

Canadian  
Forces  
College

Collège  
des  
Forces  
Canadiennes



## DEFENDING CANADA EVENTUALLY: DND PROCUREMENT ISSUES AND THE UNTIMELY PROVISION OF MAJOR EQUIPMENT?

Maj T.M.W. White

**JCSP 40**

***Exercise Solo Flight***

**Disclaimer**

Opinions expressed remain those of the author and do not represent Department of National Defence or Canadian Forces policy. This paper may not be used without written permission.

© Her Majesty the Queen in Right of Canada, as represented by the Minister of National Defence, 2016.

**PCEMI 40**

***Exercice Solo Flight***

**Avertissement**

Les opinions exprimées n'engagent que leurs auteurs et ne reflètent aucunement des politiques du Ministère de la Défense nationale ou des Forces canadiennes. Ce papier ne peut être reproduit sans autorisation écrite.

© Sa Majesté la Reine du Chef du Canada, représentée par le ministre de la Défense nationale, 2016.

EXERCISE *SOLO FLIGHT* – EXERCICE *SOLO FLIGHT*

**DEFENDING CANADA EVENTUALLY: DND PROCUREMENT ISSUES  
AND THE UNTIMELY PROVISION OF MAJOR EQUIPMENT**

Maj T.M.W. White

*“This paper was written by a student attending the Canadian Forces College in fulfilment of one of the requirements of the Course of Studies. The paper is a scholastic document, and thus contains facts and opinions, which the author alone considered appropriate and correct for the subject. It does not necessarily reflect the policy or the opinion of any agency, including the Government of Canada and the Canadian Department of National Defence. This paper may not be released, quoted or copied, except with the express permission of the Canadian Department of National Defence.”*

Word Count: 3029

*“La présente étude a été rédigée par un stagiaire du Collège des Forces canadiennes pour satisfaire à l'une des exigences du cours. L'étude est un document qui se rapporte au cours et contient donc des faits et des opinions que seul l'auteur considère appropriés et convenables au sujet. Elle ne reflète pas nécessairement la politique ou l'opinion d'un organisme quelconque, y compris le gouvernement du Canada et le ministère de la Défense nationale du Canada. Il est défendu de diffuser, de citer ou de reproduire cette étude sans la permission expresse du ministère de la Défense nationale.”*

Compte de mots: 3029

## **DEFENDING CANADA EVENTUALLY: DND PROCUREMENT ISSUES AND THE UNTIMELY PROVISION OF MAJOR EQUIPMENT**

Similar to other government departments (OGDs) in Canada, the Department of National Defence (DND) relies upon a complex procurement process. However, unlike many departments, DND, and more specifically the Canadian Armed Forces (CAF), is dependant upon the procurement system to ensure that the men and women fighting for CAF have right tools with which to protect Canada when called upon.

Most recently, procurement for DND has become a highly politicized and publicized topic. The escalating costs for the Joint Strike Fighter (J35), the Arctic Offshore Patrol Ship (AOPS) delayed start and other military procurements have been spotlighted by the media, scrutinized, and in some cases critiqued by many. Spending for DND can be politically subjective as it is not always seen as a priority; however, it is both large in total sum for the tax payer and is significant for business, Government and the Defence Industry in general. Industry Canada's defence sector now includes more than 650 companies located in all regions of Canada and generates more than \$9.4 billion in revenue, employing approximately 65000 workers.<sup>1</sup>

Today's procurement environment, specifically, has been called into question due to long cycle times as well as changing needs and requirements. Cost overruns and the inability to meet operational requirements are repetitive problems for most Western militaries<sup>2</sup> and these are similar problems for Canada. As Williams states, "by now it is

---

<sup>1</sup> Public Works and Government Services Canada. "Defence Procurement Strategy." Canada. (September 2014)

<sup>2</sup> J.C. Stone, *A Separate Defence Procurement Agency: Will it Actually Make a Difference*. Ottawa: CDFAI, Feb 2012, 4

pretty clear that we have a procurement problem”<sup>3</sup> – and it is in need of immediate repair, if not total reengineering from the ground up. This stems from procurement issues arising throughout various parts of the cycle, thus forcing greater resource constraints and economic pressures. Given that cost tends to increase over time, the following courses of action come into play within many large scale procurement projects. “Overruns are often compensated for by accepting a decrease in the weapons system’s capability, purchasing smaller quantities, delaying delivery, or sometimes cancellation of the entire weapon acquisition programs which results in a total loss of sunk costs.”<sup>4</sup>

This essay will demonstrate that the current procurement process utilized by DND for the CAF does not provide the timely purchasing and implementation of the crucial equipment required. Specifically, due to the uncertainty and complexity of particular future roles for the CAF’s various environments, the current capability based procurement process is insufficient. This will be examined through problematic factors such as long cycle times, urgent operational requirements, lack of overall accountability, and finally Canada’s inability to properly leverage the global market. Fundamentally the system is setting conditions that will cause DND and the CAF to continue to fail in its procurement strategy.

