶¹ *Ibid.*

¹⁶² Fetterly, *Defence Procurement Reform in Other Nations...*, 15-24.

¹⁶³ House of Commons Defence Committee (UK) Defence Equipment 2010, accessed on Oct 28, 2015 at <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmdfence/99/99.pdf>

¹⁶⁴ Bernard Gray, Review of the Acquisition for the Secretary of State for Defence: An Independent report by Bernard Gray, (October 2009).

¹⁶⁵ MOD, United Kingdom, The Defence Strategy for Acquisition Reform, accessed on Oct 28, 2015 at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228575/7796.pdf

¹⁶⁶ Government of the United Kingdom, Defence reform Act 2014, accessed on Oct 28, 2015 at http://www.legislation.gov.uk/ukpga/2014/20/pdfs/ukpga_20140020_en.pdf

policies, rules and regulations in an attempt to bolster efficient, effective and more accountable acquisition. Like Australia, Canada and the UK the US has initiated new policies with the aim of: removing non-productive methods and ineffective bureaucracy, obtaining better efficiencies and output, generate more competition, contain project expenditures, improve delivery timelines and boost the quality of the labour force.¹⁶⁷ Yet even with these reforms, a report by the Government Accountability Office (GAO) in 2014 indicated DOD procurement activities in the US are still subject to major cost overruns and project delays.¹⁶⁸ So as with other allied government procurement reforms the US continues to suffer similar significant issues within their acquisition process even after incorporating changes intended on permitting improvement.

Conclusion

A number of different procurement types are found around the globe and indeed among our allies. In general countries will design their individual procurement strategies to align the particular military needs and defence requirements of their own militaries. Canada, utilizing the non-singular point of accountability, multi -agency model of procurement remains unique among its allies. In general, other nations have adopted different approaches to procurement. These include: individual acquisition by the military, a central government agency, or by autonomous private companies. As witnessed by the information offered in this chapter it is apparent that even with numerous acquisition models and reforms in place, significant problems remain in almost all national procurement strategies including Canada. Trying to eliminate political and bureaucratic interference, the inability to prevent budget overages, and

¹⁶⁷ United States GAO, Defense Acquisitions Report to Congressional Committees, accessed on Oct 28, 2015 at <http://www.gao.gov/assets/670/662184.pdf>

¹⁶⁸ *Ibid.*

the omnipresent issue of delays to project completion remain a key goal in the improvement of the procurement process.¹⁶⁹

In Canada, the drive to reform procurement has seen both the DND and PWGSC introduce a series of proposals over the last number of years in hopes of advancing the acquisition process and shorten procurement delivery timelines. The two most recent of these initiatives include the National Shipbuilding Procurement Strategy in 2010 and last year's Defence Procurement Strategy. Both initiatives aim to streamline and improve overall efficiency while leveraging superior industrial and economic benefits military procurement projects.¹⁷⁰ The following chapter will discuss in detail the recently introduced Defence Procurement Strategy and the proposed benefits to the defence procurement system in Canada.

¹⁶⁹ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014), 10.

¹⁷⁰ *Ibid.*, 8.

CHAPTER 4: CANADA'S NEW DEFENCE PROCUREMENT STRATEGY

Key Objectives and Sub-Objectives

In February of last year Canada's Ministers of Public Works and Government Services (PWGSC) and National Defence (DND) introduced Canada's latest procurement plan, the Defence Procurement Strategy (DPS). The three primary goals of the DPS are to: deliver the correct equipment to the Canadian Armed Forces in a timely manner; leverage Canada's procurement of defence equipment to stimulate job creation and aid economic development within Canada; and to streamline the defence procurement process.¹⁷¹

The Defence Procurement Strategy is a major shift in the government's approach to defence procurement, the three primary goals of DPS can be further expanded on as indicated below:

- a.** In order to deliver the right equipment in a timely manner, the Canadian government agrees to:
 - Guarantee early and ongoing industry and customer engagement during the procurement process;
 - Publish each year a Defence Acquisitions Guide (DAG) summarizing DND's procurement plans and priority; and
 - Assist the DND in identifying future military requirements by the creation inside of the DND of an autonomous, third-party "challenge function" in determining military needs.
- b.** In order leverage procurement spending to promote economic advantages, the government of Canada will:

¹⁷¹ Diane Finley, MP, Minister of Public Works and Government Services (Announcement of the Defence Procurement Strategy, Economic Club of Canada, Ottawa, Ontario February 5, 2014)

- Apply a weighted and rated "Value Proposition", to gauge all future defence procurement bids;
 - Put into action an improved Export Strategy to enhance global defence trade ventures and enable greater opportunity to participate in global value chains;
 - Recognize and apply Key Industrial Capabilities (KICs) to improve communication regarding the prospective economic benefits of procurements, both fulfilling Canada's military requirements and augmenting the competitiveness of domestic defence firms internationally; and
 - Institute an autonomous, third-party Defence Analytics Institute which will offer skilled examination to maintain the goals of the DPS and its assessment.
- c.** In order to better streamline the defence procurement process, the Canadian government agrees to:
- Implement a revised system to ensure a streamlined and harmonized decision-making process for major capital acquisitions within DND and the Canadian Coast Guard;
 - Launch a Defence Procurement Secretariat inside PWGSC to maintain close coordination among key departments; and
 - Reassess the existing Department of National Defence delegated authorities to acquire merchandise, the aim being to enlarge the approval amount from the current \$25,000 to a more appropriate number in order to realize a more proficient procurement practice.¹⁷²

¹⁷² Public Works and Government Services Canada, Leveraging Defence Procurement to Create Jobs and Benefit the Economy, Last accessed 27 Sept 2015 at <http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=813789&crtr.tp1D=1>

The phased introduction of the Defence Procurement Strategy (DPS) began in February 2014 after significant industry discussion and consultation. Additional DPS guidelines and components include:

- Publish a yearly DAG, identifying a list of procurement projects anticipated to be introduced over the next five, ten and twenty year-year time span, and will incorporate projects exceeding \$100 million and those of lower value that "have leveraging potential for Canadian Industry";¹⁷³
- The Defence Procurement Strategy will support the competitiveness of Canadian defence-related industries domestically and globally;
- Defence procurement activities have great potential to produce large spin-off ventures within Canada's knowledge, innovation and export base;
- Key Industrial Capabilities are elements of the Canadian defence network that can be leveraged to support CAF needs and stimulate economic and job growth;
- The Defence Procurement Secretariat will use early and ongoing engagement with industry while employing 3rd party advice to enable quicker and efficient decisions to streamline procurement;¹⁷⁴

From an economic view to the Canadian economy over 650 Canadian firms produce defence related goods and services, generating \$9.4 billion in revenue with a workforce of 64,000 employees. Of note, 50% of these defence revenues come from export activities.¹⁷⁵

¹⁷³ Public Works and Government Services Canada, Leveraging Defence Procurement to Create Jobs and Benefit the Economy, Last accessed 27 Sept 2015 at <http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=813789&crtr.tp1D=1>, See also Duncan C. Card, Canada: Defence Procurement Changes In Canada Announced, last updated Feb 18,2014.; and online ITB article last accessed on 25 Sept 2015 at <http://www.mondaq.com/canada/x/294036/Government+Contracts+Procurement+PPP/Defence+Procurement+Changes+In+Canada+Announced>

¹⁷⁴ Public Works and Government Services Canada, Leveraging Defence Procurement to Create Jobs and Benefit the Economy, Last accessed 27 Sept 2015 at <http://news.gc.ca/web/article-en.do?mthd=tp&crtr.page=1&nid=813789&crtr.tp1D=1>

¹⁷⁵ *Ibid.*

Key Industrial Capabilities and Value Propositions

Key Industrial Capabilities (KIC), as noted by Tom Jenkins chair of Canada First: Leveraging Defence Procurement through Key Industrial Capabilities endorsed a strategy that created KIC's, "products that represent significant innovation, global market potential or specific needs of the CAF."¹⁷⁶ These KIC's will be factored in the rating and weighting of Value Propositions. As an integral component of the bid process companies should submit their top industrial plan for Canada, since all submitted plans will be scored based on the superiority of their Value Propositions. A bidder's economic or industrial input into Canada is considered in procurement scoring, and determining who will be awarded the contract. The standard default weight given to VP will be 10% of the overall evaluation and mandatory requirements may be applied.¹⁷⁷

The government has also required that VP ratings will support activities that lead to enhanced economic results via: investments that reinforce Canadian KIC; that sustain superior productivity in Canadian companies; and industrial and technological high value conduct like the transfer of technology. The timeline of satisfying VP obligations is an additional consideration during the evaluation process.¹⁷⁸

Industrial Technological Benefits versus Industrial Regional Benefits

The Government of Canada announced as a component of the Defence Procurement Strategy the Industrial and Regional Benefits (IRBs) will now become industrial and Technological Benefits (ITBs). The government proposed this is a key change that will offer increased flexibility and capability to foster better economic gains arising from defence

¹⁷⁶ PWGSC, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*, (February 2013), available at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/documents/eam-lmp-eng.pdf>

¹⁷⁷ Industry Canada, Value Proposition and Industrial and Technological Benefits, Online Backgrounder last accessed on Oct 24 2015 at <http://news.gc.ca/web/article-en.do?nid=813549#KIC>

¹⁷⁸ Industry Canada, Value Proposition and Industrial and Technological Benefits, Online Backgrounder last accessed on Oct 24 2015 at <http://news.gc.ca/web/article-en.do?nid=813549#KIC>

procurement projects.¹⁷⁹ It is Industry Canada that is in charge of the management of the Defence Procurement Strategy's Industrial and Technological Benefits (ITB) program. The ITB program replaces the former Industrial and Regional Benefits policy which had been around since 1986. The application of ITB's permit the government to apply defence acquisition contracts to leverage industrial and economic gains for domestic defence companies while creating additional economic benefits within Canada. As noted above the ITB plan will involve all domestic and off shore contractors bidding for defence projects in Canada being measured by a weighted and rated Value Proposition process. These VP support activities that, improve economic outcomes in Canada via investments, that reinforce Canadian KIC's to sustain improved productivity in Canadian companies, and that advance high value industrial and technological conduct. In addition, foreign companies must still make investments in Canada that equal up to 100% of the overall contract cost as was the case with the previous IRB policy. In accordance with prescribed PWGSC thresholds procurement contract will have an ITB requirement.¹⁸⁰

Streamlining and the Defence Procurement Secretariat

The government's Defence Procurement Strategy (DPS) includes the organization of a permanent Working Group of Ministers chaired by the Minister of Public Works and Government Services. Also included are the Ministers of National Defence, Industry, International Trade, and Fisheries and Oceans (as needed for Canadian Coast Guard acquisition projects) to include mutual accountability in defence procurements, with the aim of enabling a quicker, more efficient and coordinated procurement process. The Working Group concept permits a round-table for dialogue, advice and resolution of issues in the execution of capital acquisition projects.