The current procurement system for the Department of National Defence (DND) is driven by a few ideals, all of which unfortunately contain internal flaws that compound the procurement issue. Derived from the Canada First Defence Strategy (CFDS) issued in

---

<sup>3</sup> Alan S Williams. "Reinventing Canadian Defence Procurement: A View From the Inside," Breakout Educational Network: Queens University (Kingston On) School of Policy Studies (2006), 1

<sup>4</sup> Carl C Gaither III,. "Incorporating Market-Based Decision-Making Processes in Defense Acquisitions." International Journal Of Defense Acquisition Management 6, (January 2014), 39

2008, this document has broadly defined the expectations of DND and the CAF with respect to identifying missions, and therefore the core capabilities needed. From this singular strategy, extrapolation occurs on the types of equipment and platforms that will be required by the CAF, both now and into the future. Herein lays the first problem: the corresponding costs of fully funding this strategy are extremely high and therefore prohibitive to the current DND procurement model. As these costs are substantial, there are portions of the CFDS strategy that will not be funded or must be downscaled. One of numerous examples of the issues with CFDS may be drawn from the Northern Sovereignty mission. Here the costs to build a northern replenishment and fueling depot known as the Nanisivik Naval Facility has been reduced in scope and functionality of the site to meet the budgetary envelope.<sup>5</sup> However, without the full-scale capability it has become questionable if DND will be able to meet the Northern Sovereignty mandate in the way that it was envisioned.

The next issue in procurement for DND is the new Defence Procurement Strategy (DPS) which came into effect Feb 2014<sup>6</sup>. The DPS contains “three key objectives; delivering the right equipment to the CAF...in a timely manner; leveraging our purchases of defence equipment to create jobs and economic growth in Canada; and streamlining defence procurement processes.”<sup>7</sup> Although very sound in overall theory, upon closer reflection there are some demonstrable gaps to the DPS with respect to its implementation. The first point of the DPS: “...to get the right equipment to the CAF in a timely manner has three ways in which it will be accomplished.” According to their

---

<sup>5</sup> Elinor Sloan. *Something Has to Give: Why Delays are the New Reality of Canada's Defence Procurement Strategy*. Ottawa: CDFAI, Oct 2014, 42

<sup>6</sup> PWGSC. "Defence Procurement Strategy." Canada. (September 2014)

<sup>7</sup> *Ibid.*

website, PWGSC is committed to: ensuring early and continuous industry and client engagement; establishing within DND an independent third party challenge; publishing an annual Defence Acquisition Guide (DAG) that outlines DND procurement priorities.<sup>8</sup> Unfortunately, in order to properly engage the defence industry, DND and the CAF must possess a clear strategic vision of what they, as entities, will be required to achieve both now and in the future. Frustrating to all stakeholders in the process is the lack of clear direction in the short term and the compounding factor that the further along, with respect to time, the requirements become less certain in scope and scale. This has been highlighted by all stakeholders as the major weakness of capability based planning and of the DAG in general.

In order to facilitate getting the right equipment for the job, the CAF utilizes a system of capability based planning as the foundation from which the equipment to be procured is derived. Capability based planning in this context is best defined as:

A functional analysis of operational requirements. Capabilities are identified on the tasks required...once the required capability inventory is defined; the most cost effective and efficient options to satisfy the requirements are sought.<sup>9</sup>

The capabilities based model, simply stated, takes into account the anticipated needs for the future and then best matches the equipment and budgets in order to achieve the aim. The current system is extremely slow and can be unresponsive to changes in technology due to long cycle times. This system once again relies upon knowing what the future requirements will be. It also relies on the operators knowing the functionality of the