¹⁷⁹ *Ibid.*,

¹⁸⁰ Martin Auger, *Defence Procurement Organizations: a Global Comparison*, (Ottawa: Library of Parliament, October 2014), 2. See also <http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/samd-dps/ssamd-adps-faq-eng.html> last accessed on June 22,2015

The Working Group of Ministers is supported by the Deputy Ministers Governance Committee (DMGC), the principal decision-making group for the functioning of the Defence Procurement Strategy (DPS) and chaired by the DM of Public Works and Government Services Canada (PWGSC). The DMGC provides leadership for defence and major Canadian Coast Guard acquisitions, with a goal of providing timely and suitable decisions between rival objectives connected with certain procurements.

As a major component of the Defence Procurement strategy a Defence Procurement Secretariat has been created within PWGSC, reporting to the Deputy Ministers Governance Committee. The Secretariat assumes and/or supports the following roles in this framework:

- Ensures early engagement in the procurement process;
- Develops and integrates Value Propositions into the procurement processes;
- Develop options in support of decision-making, considering trade-offs involving capabilities, and cost/ benefit to Canada;
- Engage independent advice to strengthen the overall integrity of the procurement process;
- Ensure a harmonized approach to execution of the Defence Procurement Strategy (DPS) across numerous departments, including PWGSC, National Defence, Industry Canada, Foreign Affairs, Trade and Development Canada, and Fisheries and Oceans Canada;
- Apply an issue resolution methodology to deal with problems swiftly and effectively; and

- Assess and evaluate the performance of the Defence Procurement Strategy (DPS).¹⁸¹

Within the DPS, the procurement procedure will; embrace early industry and client engagement, engage the application of independent third party advice, ensure judicious and efficient decision-making, and make sure the procurement process provides the desired outcomes that benefit Canada.¹⁸²

Defence Sector and Industrial Stakeholder Input

Canada's ongoing abilities to defend its sovereignty, economic interests and national security relies primarily on how two key stakeholders, the Canadian military and its defence and security industries, work autonomously and together. It is clear that procurement choices decided upon by Canada in the upcoming time period will define Canadian Armed Forces capability and the ability and global competitiveness of Canada's domestic defence and security industry for decades to come. So, in 2009 responding to the Government's appeal for guidance from Canada's defence industry, the Canadian Association of Defence and Security Industries (CADSI) embarked on a three-month consultation period involving Canada's defence industrial organizations in an attempt to establish how Government could acquire the equipment required by the Canadian Armed Forces and realize the best possible monetary return on investment.¹⁸³

One of the key findings of this CADSI report was that amongst its allies, Canada is the sole nation not to have a defence industrial policy with performance strategies to direct the association between government and the defence industry and properly line up economic

¹⁸¹ PWGSC, Defence Procurement Secretariat, online info last accessed Oct 27,2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/samd-dps/simplifie-streamlined-eng.html#a1>

¹⁸² PWGSC, Defence Procurement Secretariat, Online backgrounder last accessed Oct 27,2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/streamlined-eng.html>

¹⁸³ Canadian Association of Defence and Security Industries, "Canada's Defence Industry: A Vital Partner Supporting Canada's Economic and National Interests", *CADSI Report*, (December 2009), v.

objectives with military procurement.¹⁸⁴ The 2009 CADSI report findings stimulated the efforts of the Jenkins Report and also provided some of the direction for the recent DPS.¹⁸⁵ In contrast, Australia has promulgated numerous defence and defence industrial policy papers over the last ten years. Much to the dismay of the Canadian defence industry Canada still has no defence industrial policy, although the new DPS speaks to closer engagement with industry. The Canada First Defence Strategy released in 2008 is not a substitute for a separate and clearly defined defence policy statement, and no standalone defence industrial policy has ever been promulgated by the Government of Canada. Canadian tradition has seen defence industrial policy incorporated inside a defence policy statement as witnessed with the new DPS.¹⁸⁶ As noted by Craig Stone in his April 2015 research paper *Improving the Acquisition Process in Canada*, defence procurement is carried out in a distinct environment with particularly unique characteristics.¹⁸⁷ This environment was articulated in the 1960s by Peck and Scherer who point out four major characteristics of the procurement process.¹⁸⁸ The initial research and development efforts for weapons production is considered uncertain and risky, and frequently costs associated with risk are transferred from the contracted provider to the government. Secondly, as the procurement project commences specific data, unique systems information, and materiel explicit to the procurement project restrict the government's capacity to obtain the products in a competitive open market. Next, the nature of the weapons procurement process results in a non-conventional market structure. Lastly, as a result of the lack of a competitive

¹⁸⁴ *Ibid.*, 10.

¹⁸⁵ See Tom Jenkins, *Leveraging Jobs...* (2013) and Diane Finley, *DPS Announcement...* (2014).

¹⁸⁶ Craig Stone, "Canadian-Australian Opportunities for Defence Procurement and Industry Cooperation", *CIGI Papers no. 22*, (January 2014), 11 accessed on 27 Oct 2015 at: <https://www.cigionline.org/publications/2014/1/canadian-australian-opportunities-defence-procurement-and-industry-cooperation-PDF>

¹⁸⁷ Craig Stone, "Improving the Acquisition Process in Canada", *University of Calgary SPP Research Paper*, (April 2015), last accessed 23 Oct at <http://www.policyschool.ucalgary.ca/sites/default/files/research/improving-acquisition-process-stone.pdf>

¹⁸⁸ Merton Peck and Frederic Scherer, *The Weapons Acquisition Process: An Economic Analysis*. Boston: Division of Research, Harvard Business School, 1962; see also Frederic Scherer, *The Weapons Acquisition Process: Economic Incentives*, (Cambridge: Harvard University Press, 1964).

market place, for effective procurement to occur the government must intervene through the application of performance incentives or penalties for non-compliance or other contractor management methods.¹⁸⁹

The DPS has as one of its prime tenets the intent of creating a closer engagement with the defence industry in Canada during the procurement process. It is hoped that this increased level of earlier and greater industry involvement during the acquisition process will improve innovation, provide strategic investment in new technological systems and production methods, and permit companies to successfully enter into the procurement process. The government would like to see an outcome where a more robust, internationally competitive domestic defence industrial base can act as a mechanism for economic growth and increased employment and innovation.¹⁹⁰

It is unfortunate that Canada has chosen not to fully engage the defence industry in the procurement process. The expertise and technology required on an ongoing basis is often lost as a result of the cyclical and lengthy down times between industry engagements for major crown projects as is seen today in the shipbuilding program.¹⁹¹ As an indicator of the overall complexity of the procurement process in Canada Fig.4 below indicates the sheer number of influencers and sections of procurement and where industry sees itself within this overall structure.

¹⁸⁹ Craig Stone, *Improving the Acquisition Process...*, 3-4.

¹⁹⁰ PWGSC, *Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities*, (February 2013), available at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/eam-lmp-eng.html>

¹⁹¹ "Striving For a Coherent Shipbuilding Strategy", *Shipbuilding Association of Canada Policy Paper*, April 2014, last accessed on June 22, 2015 at: http://canadianshipbuilding.com/wp-content/uploads/2014/03/Striving-For-A-Coherent-Shipbuilding-Policy_SAC_April-2014.pdf

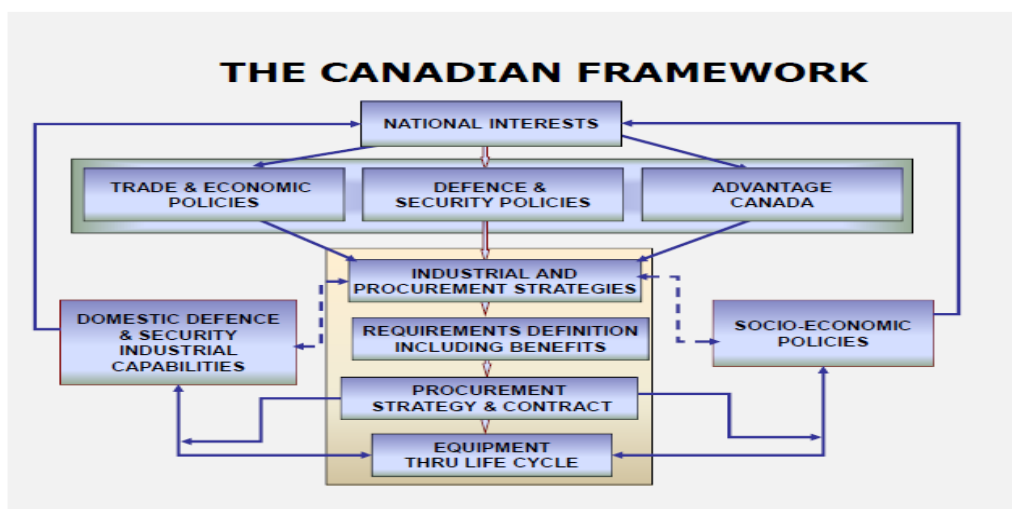


Figure 4.1. The Canadian Framework: Military Procurement and the Industry Position

Source: Improving Canadian Defence Procurement – Industry Consultations 2009

Figure 4.1 above indicates one method of viewing the Canadian Framework in which Military Procurement Process occurs in Canada. Although annotations on Military Procurement Process itself are shown, there were a number of observations on the remainder of the framework that are able to be reviewed further within each of the chart sections.¹⁹² This figure shows the true complexity of the interactions on industry within the procurement process.

Conclusion

One of the most important aspects of the lack of a competitive defence market in Canada is the difficulties this creates for the government procurement process which is an open and theoretically competitive process, potentially to the detriment of those companies within the Canadian defence industry. An assessment of military procurement practices shows that we should not be under any illusion that the acquisition of defence equipment can be carried out in a truly competitive and open marketplace. It will likely never exist as a result of government

¹⁹² CADSI Report, The Canadian Framework and Industry Position, (November 2009), last accessed at: <https://www.defenceandsecurity.ca/UserFiles/File/IE/Annex%20E%20-%20Consultation%20Summary.pdf>

influence and policies.¹⁹³ Within Canada it is generally accepted that the domestic military requirements are insufficient for Canadian defence industries to achieve a required economy of scale that would permit them to compete effectively in the international markets. To this end a report in 2009 by CADSI pointed out that “Small defence markets, like Canada’s, require proactive defence procurement strategies to enable domestic participation”.¹⁹⁴ Craig Stone has pointed out that on the issues of budget overruns, shifting requirements and project delivery delays studies have indicated that early and closer engagement with industry in the procurement process could mitigate these issues.¹⁹⁵ Additionally, the 2009 CADSI report articulated their 3 major recommendations; establish and employ a defence industrial policy, improve defence procurement processes, and firm up procurement governance. They propose that advancement on procurement policy, process and governance should occur simultaneously as each tenet is essential to the overall solution. Improvement in one part with no enhancement in the other sections of the overall strategy would not accomplish any significant gains.¹⁹⁶ The following chapter will discuss how the newly introduced DPS can be improved for the benefit of both industry and the taxpayers while striving to achieve the overall aims of the DPS in an even more efficient and streamlined process.

¹⁹³ Craig Stone, *Improving the Acquisition Process in Canada*, April 2015, last accessed 23 Oct at <http://www.policyschool.ucalgary.ca/sites/default/files/research/improving-acquisition-process-stone.pdf>

¹⁹⁴ Canadian Association of Defence and Security Industries, *Canada’s Defence Industry: A Vital Partner Supporting Canada’s Economic and National Interests, CADSI Report*, (December 2009).6, last accessed on Oct 26 2015 at https://www.defenceandsecurity.ca/UserFiles/File/IE/Military_Procurement_Main_Report_March_09_2010.pdf

¹⁹⁵ Craig Stone, *Canadian-Australian Opportunities for Defence Procurement*, 11. last accessed on Oct27,2015 at: <https://www.cigionline.org/publications/2014/1/canadian-australian-opportunities-defence-procurement-and-industry-cooperation-PDF>

¹⁹⁶ CADSI Report, *Canada’s Defence Industry: A Vital Partner ...*, 15-19.

CHAPTER 5: DEFENCE PROCUREMENT STRATEGY REFORM

Adequate and Stable Funding

Analyst David Perry noted that in 2014 the government, as it had for four of the previous five years, reduced funding to the DND. In 2008 the Canada First Defence Strategy (CFDS) promised extended, continuous budgetary expansion for the military and steady funding to aid in development of major capital programs to be procured over the coming years. Unfortunately, ongoing budget reductions from the date of that policy announcement have eliminated pledges of budgetary escalation to support ongoing procurement.¹⁹⁷ A two year freeze on the Operating Budget and a re-profiling of 3.14 billion in capital funding has greatly reduced DND resources.¹⁹⁸ As a direct result of the cuts to the Operating Budget a multi-billion dollar deficit has hit the Operations and Maintenance (O and M) budget, resulting in reduced training, regular operations, and maintenance, all leading to a much lower level of readiness. Concurrently, DND cannot expend all of the Vote 5 funding allocated by the government for procurement. Subsequently, billions of dollars of DND capital funding is now deferred until future years. DND budget cuts have endowed the Government with a significant sum of unused funding, providing a considerable payment towards eliminating the deficit, but with significant impact on the military and its capabilities both present and future.¹⁹⁹

Government focus on deficit reduction has come at the cost of reducing and/or constraining the military options available to the government, both today and into the future. Consequently, a considerable percentage of the funding earmarked to acquire military equipment required today is remaining unspent. This does not bode well for the new DPS as the re-capitalization strategy for DND will require significant amendment to deal with a major loss in

¹⁹⁷ Dave Perry, "The Growing Gap between Defence Ends and Means: The Disconnect between the Canada First defence Strategy and the Current Defence Budget", *Vimy Paper 19*, (June 2014), last accessed on July 14, 2015 at: <http://www.cdainstitute.ca/images/PerryBudgetJune2014.pdf> 1-3.

¹⁹⁸ The Road to Balance, (Budget 2014), Ottawa: Department of Finance Canada, 2014, Table 4.1.1, p. 260.

¹⁹⁹ Perry, *The Growing Gap Between Defence Ends and Means...*, 1-3.

buying power. These ongoing budget reductions now mean that when inflation is accounted for the overall DND budget is actually lower than in 2007. In actuality the defence budget has contracted rather than grown as envisioned when CFDS was implemented in 2008.²⁰⁰ More ominous for future Major Capital Projects: as a percentage of the DND budget capital, expenditures are at their lowest point since the late seventies. (See Figure 5. below)²⁰¹ The effect of this ongoing lack of funding on the new DPS will be that projects will potentially face a never ending loop of delays, as initial project budgets now funded in Budget Year (BY) dollars will see significant reductions in buying power as procurement slippage occurs. CADSI notes that the use of BY dollar accounting over the lifespan of a procurement project results in a 20-25% reduction in overall available funding.²⁰² In real terms this means delays and project slippage are far more harmful and of greater consequence than previously observed. The 2014 Parliamentary Budget Office analysis of the AOPS program indicated that every year the project is delayed may mean one fewer ship being promulgated as a result of a reduction in purchasing power.²⁰³ It is clear that DPS will suffer if stable and continual funding is not maintained by the government to permit Major Capital Projects, whose procurement timelines often span over many years to be procured in a timely and efficient manner.

Acquisition Workforce and Capacity Review

One of the major reasons for the ongoing procurement delays of Major Crown Projects has been the fact that from 2000 to 2011 the procurement system saw a tripling of the numbers of

²⁰⁰ *Ibid.*

²⁰¹ Expenditures on Standard Object 08 and 09 in the Public Accounts of Canada, as a share of gross ministerial expenditures, Public Accounts of Canada Vol. II.,(Ottawa: Public Works and Government Services Canada-numerous years), Table 3: Ministerial Expenditures by Standard Object.

²⁰² CADSI Marine Industries Working Group. *Sovereignty, Security and Prosperity*,(May 2009), 35. last accessed on Oct 30,2015 at: <http://www.defenceandsecurity.ca/UserFiles/File/pubs/cadsi-mir.pdf>

²⁰³ Erin K. Barkel and Rod Story, *Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships*. (Ottawa: Office of the Parliamentary Budget Officer, October 28, 2014).

these types of acquisition projects.²⁰⁴ At the present time 13 Major Capital Projects valued at over 1 billion dollars are ongoing and a significant number like the NSPS shipbuilding program are highly complex in nature.²⁰⁵

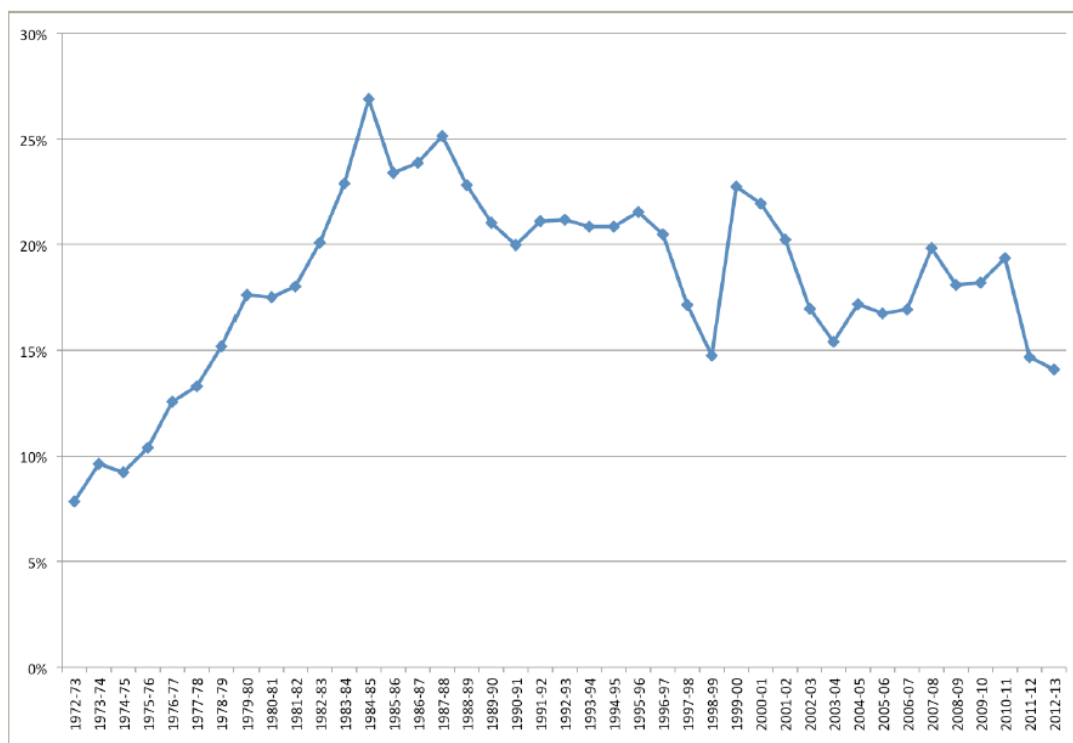


Figure 5.1: Capital Spending as a Percentage of the Overall DND Budget 1972-2012
Source: Public Accounts of Canada Vol. 2, PWGSC, Ministerial Expense by Standard Object

More importantly, apart from the huge increase in MCP in recent years, the required level of administrative reporting on them has risen 50% in the last five years, piling additional work on an already reduced workforce.²⁰⁶ The increased workloads are partially a result of newly introduced Treasury Board reporting requirements relating to Investment Planning and Project

²⁰⁴ Status Report on Transformational and Major Crown Projects, National Defence and the Canadian Armed Forces, Accessed at: <http://www.forces.gc.ca/en/about-reports-pubs-report-plan-priorities/2014-status-report-transformational-major-crown-projects.page>

²⁰⁵ Dan Ross, 2013 Ottawa Conference on Defence and Security, *CDA Institute*, (February 2013).