---

<sup>8</sup> *Ibid.*

<sup>9</sup> The Technical Cooperation Program. *Guide to Capability-Based Planning*. Washington: TTCPJoint Systems and Analysis Group — Technical Panel 3, 2004.

equipment that can perform the job. This in of itself potentially leads to two further problems. The first issue occurs when the specifications are written so tightly that they may only be sourced by a single preferential item known as in house preference. A good example of this is the fixed wing search and rescue (FWSAR) aircraft project being delayed; it became evident that the Statement of Requirements (SOR) called for an openly competitive process.<sup>10</sup> The second issue potentially arises when too many add-on capabilities are inserted, such as the JSS which, as originally conceived, had refuelling and supply as well as sealift and command and control capabilities. “Such a ship only existed in the minds of Canadian officers; there is no such ship in existence. It was an ambitious vision that could not be achieved within the established budget.”<sup>11</sup>

The second point of the DPS pertains to leveraging the purchases of defence equipment in order to create jobs and economic growth in Canada. Again, theoretically sound in its purpose; however, it can cause increased costs and lead to politicization of the process. More than one politician has stated how the procurement of a certain piece of equipment is great for their riding; however, they failed to look at the Canadian taxpayer as a whole entity. For example, it is positive for Canadian shipbuilding and the Atlantic Provinces in general that the new AOPS and Canadian Surface Combatant (CSC) ships will be built there; however; it would appear that this is done at a premium. As Frazier Fathers states in his article “one of the most damning sections of the [Auditor General’s] report compares the cost of AOPS (\$3.1billion for six ships) to other classes of patrol craft like the Sentinel American Fast Response Cutter (\$1.5 billion for 34 ships) and

---

<sup>10</sup> Elinor Sloan, “Something has to give....”.<sup>4</sup>

<sup>11</sup> *Ibid.*, 30

Australian Armidale Patrol Craft (\$533million for 12 ships and 15 years of support).”<sup>12</sup>

The intent of the Canadian Federal shipbuilding policy is to procure both ship building and ship maintenance services within Canada as long as they are technically capable and when a competitive process exists.<sup>13</sup> If building ships in Canada costs so much more, is government direction really being followed? Both the technical and competitive environments must be called into question.

In order to facilitate the leveraging of purchases of defence equipment to create jobs and economic growth in Canada, PWGSC has formulated the following action points: to use a weighted and rated value proposition to assess bids and major procurements; to implement an export strategy; to identify key industrial capabilities (KICs); to develop an independent third party for assessment.<sup>14</sup> There are many different views on this; however, as stated by Dacus and Hagel, an efficient frontier for defence acquisition can be boiled down to a simple mathematical function. That is to say that “each defence acquisition can be judged by how much input (time and money) is consumed to produce the desired military output (performance or capability).”<sup>15</sup> Although easily formulated through this simple equation, the current methodology utilized within DND is far more subjective and complex and at times needlessly so, adding to the overall cycle time and focusing on areas that do not provide tangible benefits to the end user.

---

<sup>12</sup> Frazier Fathers. "Canadian military spending: The great debate." Canadian Student Review (Fall2013 2013),18

<sup>13</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside," 61

<sup>14</sup> PWGSC. "Defence Procurement Strategy."

<sup>15</sup> Chad Dacus and Stephen Hagel. "A Conceptual Framework for Defense Acquisition Decision Makers: Giving the Schedule Its Due." Defense Acquisition Research Journal: A Publication Of The Defense Acquisition University 21, no. 1 (January 2014), 487



Within the current procurement model lies the largest problem: a lack of overall accountability to the Canadian taxpayer. Accordingly, there is no one minister solely and one hundred percent accountable for the overall procurement process. Accountability is spread over multiple departments and agencies depending on the project. Further, “given that the DPS is driven in the first instance by the goal of supporting Canadian Industry, the failure to create a single point of accountability is a glaring shortcoming of the strategy.”<sup>16</sup> One solution to this problem, it has been argued, is the implantation of a single agency for procurement, where the single agency provided a single point of accountability.<sup>17</sup> However as Stone states “a single agency may improve parts of the process, but it will not solve the underlying challenges.”<sup>18</sup>

Within the capabilities based planning model lies the concept of the best value proposition model. Currently, the ‘best value’ model is one of the models that can be utilized for the procurement process.<sup>19</sup> This methodology is not always chosen; it can be more complex and potentially subjective, as it is not solely focused on the lowest price model. The best value model still requires a core understating of the capability the user is trying to achieve. Yet, it differs significantly; it asks for industry to assist in defining features to meet the capability within a given area instead of specific finite requirements being stated by the end users. As Kendall states:

Getting the requirements community to consider what it would be willing to pay for different levels of performance also has a side benefit in that it forces that user community to recognize its requirements are not free and to engage the acquisitions community on prioritizing those requirements.<sup>20</sup>

---

<sup>16</sup> Elinor Sloan, “Something has to give...”, 7

<sup>17</sup> J.C. Stone, *A Separate Defence Procurement Agency: Will it Actually Make a Difference.*,14

<sup>18</sup> *Ibid.* ,15

<sup>19</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside",45

<sup>20</sup> Best Value for the warfighter

The best overall feature of this procurement model is that it allows the defence industry to see how and what value is placed upon various features, while at the same time allowing for the end user to understand additional value added benefits that could be available for minimal increased cost. However, there are draw backs to this model, in the comparison criteria and its weighting, as well as in potential cost creep to get perceived benefits that may in fact never be required.<sup>21</sup> This risk can be mitigated, as stated by both Kendall and Williams, as the comparison can be done utilizing cost dollars allowing for a value based adjusted price,<sup>22</sup> as long as the worth of various features are defined prior. The second important factor has to do with the high technological nature of many defence procurements. The best value model allows for the end user to have a greater understanding of the most recent technologies and what can be achieved.

Key considerations in a procurement strategy for complex defence equipment or platforms include the overall sourcing strategy, the treatment of costs, and lastly, the asset life cycle.<sup>23</sup> Although treatment of costs and asset life cycle are important, they do not necessarily change based on the sourcing strategy – thus making the sourcing strategy one of the most important considerations.<sup>24</sup> The use of urgent operational requirements (UORs) and single sourcing contracts has become a way of circumventing the system. This occurs in order to provide the equipment that should have already been bought based on the capability based procurement system – as this equipment was recognized as key for required tasks. A good example of this is the single sourcing of strategic air lift, which

---

<sup>21</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside", 46

<sup>22</sup> Frank Kendall. "Getting "Best Value" for the Warfighter and the Taxpayer." Defense AT&L 44, no. 2 (March 2015)

<sup>23</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside", 41

<sup>24</sup> *Ibid.*,138

was and has for decades been a known CAF requirement. During operational times, as was most recently demonstrated in the Afghanistan theatre, there is a definite requirement for flexibility within the procurement system. This flexibility allows for true operational needs to bypass the long cycle times that are inherent in the current process. That being said, every time UORs or single source contracts are employed, it should be due to a gap that was unknown or unanticipated and not because the system failed to deliver the proper equipment in a timely manner.

A key concept in reducing overall cost and ensuring better equipment is employed sooner is the reduction of overall procurement cycle time. Cycle time from a procurement perspective is defined as the total time for the Statement of Requirements (SOR), delivery, and close out of a project.<sup>25</sup> This has ranged over the years from an average of 15.8 to the more recent 9.25 years<sup>26</sup> with respect to DND and major defence procurement projects. A marked improvement, the cycle times are still far too long, especially when compared to those of either civilian organizations or OGDs. The issue with having such a long cycle time for the overall procurement process is twofold. First, the longer the cycle time the greater the chance that the equipment being fielded is already technologically obsolete and will require further funding to modernize. Secondly, the process fails to take into consideration the rough order of magnitude (ROM) costs changing over time with inflation.<sup>27</sup> This impacts projects due to the time escalation of costs, leading to either a reduction in capability, quantity, or a cancellation of the project. A good example of this is the Joint Support Ship (JSS) design that came in over budget and was rejected as result

---

<sup>25</sup> *Ibid.*,97

<sup>26</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside",97

<sup>27</sup> Elinor Sloan, "Something has to give...", 4

of being too ambitious in scope and because of a large increase in the price of steel.<sup>28</sup> A significant and often utilized way to assist in reducing cycle time is to source and procure as many items as will meet the stated SOR, either as a commercial off the shelf (COTS) product or military off the shelf (MOTS) product.