²⁰⁶ Government of Canada, *2014 Navy Outlook*, (Ottawa: Canadian Association of Defence and Security Industries, April 8, 2014.)

Management, intended to increase the accountability over these large capital projects. The main issue compounding this increased level of acquisition activity is the lack of capacity within the procurement workforce to adequately manage all of the MCP at this time.²⁰⁷ As David Pugliese commented in an Ottawa Sun article, at the moment a only a little more than 2,600 DND employees are managing all military procurements from new SAR aircraft to ships as well as armoured vehicles. In the article he indicates the procurement departments own human resources documents cite a number of internal problems including significant workloads, ongoing and high stress levels, and falling morale. He says that this is leading to greater use of sick leave provisions and staff burnout, all creating a more error prone workplace and labour relations strife. In addition Pugliese says the HR report also shows a deficiency in qualified, skilled leaders within the procurement department as a result of increased attrition.²⁰⁸

As a result of reduced acquisition programs, personnel reductions that occurred in the 90's saw the government further impair its procurement capacity and ability to manage projects.²⁰⁹ Main procurement organizations including DND, PWGSC and Industry Canada all saw major reductions in staffing during this time period and many highly skilled and knowledgeable procurement specialists departed, draining the procurement establishment of much of its experienced workers and leaders.²¹⁰

Of note one of the hardest hit departments was the Materiel Group within DND, ADM Mat. In the final years of the 1980's the ADM Mat group was comprised of almost 9,000 staff, working in positions and jobs that are still carried out today and dealt with about 3 billion dollars in capital acquisition funds. By 2009 that number had dropped to just over 4,300 staff and with

²⁰⁷ Dave Perry, Putting the "Armed "Back into the Canadian Armed Forces: Improving Defence Procurement in Canada, *Vimy Paper 21*, (Ottawa, 2015), 8.

²⁰⁸ David Pugliese, "Defence Procurement Staff Struggle With Burnout". *Ottawa Citizen*, Nov 23, 2014, last accessed Oct 30, 2015 at: <http://ottawacitizen.com/news/politics/defence-procurement-staff-struggle-with-burnout>

²⁰⁹ CADSI, Marine Industries Working Group *Sovereignty, Security and Prosperity...*, 4.

²¹⁰ Perry, *Putting the Armed Back into the Canadian Armed Forces...*, 8.

capital project expenditures around 2.4 billion dollars. These remaining workers were effectively required to supervise almost two times the work in terms of money value.²¹¹

DND's own analysis has indicated potential problems with the new DPS relating to sourcing skilled workers with experience in analytics and assessment, issues that could worsen the capacity and resource situation. It is apparent that the discrepancy between workload and output capacity since 2008 is the key reason that procurement timelines are still heavily delayed today. As Perry himself points out "It is simply unreasonable to expect that fewer people can cope with a significant expansion in workload."²¹²

Closer Engagement with Industry, Is this Beneficial?

One of the key tenets of the governments DPS is early and continual industry and client engagement within the procurement process. The aim of earlier partnership and information sharing with industry is seen as a significant benefit to future military procurement as industry feels it would provide increased lead time for them to invest adequately in research and development, determine the best processes and further innovative thinking and solutions, establish needed partnerships and any required supply chains prior to projects being announced.²¹³ Lagueux in the first Vimy Paper noted "Inevitably, the aim of all acquisitions is to ensure that industry satisfies the contractual obligations. Hence an acquisition strategy must realistically recognize industry as a partner in the process – not as an adversary to be defeated – with legitimate expectations, whether financial or otherwise."²¹⁴ He went on to say that procurement must be mutually beneficial; government obtaining value for their expenditure and industry obtaining monetary worth for their involvement. In addition he feels that acquisition

²¹¹ *Ibid.*

²¹² *Ibid.*

²¹³ CADSI, Canada's Defence Industry: A Vital Partner Supporting Canada's Economic and National Interests, *CADSI Report*, (December 2009), 15-19.

²¹⁴ Pierre Lagueux, A National Defence Acquisition Strategy, *CDAI Vimy Paper 1*, (April 2006), 23. Accessed on Oct 24, 2015 at: <http://books1.scholarsportal.info/viewdoc.html?id=27687>

plans should be reasonable and clarified as soon as possible so both sides do not expend worthless time, energy and valuable resources.²¹⁵

A similar sentiment is felt in the UK as it relates to closer industry involvement during the acquisition process. Section 6.9 of the Defence Strategy for Acquisition Reform states: “Our overall aim is to embed a more active and transparent relationship with industry. That means it needs to be effective, efficient and secure. And we need to provide industry with greater long-term certainty so that it can make future investment decisions that also support UK interests.”²¹⁶ Craig Stone indicates that Industry participation in the acquisition of defence equipment must be included at capability development phase. Dr. Stone feels that engagement must be on a consistent and regular basis permitting industry to plan accordingly and formulate long-term decisions. He goes on to indicate the more significant issue is avoidance of a predicament where the military requires a capability and finds its domestic defence industrial base with no ability to supply that capability because it was uninformed of the necessity and subsequent internal requirement in investments to generate the capability. He notes this is especially applicable in today’s setting where equipment and systems are increasingly sophisticated and technologically advanced.²¹⁷

But will all this closer engagement with industry actually be of benefit to the government in terms of best value? The procurement process is already not considered a free and open market per se. There are opposing views who feel this closer engagement may actually “situate the estimate” and allow industry to manipulate the costs of major procurement projects. Charles Davies exerts that the goal of early industry engagement is simple to declare but in fact is

²¹⁵ *Ibid.*

²¹⁶ MOD, UK, The Defence Strategy for Acquisition Reform sect.6.9, 2010, 18. accessed on Nov 20, 2015 at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228575/7796.pdf

²¹⁷ Craig Stone, Canadian-Australian Opportunities for Defence Procurement and Industry Cooperation, *CIGI Papers no. 22*, (January 2014), 11. last accessed on Oct27,2015 at: <https://www.cigionline.org/publications/2014/1/canadian-australian-opportunities-defence-procurement-and-industry-cooperation>

challenging to put into practice. He goes on to indicate that previous attempts have not been able to offer a viable, long term system of early industry engagement, indicating there are major risks that must be accounted for properly. Interestingly, Davies points out that early engagement with industry is a main piece of the new DPS and as such any failure to obtain satisfactory results within industry could place the complete DPS strategy at risk.²¹⁸

Sven Tommi Rebien also has an opposing view on closer engagement with industry within the DPS construct. He notes that in the UK the experience there indicates that major shifts of procurement policy closer to or away from what industry desires rarely sees drastic declines in cost-overruns, any major improvement in timeline delivery of major weapon platforms or the creation of long term employment and economic expansion.²¹⁹ He goes on to argue that these shifts are often initiated with policy procedures that can disagree with one another. Also he notes that a focused industrial policy to construct and sustain a competitive defence industry necessitates ongoing and significant expenditure assurances. In procurement terms this means ongoing projects and stable budgets, a tandem proven challenging for many countries to date.²²⁰

Single Point of Accountability

As noted earlier in the paper Canada stands alone amongst its allies in using the multi-departmental pluralistic secretariat model of procurement governance. The Canadian Association of Defence and Security Industries (CADSI), produced a report in December 2009, called, “Industry Engagement on the Opportunities and Challenges Facing the Defence Industry and Military Procurement.” A primary recommendation is that the government “Create a single point of accountability at the Cabinet level responsible for both defence equipment and the

²¹⁸ Charles Davies, Canada’s Defence Procurement Strategy: An End or a Beginning?, *Vimy Paper 21*, (September 2014), 4-5. accessed July 22, 2015 at <https://www.cdainstitute.ca/images/VimyPaper20.pdf>

²¹⁹ Sven Tommi Rebien, Canada’s New Defence Procurement Strategy: Has the Pendulum Swung Too Far?, *CDFAI Policy Paper*, (April 2014), 3. accessed on Nov 12, 2015 at: http://www.cgai.ca/canadas_new_defence_procurement_strategy

²²⁰ Ibid.

defence industrial base.”²²¹ Alan Williams former ADM Mat notes “At the present time, the overlap and duplication between DND and PWGSC with regard to defence procurement guarantees that neither minister is solely accountable for its process.”²²² DPS has not only inadequately addressed this lack of government accountability but in fact through the inclusion of a new Permanent Working Group of Ministers, assisted by a standing Deputy Ministers Governance Committee added additional layers of time consuming bureaucracy. In addition, the acquisitions are now being reviewed by an independent third party outside group of experts who test procurement provisions. As Williams points out within this jumble of committees and mentors, it will become more challenging to identify the minister truly held responsible for defence procurement in Canada. He feels that the payback of generating a single procurement authority will reach further than reinforcing accountability.

Williams proposes first, that procurement streamlining would improve. Currently with two departments involved, procurement progresses at the rate of the slowest organization, and two times the opportunity for disruptions exist. Within each departmental composition planning approvals must travel up the leadership ladder, each group reacting to dissimilar goals, cultures, and approval procedures. Procurement result; months may be wasted due to consultations and obtaining approvals from multiple departments.

Secondly he feels that substantial cost savings would be gained from the eradication of duplication. In addition, as staff shortages are common place an amalgamation of departments would see gains in staffing, thereby assisting the timeliness of the procurement process and

²²¹ CADSI, *Canada's Defence Industry: A Vital Partner Supporting Canada's Economic...*, vi.

²²² Alan Williams, Fixing Defence Procurement (it's not rocket science), *Front Line Defence Magazine Vol 11, No 2*, (2014), last accessed July 24, 2015 at: <http://defence.frontline.online/article/2014/2/669-Fixing%20Defence%20Procurement%20>

permitting the retention of skilled workers. Finally, Williams' notes until one minister is given overall responsibility for defence procurement, system-wide performance measurement will be very difficult to obtain, noting performance measurement of acquisition activities is critical in recognizing system blockages, cost and quality concerns and in determining methods of procurement improvement.²²³

Sven Tommi Rebien also questions the multi-department governance structure and argues that rather than improving accountability the new DPS with its continuing "dual and technically poly-departmental governance of defence procurement, unique to Canada, the DPS will increase the complexity of interaction and institutionalization."²²⁴

Clearly, there are legitimate concerns that not applying single-point accountability will continue to result in a significant lack of accountability, resulting in ongoing delays within DPS and denying defence procurement an improved level of efficiency and effectiveness.

Conclusion

It is apparent by the information presented that the current DPS will be negatively affected by the governments lack of stable funding for defence acquisitions and the current method of applying Budget Year (BY) accounting will create reduced levels of procurement capability in future years. The goals outlined in the 2008 CFDS called for predictable and stable funding to support the procurement needs of the CAF, this has not been the case and project delays and cancellations have resulted from these budgetary reductions. In addition to increase the productivity of the DPS and overall procurement output the capacity of the acquisition workforce must be improved. In the last ten years or so the amount of large, complex defence

²²³ Alan Williams, Fixing Defence Procurement (it's not rocket science), *Front Line Defence Magazine Vol 11, No 2*, (2014), last accessed July 24, 2015 at: <http://defence.frontline.online/article/2014/2/669-Fixing%20Defence%20Procurement%20>

²²⁴ Sven Tommi Rebien, Canada's New Defence Procurement Strategy: Has the Pendulum Swung Too Far?, *CDFAI Policy Paper*, (April 2014), 3-4. accessed on Nov 12, 2015 at: http://www.cgai.ca/canadas_new_defence_procurement_strategy

projects has grown tremendously with no corresponding workforce increase, leaving not enough workers who possess the required experience and skills to properly administer the departments bulging procurement files. The procurement structure requires additional acquisition specialists, improved training and professional development, and the ability to retain key individuals in critical jobs.

The benefits of closer engagement with industry in the DPS structure seem obvious and transparent, industry feels it would provide advance notification to invest adequately research and development, determine the best processes and promote innovative thinking and solutions, establish needed partnerships and supply chains prior to projects being publicized. The industry slant is that this will enhance the overall industrial base and assist in obtaining the right equipment at the right time for the right price but some analysts remain sceptical and warn that this type of engagement has no long term successful track record, and in fact may hinder government procurement contracting options.

Finally, much discussion has arisen over the DPS structure and its lack of SPA, The Canadian procurement system has no single minister in charge of the entire procurement process and many experts point to this as a roadblock to streamlining and improving the procurement process. The goal of this multi-departmental approval structure is to increase accountability, and in theory the secretariat approach should offer more oversight and increase the efficiency of the acquisition process. To date the results are mixed and opponents point to the advantages of the SPA concept as a mechanism within the DPS to increase accountability and improve delivery timelines within procurement projects.

CHAPTER 6: FINAL CONCLUSIONS AND RECOMMENDATIONS

It is clear from the information and analysis presented in this paper including a review of procurement processes, allied acquisition methods and overview of Canada's current Defence Procurement Strategy that clearly this new initiative, despite some of its shortcomings, is an important first step in procurement reform and a major achievement for the Government of Canada. The primary goals of delivering the right equipment to the CAF and CCG, leveraging defence contracts to enable economic benefits to Canada and streamlining Defence Procurement in Canada are important factors in creating an effective overall procurement strategy. A major challenge regarding the implementation of this new DPS will be the ability to manage expectations of what benefits ultimately will arise from these reforms, and how will they ultimately impact the procurement process either positively or negatively.

There are a number of areas of concern within the new DPS that need to be addressed and monitored and some analysts continue to point out that in its current form it's centered too much on short term economic returns. The new DPS also contains numerous significant risks with no obvious plan to address these inherent risks. These risks to the current DPS were addressed with in Chapter Five of this paper. To summarize, the first major risk is the government's ongoing inability to provide adequate and stable funding, as a result the Operational Readiness of the CAF has been negatively affected and a continual erosion of buying power can only mean reduced levels of badly needed procurement in future years. Next the existing acquisition workforce is both insufficient in number and undertrained to complete the complex administration of the large numbers of Major Crown Projects underway at the present time. Thirdly, concerns have been raised over the ability to effectively incorporate earlier and continuous industry engagement and what actual benefits this effort may yield to leverage economic gains within DPS. Finally, as noted in the paper, alarms have been raised over the DPS

structure and its lack of Single Point of Accountability. The existing Canadian procurement system has no single minister managing the entire procurement process and experts point to this as a significant roadblock to streamlining and improving the procurement process.

Based on the information provided in the previous chapters in support of the general argument that additional reforms are needed to further improve the recently introduced DPS and our military procurement structure, the following recommendations are presented. Through careful analysis of the information provided in the paper additional reform measures covering the areas of: adequate budgetary allocations, reviewing the size and augmenting the capacity of the acquisition workforce, examining the possible incongruent aims of closer engagement with industry while seeking the best value for tax payers' money and proposing streamlining of the capital acquisition process via a single point of accountability should be enacted. Implementing these recommendations would enhance the current DPS model and provide a more effective, efficient and timely procurement model, one that places emphasis on the timely delivery of equipment to meet the transformational and operational needs of the Canadian Armed Forces of the 21st Century.

Recommendations

1. To ensure adequate and stable funding a general refresh of the existing Canada First Defence Strategy is required. The requirement to set aside adequate ongoing and sufficient procurement funds for identified Major Crown Projects is critical to the procurement success of the Defence Procurement Strategy;
2. The overall size of the Acquisition Workforce must be significantly enlarged to meet the current and future needs of the ADM Mat organization. A review of current and future staffing levels based on Major Capital Project planning cycles will enable ADM

Mat to better position the organization to fulfill the procurement administrative and management responsibilities;

3. Improve the actual capacity of the procurement workforce by enhancing skills training, lower levels of civilian positional changes within departments to maintain continuity, extend posting periods for military members assigned to ADM Mat to leverage input, and improve senior leadership procurement skills;

4. Continue to leverage the engagement of industry early and on an ongoing basis in the procurement process, but dedicate analytical resources to ensure this approach is actually obtaining a desired and measureable outcome by the government; and

5. Investigate and explore the opportunity to implement a single ministerial point of accountability in the procurement process. This acquisition accountability should reside within the Department of National Defence to provide best oversight from cradle to grave.

BIBLIOGRAPHY

- Auger, Martin. "Defence Procurement Organizations: a Global Comparison", *Library of Parliament Backgrounder*, (Ottawa: October 2014)
- Aucoin, Peter. Treasury Board, Treasury Board of Canada Secretariat, Discussion Paper, *Decision-Making in Government: The Role of Program Evaluation*, (Ottawa: October 2005), last accessed 16 June 2015 <http://www.tbs-sct.gc.ca/cee/tools-outils/aucoin-eng.asp>
- Australian Department of Defence. Defence Materiel Organisation (DMO), last accessed June 14, 2015 at <http://www.defence.gov.au/dmo/AboutDMO> and http://www.defence.gov.au/dmo/Multimedia/DMO_Flipbook_MAR2012.pdf
- Barkel, Erin K. and Rod Story, *Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships*. (Ottawa: Office of the Parliamentary Budget Officer, October 28, 2014).
- BBC News. Online Article, "Defence procurement privatisation plan axed," *BBC news.com*, December 10, 2013 last accessed on 12 May 2015, 2015 at <http://www.bbc.com/news/uk-politics-25321111>
- Bercuson, David. "Time to Wake Up on Procurement", *Legion Magazine*, November 1, 2005, last accessed 22 April, 2015 at: <https://legionmagazine.com/en/2005/11/time-to-wake-up-on-procurement/>
- Berkok, Ugurghan. "Canadian defence procurement" in *Defence Procurement and Industrial Policy – A small country perspective*, edited by Stefan Markowski, Peter Hall and Robert Wylie, New York: Routledge, 2010.
- Blakeney, Allan and Sandford F Borins. *Political Management in Canada: Conversations on Statecraft*. Toronto: University of Toronto Press, 1998.
- Bland, Douglas. "Parliament's Duty to Defend Canada," *Canadian Military Journal* 1, no. 4 (2000): 35–43,
- Bland, Douglas L. Parliament, *Defence Policy and the Canadian Armed Forces, Queens University The Claxton Papers, No. 1*, (September, 1999): 3.
- Bland Douglas L. and Roy Rempel. "A Vigilant Parliament: Building Competence for Effective Parliamentary Oversight of National Defence and the Canadian Armed Forces," *Policy Matters*, vol. 5, no. 1 (February 2004).
- Bland, Douglas. "Everything Military Officers Need to Know About Defence Policy-Making in Canada." In *Canadian Strategic Forecast 2000: Advance or Retreat? Canadian Defence in the 21st Century*, edited by David Rudd, Jim Hanson, and Jessica BLitt, Toronto, ON: Canadian Institute of Strategic Studies, 2000.
- Bland, Douglas. Report of the Standing Committee on National Defence, Evidence, Parliamentary Report Dec 2012.