Leveraging COTS and MOTS can and has proven to be a very effective procurement strategy for the CAF; it greatly reduces the overall cycle time, reduces risk and lowers costs.<sup>29</sup> However, this strategic methodology might to be employed further, or expanded upon in the future. Platform vehicles such as the MSVS, MILCOT and Griffin helicopters are good examples: the CA and RCAF have procured commercially acceptable platforms to facilitate training; these platform vehicles are employed for domestic operations, although, they have had limited success in an operational theatre. Further, once requirements are identified in theatre,

More often than not, the most cost-effective and time-efficient means of equipping the CAF is to purchase a pre-existing platform off the shelf from another country. This is how Canada acquired C-17s so quickly as well as many battlefield requirements for Canadian soldiers in Afghanistan.<sup>30</sup>

In conclusion this paper has effectively shown that the current procurement process does not provide for the adequate and timely procurement of the crucial equipment required today by DND and the CAF. The current procurement process is plagued with many demonstrable challenges and is failing to meet the requirements needed for the defence of Canada. Issues with not knowing exactly what is expected from DND and the CAF for future state capabilities is frustrating to all stakeholders, as are the

---

<sup>28</sup> *Ibid.*, 29

<sup>29</sup> Alan S Williams, "Reinventing Canadian Defence Procurement: A View From the Inside," 97

<sup>30</sup> Elinor Sloan, "Something has to give...", 5

corresponding challenges with insufficient funding to the CFDS model. The CFDS's current platform for capability based planning, it appears, will never fully be financially supported – yet, no new strategic direction has been given. Further, the current DPS model and the theoretical ideal of the right equipment in a timely fashion while providing jobs and streamlining the procurement process exists in statement only; thus far, it has not translated into any of the major ongoing projects. Relying on capability based planning and the DAG is an open acknowledgement that the current strategic requirements of DND become less certain as an inverse of time and therefore fail to meet the intent of engaging industry early and often. Reduction of the current procurement cycle time through COTS and MOTS must continue; it forces many issues under the current 9.25 year average. The greatest of these issues are technology; the CAF equipment should not be obsolete prior to being fielded and the CAF should not be in the position of having to deal with reduced capabilities or quantities due to ROM not being properly factored in to account for inflation etc. In order for the CAF to properly meet the defence needs of Canada in a timely manner, utilization of the best value model must be further employed. This will allow users to see what the market can offer with respect to advancing technologies and corresponding prices while mitigating the risk of equipment becoming obsolete prior to its being fielded.

Finally, the lack of overall singular accountability for this process continues to allow the cycle to perpetuate within government; this must change if the procurement process is to become successful. Implementation of these few key strategies will allow the men and women of the CAF to have faith that they are not defending Canada with 'ideal' equipment that has yet to but eventually will arrive.

## BIBLIOGRAPHY

- Dacus, Chad, and Stephen Hagel. "A Conceptual Framework for Defense Acquisition Decision Makers: Giving the Schedule Its Due." *Defense Acquisition Research Journal: A Publication Of The Defense Acquisition University* 21, no. 1 (January 2014): 485-504
- Fathers, Frazier. "Canadian military spending: The great debate." *Canadian Student Review* (Fall2013 2013): 15-23.
- Gaither III, Carl C. "Incorporating Market-Based Decision-Making Processes in Defense Acquisitions." *International Journal Of Defense Acquisition Management* 6, (January 2014): 38-50.
- Kendall, Frank. "Getting "Best Value" for the Warfighter and the Taxpayer." *Defense AT&L* 44, no. 2 (March 2015): 2-5.
- Canada. Public Works and Government Services Canada. "Defence Procurement Strategy." (September 2014). Accessed from <http://www.tpsgc-pwgsc.gc.ca/app-acq/stamgp-lamsmp/sskt-eng.html>
- Schultz, Brian. "Please Reduce Cycle Time." *Defense AT&L* 43, no. 6 (November 2014): 4-7.
- Sloan, Elinor. *Something Has to Give: Why Delays are the New Reality of Canada's Defence Procurement Strategy*. Ottawa: CDFAI, Oct 2014
- Stone, J.C. *A Separate Defence Procurement Agency: Will it Actually Make a Difference*. Ottawa: CDFAI, Feb 2012.
- The Technical Cooperation Program. *Guide to Capability-Based Planning*. Washington: TTCP Joint Systems and Analysis Group — Technical Panel 3, 2004.
- Williams Alan S, "Reinventing Canadian Defence Procurement: A View From the Inside," *Breakout Educational Network: Queens Universtity (Kingston On) School of Policy Studies* (2006).