- Bland, Douglas. ed, *Transforming National Defence Administration*. Kingston: School of Policy Studies, Queen's University, 2005.
- Bland, Douglas. House of Parliament, Testimony 38th Parliament Session, Standing Committee on National Defence and Veterans Affairs, Ottawa, 25 Oct 2005, 1125-1250.
- Bland, Douglas. "In Defence of Canada's Defence", *IRPP.Org Policy Options*, (November 2010), last accessed Aug 12, 2015 at <http://policyoptions.irpp.org/issues/afghanistan/in-defence-of-canadas-defence/>
- Bowering, Ken. "General Sir Arthur Currie Paper 1-08: Military/Naval Procurement in Canada: A Flawed Process." 10, Conference of Defence Associations Institute, 2008.
- Bowering, Ken. "National Shipbuilding: Where we are and Where We're Headed." *Canadian Naval Review* 8, no. 2 (Summer 2012): 19–23.
- Brewster, Murray. "Canada talks tough on Ukraine, but cuts \$2.7B from defence in 2015", *The Canadian Press*, September 1, 2014, Last accessed May 13, 2015 at <http://www.macleans.ca/politics/ottawa/canada-talks-tough-on-ukraine-but-cuts-2-7b-from-defence-in-2015/>
- Brophy, R.M. "Procurement Service Concepts," Deputy Minister, Department of Defence Production, Industrial College of the Armed Forces, Washington, DC, 12 December 1952; last accessed June 14, 2015 at: <https://digitalndulibrary.ndu.edu/cdm/compoundobject/collection/icafarchive/id/2749/rec/4>
- Byers, Michael. "Does Canada Need Submarines?" *Canadian Military Journal*, Vol. 14, No. 3, (Summer 2014):7-14.
- CADSI, Report. *Improving Canadian Defence Procurement*; last accessed Oct 17, 2015 at: <https://www.defenceandsecurity.ca/UserFiles/File/IE/Annex%20E%20%20Consultation%20Summary.pdf>
- CADSI, Industry Report. *Canada's Defence Industry: A Vital Partner Supporting Canada's Economic and National Interests*, December 2009; last accessed Oct 17, 2015 at: https://www.defenceandsecurity.ca/UserFiles/File/IE/Military_Procurement_Main_Report_March_09_2010.pdf
- CADSI, Industry Report. *The Canadian Framework and Industry Position*, November 2009. Last accessed Oct 17, 2015 at: <https://www.defenceandsecurity.ca/UserFiles/File/IE/Annex%20E%20-%20Consultation%20Summary.pdf>
- CADSI, Industry Report. *Navy Outlook*, Canadian Government, Ottawa: April 8, 2014.

CADSI, Marine Industries Working Group. *Sovereignty, Security and Prosperity - Government Ships - Designed, Built and Supported by Canadian Industry*. May 2009. Last accessed Oct 17, 2015 at: <http://www.defenceandsecurity.ca/UserFiles/File/pubs/cadsi-mir.pdf>

Cairns, Peter. "Shipbuilding and Industrial Preparedness," *Canadian Naval Review* 2, no. 3 (Fall 2006): 16–23.

Cairns, Peter. President, *Shipbuilding Association of Canada*, commentary, last accessed 17 May 2015 at http://canadianshipbuilding.com/?page_id=1195

Canada. 39th Parliament, 2nd Session, Testimony Dan Ross, ADM Mat, Testimony, 2008.

Canada. Collections Canada, "Administrative History," *Department of Defence Production Fonds, LAC, RG49M 69/9157*, last accessed 12 May, 2015 at <http://www.collectionscanada.gc.ca/>

Canada. Government of Canada, *2014 Navy Outlook*, (Ottawa: Canadian Association of Defence and Security Industries, April 8, 2014.)

Canada. "Canada First: Leveraging Defence Procurement Through Key Industrial Capabilities, Report of the Special Adviser to the Minister of Public Works and Government Services", February 2013, last accessed Aug 24, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/documents/eam-lmp-eng.pdf>

Canada. Department of National Defence, *Capability Based Planning Handbook Version 6.2*, Ottawa, 2010.

Canada. Department of National Defence, "Diagram of Project Management Phases," DND Project Management Approval Guide, Para 2.1.4, Ottawa, 2008.

Canada. Department of National Defence, Procurement backgrounder, last accessed Nov 8, 2015 at: <http://www.forces.gc.ca/en/business-how-to-do/government-defence-procurement.page>

Canada. Department of National Defence, *Report on Plans and Priorities* (2014), last accessed Oct 15, 2015 at http://www.forces.gc.ca/assets/FORCES_Internet/docs/en/DND-RPP-2014-15.pdf

Canada. Department of National Defence, *The Canada First Defence Strategy*, (Ottawa: DND, 2008).

Canada. Status Report on Transformational and Major Crown Projects, National Defence and the Canadian Armed Forces, accessed on July 22, 2015 at: <http://www.forces.gc.ca/en/about-reports-pubs-report-plan-priorities/2014-status-report-transformational-major-crown-projects.page>

Canada. Industry Canada, "Industrial and Regional Benefits," last accessed Nov 8, 2015 at http://www.tourism.gc.ca/eic/site/042.nsf/eng/h_00016.html

Canada. Industry Canada, "Industrial and Technological Benefits," last accessed Nov 8, 2015 at <http://www.ic.gc.ca/eic/site/086.nsf/eng/00006.html>

Canada. Industry Canada, Value Proposition and Industrial and Technological Benefits, Online Backgrounder, last accessed Nov 8, 2015 at <http://news.gc.ca/web/article-en.do?nid=813549#KIC>

Canada. House of Parliament, SCONDVA 1999 Lageux Testimony, last accessed Nov 8, 2015 at <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1039296&Language=E&Mode=1&Parl=36&Ses=1>

Canada. Library of Parliament, 41st Parliament 1st Session Report of the Standing Committee on National Defence, Testimony of James Bezan, Ottawa, December 2012.

Canada. *Leadmark: The Navy's Strategy for 2020*. Ottawa, ON: Chief of the Maritime Staff, 2001.

Canada. National Fighter Procurement Secretariat, *Evaluation of Options to Sustain a Canadian Forces Fighter Capability: Terms of Reference*, last accessed Nov 8, 2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/torcc-torcf-eng.html>

Canada. National Fighter Procurement Secretariat, *Industry Engagement Request: Questionnaire 1 - Assessment Methodology, May 2013*, last accessed Nov 8, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/metheval-assemntmeth-eng.html>

Canada. National Shipbuilding Procurement Strategy, *Backgrounders, 2010-2013*, last accessed Nov 18, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/inform-back-eng.html>

Canada. Office of the Auditor General of Canada, *Fall 2013 Report, chapter 3*, last accessed Nov 8, 2015 at http://www.oag-bvg.gc.ca/internet/English/parl_oag_201311_03_e_38797.html

Canada. Office of the Auditor General of Canada, Spring 2012 Report, chapter 2. Last accessed Nov 8, 2015 at http://www.oag-bvg.gc.ca/internet/English/parl_oag_201204_02_e_36466.html

Canada. PWGSC, NSPS Chronology of Events, last accessed Nov 8, 2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/sam-mps/chronologie-chronology-eng.html>

Canada. PWGSC, FWSAR Chronology of Events, last accessed Nov 8, 2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/chronologie-chronology-eng.html>

Canada. PWGSC, NFPS Chronology of Events, last accessed Nov 8, 2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/vnmntsjlms-vntsmstns-eng.html>

Canada. PWGSC, Defence Procurement Secretariat, last accessed Nov 8, 2015 at

<http://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/samd-dps/simplifie-streamlined-eng.html#a1>

Canada. Public Works and Government Services Canada, “Plan the Procurement Strategy”, last accessed June 14, 2015 at: <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/section/3#section-3.1.1>

Canada. PWGSC, Defence Procurement Strategy. Streamlined and Coordinated Decision-Making, last accessed June 14, 2015 at <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/streamlined-eng.html>

Canada. PWGSC, Jenkins Report, last accessed Nov 10, 2015 at: <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/eam-lmp-eng.html>

Canada. PWGSC, Supply Manual “Chapter 1 – Public Procurement,” last accessed June 14, 2015 at Annex 1.1.2.1 and Annex 1.1.2.2

Canada. PWGSC, Supply Manual “Chapter 1 – Public Procurement,” Matrix of Responsibilities at <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/1/1/1>

Canada. Public Works and Government Services Canada, Leveraging Defence Procurement to Create Jobs and Benefit the Economy, last accessed June 14, 2015 at: <http://news.gc.ca/web/article-en.do?nid=813789>

Canada. Public Works and Government Services Canada, Supply Manual: last accessed June 14, 2015 at: <https://buyandsell.gc.ca/policy-and-guidelines/supply-manual>

Canada. Public Accounts of Canada Vol. II., Table 3: Ministerial Expenditures by Standard Object. (Ottawa: Public Works and Government Services Canada-numerous years, 2010-2013).

Canada. Report of the Standing Committee on National Defence, Douglas Bland, Evidence, *Parliamentary Report*, Dec 2012.

Canada. The Road to Balance, (Budget 2014), Ottawa: Department of Finance Canada, 2014, Table 4.1.1, p. 260

Canada. Standing Committee On National Security and Defence, The Government’s No. 1 Job – Securing the Military Options it Needs to Protect Canadians (Ottawa, 2006).

Canada. Treasury Board of Canada Secretariat, *Decision-Making in Government: The Role of Program Evaluation*, Discussion Paper by Peter Aucoin , October 2005, last accessed June 24, 2015 at <http://www.tbs-sct.gc.ca/cee/tools-outils/aucoin-eng.asp>

Canadian Press Article. “\$1.7B already spent on troubled Cyclone helicopters”, CBC News.com, Jan 10, 2014, a last accessed June 14, 2015 at <http://www.cbc.ca/news/canada/nova-scotia/1-7b-already-spent-on-troubled-cyclone-helicopters-1.2491268>

- Card, Duncan. "Defence Procurement Changes in Canada Announced", *mondaq.com backgrounder*, last accessed June 14, 2015 at: <http://www.mondaq.com/canada/x/294036/Government+Contracts+Procurement+PPP/Defence+Procurement+Changes+In+Canada+Announced>
- Conference of Defence Associations Institute (CDAI), Canadian Association of Defence and Security Industries (CADSI), the Aerospace Industries Association of Canada (AIAC) and the Shipbuilding Association of Canada (SAC) respective sites last accessed on Dec 4, 2015 at: <http://www.cdainstitute.ca/>, <https://www.defenceandsecurity.ca/>, www.aiac.ca/, <http://canadianshipbuilding.com>
- Crosby, A., "Project Management in DND", *Canadian Defence Quarterly*, 18:6, Special No.2/1989, (June 1989), 59-63.
- Davies, Charles. Canada's Defence Procurement Strategy: An End or a Beginning? *Vimy Paper 21*, (September 2014), 4-5, last accessed July 14, 2015 at <https://www.cdainstitute.ca/images/VimyPaper20.pdf>
- Dymond, Bill and Michael Hart, "Canada and the global challenge: Finding a place to stand," *Commentary 180*, CD. *Howe Institute, Toronto*, (March 2003): 2-3.
- Edgar, Alistair D. and David G. Haglund, *The Canadian Defence Industry in the New Global Environment*. Montreal: McGill-Queen's University Press, 1995.
- Fergusson, James. "In Search of a Strategy: The Evolution of Canadian Defence Industrial and Regional Benefits Policy," in Martin, *The Economics of Offsets*, (1996):107-138.
- Fetterly, Elgin R. "Arming Canada: Defence Procurement for the 21st Century," Doctor of Philosophy Thesis, Royal Military College of Canada, 2011.
- Fetterly, Ross. Defence Procurement Reform in Other Nations, Defence Management Studies Program, Queens University, (2009):15-24.
- Finley Diane. MP, Minister of Public Works and Government Services, Announcement of Defence Procurement Strategy, Economic Club of Canada, Ottawa, Ontario February 5, 2014
- Godefroy, Andrew. The Ghost of General Otter: Putting the Canadian Forces Report on Transformation 2011 in Context, *CDFAI Research Paper*, (November, 2012), last accessed June 14, 2015 at: <http://www.nato.int/docu/review/topics/en/Smart-Defence.htm>
- Gray, Bernard. Review of the Acquisition for the Secretary of State for Defence: An Independent report by Bernard Gray. London: Bernard Gray, October 2009.
- Grevatt, Jon. "Plans emerge to restructure Australian Defence Materiel Organisation," *Janes.com*. July 28, 2014, last accessed May 12, 2015 at: <http://www.janes.com/article/41293/plans-emerge-to-restructure-australian-defence-materiel-organisation>

- Haycock, R.G. "Early Canadian Weapons Acquisition: 'That Damned Ross Rifle,'" *Canadian Defence Quarterly* 14, 3 (Winter, 1984-85):48-57.
- Haycock, R.G. "Policy, Patronage, and Production: Canada's Public and Private Munitions Industry in Peacetime, 1867-1939," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund, Kingston: R.P. Frye, 1988.
- Horan, D.J. "A Vulnerable Royal Canadian Navy: The National Shipbuilding Procurement Strategy and the Threat to the Navy's Long Term Vision." Master of Defence Studies Course Paper, Canadian Forces College, 2012.
- Ivison, John. "\$26B shock- Canada's largest ever defence procurement handed off in sole-source contract", *National Post*, January 21, 2015, accessed on April 18, 2015 at <http://news.nationalpost.com/full-comment/john-ivison-26b-shock-canadas-largest-ever-defence-procurement-handed-off-in-sole-source-contract>
- Jenkins, Tom. *Canada First: Leveraging Defence Procurement through Key Industrial Capabilities: Report of the Special Adviser to the Minister of Public Works and Government Services*, Ottawa: Public Works and Government Services Canada, 2013.
- Johnston, William. "Canadian Defence Industrial Policy and Practice: A History," *Canadian Defence Quarterly* 18, 6 *Special no. 2* (June 1989): 21.
- Jones, Pete and Philippe Lagassé. Rhetoric versus reality: Canadian defence planning in a time of austerity", *Defence & Security Analysis*, 28:2, 2012.
- Kennedy, Major K. "Unmilitary People and Defence Procurement: Why Canada Should Use a Rational Approach to Procure Major Equipment Platforms." Master of Defence Studies Course Paper, Canadian Forces College, 2012.
- Kenny, Colin. Chair of SCONSAD, "DND Equipment Procurement," *Ottawa Citizen*, 23 February 2006.
- Lagassé, Philippe and Paul Robinson. "Reviving Realism in the Canadian Defence Debate," *Martello Paper No. 34* (Kingston: Queen's Centre for International Relations, 2008).
- Lagassé, Philippe. Recapitalizing the Canadian Forces' Major Fleets: Assessing Lingering Controversies and Challenges, *CIC/CDFAI Strategic Studies Working Group*, (December 2012), last accessed on July 13, 2015 at: <http://www.cdfai.org/PDF/Recapitalizing%20the%20Canadian%20Forces%20Major%20Fleets.pdf>
- Lagassé, Philippe. Parliamentary Report Dec 2012, Report of the Standing Committee on National Defence, Evidence, February 16, 2012

- Lagueux, Pierre L. ADM Mat, DND, presentation in House of Commons to SCNDVA, 2 March 1999, Last accessed Jun18, 2015 at <http://www.parl.gc.ca/HousePublications/Publication.aspx?DocId=1039296&Language=E&Mode=1&Parl=36&Ses=1>
- Lagueux, Pierre. "Creating an Acquisition Model That Works", *Vimy Paper1*, CDAI: Ottawa, 2006, accessed on Oct 24, 2015 at: <http://books1.scholarsportal.info/viewdoc.html?id=27687>
- Lehrer, Eric. "The National Shipbuilding Procurement Strategy: An Update", *CIC/CDFAI Strategic Studies Working Group Papers*, 2013, last accessed on July 13, 2015 at <http://opencanada.org/wp-content/uploads/2013/02/SSWG-Paper-Eric-Lerhe-February-2013.pdf>
- Leslie, Andrew. Report on Transformation 2011, e-copy retrieved on 14 June 2015 from http://mldc.whs.mil/public/docs/library/allportfolios/Canadian_Report-Military_Transformation-2011.pdf
- Locke, Robyn. "Defence Procurement Strategy: Effectiveness over Efficiency." JCSP Course Paper, Canadian Forces College, 2013.
- Lynch, Thomas, "Stuffing NSA: DND and Canadian Industry Gear Up to Provide Comprehensive Mission Suite," Canada's Navy (Annual, 1988-89).
- Macdonald, George, "New Defence Procurement Process: The Devil is in the Details", *Frontline Magazine.com*, Vol. 11, No 2 (2014), last accessed 14 June 2015 at http://www.frontline-defence.com/index_archives.php?page=2158
- McFadden, Vice-Admiral Dean. "Report on Canada's Navy," *Canadian Defence Review Vol 14, Issue 4* (August 2009): 16-17.
- Middlemiss, Danford William, and Joel J. Sokolsky. *Canadian Defence: Decisions and Determinants*. Toronto: Harcourt Brace Jovanovich, 1989.
- Middlemiss, Dan. *Defence Procurement in Canada*, in Canada's International Security Policy, ed. David B. Dewitt and David Leyton-Brown, Scarborough: Prentice Hall, 1995.
- Morton, Desmond. *A Military History of Canada, 5th edition*, Toronto: McClelland & Stewart, 2007, chapters 4-5.
- Morton, Desmond. *Understanding Canadian Defence*, Toronto: Penguin Canada, 2003
- NATO Publication. *Smart Defence*, last accessed July 22, 2015
- Peck, Merton and Frederic Scherer. *The Weapons Acquisition Process: An Economic Analysis*. Boston: Division of Research, Harvard Business School, 1962.

- Peer, David. "Problems with Naval Ship Procurement?", *Canadian Naval Review Forum*, Feb 2013, accessed on June 14, 2015 at <http://www.navalreview.ca/2013/02/problems-with-naval-ship-procurement/>
- Perry, Dave. "Putting the Armed Back into the Canadian Armed Forces, Improving Defence Procurement in Canada", *CDAI Vimy Paper 21*, (January 2015):1-27.
- Perry, Dave. "The Growing Gap Between Defence Ends and Means: The Disconnect between the Canada First defence Strategy and the Current Defence Budget", *Vimy Paper 19*, (June 2014):1-17.
- Perry, David. "Defence Austerity: The Impact to Date", *Conference of Defence Associations Institute*, 2013. Last accessed on Aug 15, 2015 at: http://www.cdainstitute.ca/images/Defence_Austerity_Budget_2013.pdf
- Plamondon, Aaron. *The Politics of Procurement: Military Acquisition in Canada and the Sea King Helicopter*, Vancouver: University of British Columbia Press, 2010.
- Plamondon, Aaron. "Casting off the Yolk: The Transition of Canadian Defence Procurement within the North Atlantic Triangle, 1907-53", MA thesis, Royal Military College of Canada, 2001.
- Plamondon, Aaron. "Equipment Procurement in Canada and the Civil-Military Relationship: Past and Present" *Calgary Papers in Military and Strategic Studies*. (2008).
- Pugliese, David. "Defence Procurement Staff Struggle with Burnout". *Ottawa Citizen*, Nov 23, 2014, last accessed Oct 30, 2015 at: <http://ottawacitizen.com/news/politics/defence-procurement-staff-struggle-with-burnout>
- Pugliese, David. "Military Procurement is a National Disgrace", *Ottawa Citizen*, accessed on April 18, 2015 at <http://www.macleans.ca/news/canada/military-procurement-is-a-national-disgrace/>
- Rebien, Sven Tommi. "Canada's New Defence Procurement Strategy: Has the Pendulum Swung to Far", *CDAI Policy Paper*, (2014), 3, accessed on Nov 12, 2015 at: http://www.cgai.ca/canadas_new_defence_procurement_strategy
- Ross, Dan. 2013 Ottawa Conference on Defence and Security. Ottawa: CDA Institute, February 22, 2013.
- Ross, Dan. ADM Mat, Testimony, 39th PARLIAMENT, 2nd SESSION FEBRUARY 2008.
- Ross, Dan. Parliamentary Standing Committee on National Defence (NDDN), Evidence, February 8, 2007.
- Rostek, Michael. "Managing Change Within DND," in *The Public Management of Defence in Canada*, ed. Craig Stone, (Toronto: Breakout, 2009).

- Scherer, Frederic. *The Weapons Acquisition Process: Economic Incentives*, Cambridge: Harvard University Press. 1964.
- Shadwick, Martin. "The National Shipbuilding Procurement Strategy and the 'Ambition-Capability Gap'", *Canadian Military Journal*, Vol. 14, No. 2, (Spring, 2014)
- Shadwick, Martin. "Procurement and the Perfect Storm," *Canadian Military Journal* (Winter 2013), 65.
- Shadwick, Martin. "Procurement, Optics and Cyclones," *Canadian Military Journal* (Autumn 2014):77-80.
- Shadwick, Martin. "Bridging Maritime Gaps," *Canadian Military Journal*, (Winter 2014):64-68.
- Shadwick, Martin. "Recapitalizing the Forces," *Canadian Military Journal* 10, no. 1 (2009): 87–90.
- Shadwick, Martin. The report On Transformation 2011, *Canadian Military Journal*, Vol 12, No.1, (Winter 2011)
- Shipbuilding Association of Canada. "*Striving For a Coherent Shipbuilding Strategy*", Policy Paper (April 2014), last accessed on June 22, 2015 at: http://canadianshipbuilding.com/wp-content/uploads/2014/03/Striving-For-A-Coherent-Shipbuilding-Policy_SAC_April-2014.pdf
- Siddiqui, Haroon. Stephen Harpers Empty Sloganeering on Ukraine, *Toronto Star Editorial*, Last accessed on May 13, 2015 at http://www.thestar.com/opinion/commentary/2014/03/16/stephen_harpers_empty_sloganeering_on_ukraine.html
- Simpson, Jeffery. "How broken is military procurement? It's time for a blue-ribbon panel", *Globe and Mail*, March 6, 2013, last accessed 22 May 2015 at <HTTP://WWW.THEGLOBEANDMAIL.COM/GLOBE-DEBATE/HOW-BROKEN-IS-MILITARY-PROCUREMENT-ITS-TIME-FOR-A-BLUE-RIBBON-PANEL/ARTICLE9831465/>
- SIPRI Yearbook 2015, Military Expenditure, in Armaments, Disarmament and International Security, last accessed 15 Oct 2015 at <http://www.sipri.org/yearbook/2015/downloadable-files/sipri-yearbook-2015-summary-pdf>
- SIPRI, News release, 18 February 2013, "SIPRI Top 100 Arms Sales Decreased in 2011: Companies Pursue Diverse Strategies in Response to Austerity Measures,"
- Sköns, Elizabeth et al. "Military Expenditure," in SIPRI Yearbook 2002: Armaments, Disarmament and International Security, Stockholm International Peace Research Institute [SIPRI], 231–265.

- Sloan, Elinor. "Acquisitions and Initiatives", *The School of Public Policy SPP Research Paper*, 6. 36, (December 2013), last accessed June 13, 2015 at:
<http://www.policyschool.ucalgary.ca/sites/default/files/research/e-sloancanada-defence-revised.pdf>
- Sloan, Elinor. "Something Has to Give: Why Delays Are the New Reality of Canada's Defence Procurement Strategy", *CDFAI Paper*, (October 2014)
- Sokolsky, Joel. Parliamentary Report Dec 2012 Report of the Standing Committee on National Defence Evidence, February 14, 2012
- Stacey, C.P. *Military Problems of Canada: A Survey of Defence Policies and Strategic Conditions Past and Present*. Toronto: Canadian Institute of International Affairs; Ryerson Press, 1940
- Stanley, George. *Canada's Soldiers: The Military History of an Unmilitary People*, Toronto: MacMillan, 1974.
- Stewart, Patrick. "Weak States and Global Threats," *The Washington Quarterly* 29, no. 2, (2006):27-53.
- Stone, Craig and Binyam Solomon, Canadian Defence Policy and Spending, *Defence and Peace Economics*, Vol 16 (3), June 2005, 145-169.
- Stone, Craig. "Improving the Acquisition Process in Canada", *SPP Research Papers*, Vol 8, Issue 16, (April 2015), last accessed 23 Oct at
<http://www.policyschool.ucalgary.ca/sites/default/files/research/improving-acquisition-process-stone.pdf>
- Stone, Craig. "A Separate Defence Procurement Agency: Will it Actually Make a Difference", *CIC/CDFAI Security Studies Working Group*, February 2012, last accessed on July 23, 2015, at <http://www.cdfai.org/PDF/A%20Separate%20Defence.pdf>
- Stone, Craig. "Defence Procurement and the Need for Disciplined Capital Investment." *The Public Management of Defence in Canada*. Toronto: Breakout Educational Network, 2009.
- Stone, Craig. "Procurement in the 21st Century: Will the Present Process Meet the Requirement?" *RMC War Studies Occasional Paper Series*, 1999.
- Stone, Craig. *The Public Management of Defence in Canada*, Toronto: Breakout Education Network, 2009.
- Stone, Craig. "Canadian-Australian Opportunities for Defence Procurement and Industry Cooperation", *CIGI Papers no. 22 - January 2014*, last accessed June 14, 2015 at:
<https://www.cigionline.org/publications/2014/1/canadian-australian-opportunities-defence-procurement-and-industry-cooperation.PDF>
- Sutherland, R.J. "Canada's Long-term Strategic Situation." *International Journal* 17/3 (1962).

- Thompson, Michael. "The Quest for Control in Canadian Defence Policy: The Evolution of Defence Management and Organization, 1963–1972", PhD Thesis Paper, Doctorate of Philosophy in History, University of Ottawa, 2014, last accessed on May 17, 2015 at https://www.ruor.uottawa.ca/bitstream/10393/31844/1/Thompson_Michael_2014_thesis.pdf
- Thorsteinson, Janet. "A Managed Approach to Fleet Acquisition," *Canadian Naval Review* 4, no. 2 (Summer 2008): 28 - 30
- Treddenick, John M. "The Defence Budget," in David B. Dewitt and David Leyton-Brown, eds. *Canada's International Security Policy*. Scarborough: Prentice Hall Canada Inc., 1995.
- Treddenick, John. "The Economic Significance of the Canadian Defence Industrial Base," in *Canada's Defence Industrial Base: The Political Economy of Preparedness and Procurement*, ed. David G. Haglund, Kingston: R.P. Frye, 1988
- United Kingdom. *Defence Reform Act 2014*, accessed on Oct 28, 2015 at http://www.legislation.gov.uk/ukpga/2014/20/pdfs/ukpga_20140020_en.pdf
- United Kingdom. *Ministry of Defence (MOD)*, Accessed on Oct 28, 2015 at <https://www.gov.uk/government/organisations/defence-equipment-and-support>
- United Kingdom. *House of Commons Defence Committee Defence Equipment 2010*, accessed on Oct 28, 2015 at <http://www.publications.parliament.uk/pa/cm200910/cmselect/cmdfence/99/99.pdf>
- United Kingdom. MOD, *The Defence Strategy for Acquisition Reform sect.6.9:18*, (2010), accessed on Nov 20, 2015 at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228575/7796.pdf
- United States. DOD, US Navy, Army, Air Force and Coast Guard websites, last accessed on Oct 27, 2015 at: <http://www.secnav.navy.mil/rda/Pages/default.aspx>, <http://www.army.mil/asaalt/>, <http://ww3.safaq.hq.af.mil/index.asp>, <http://www.uscg.mil/ACQUISITION/default.asp>
- United States. Department of Defence, *Defence Logistics Agency*, last accessed on Oct 27, 2015 at: <http://www.dla.mil/>
- United States. *GAO Defense Acquisitions Report to Congressional Committees*, accessed on Oct 28, 2015 at <http://www.gao.gov/assets/670/662184.pdf>
- United States. United States Senate, *Defense Acquisition Reform: Where do we go from Here?* October 2, 2014, last accessed on 12 May 2015, 2015 at: [file:///C:/Users/Iain/Downloads/REPORT%20-%20DEFENSE%20ACQUISITION%20REFORM-A%20Compendium%20of%20Views%20\(10-2-14\)1.pdf](file:///C:/Users/Iain/Downloads/REPORT%20-%20DEFENSE%20ACQUISITION%20REFORM-A%20Compendium%20of%20Views%20(10-2-14)1.pdf)

Williams, Alan. "Fixing Defence Procurement (it's not rocket science)", *Front Line Defence Magazine Vol 11, No 2*, (2014), last accessed July 24, 2015 at:
<http://defence.frontline.online/article/2014/2/669-Fixing%20Defence%20Procurement%20>

Williams, Alan S. *Reinventing Canadian Defence Procurement: A View from the Inside*
Kingston: McGill-Queen's University Press, 2006.