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## NATIONAL SHIPBUILDING – CANADA COULD HAVE HER CAKE AND MORE

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**JCSP 43 DL**

***Exercise Solo Flight***

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JCSP 43 DL – PCEMI 43 AD  
2017 – 2018

EXERCISE *SOLO FLIGHT* – EXERCICE *SOLO FLIGHT*

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## NATIONAL SHIPBUILDING – CANADA COULD HAVE HER CAKE AND MORE

*Canada cannot afford to have cumbersome processes delay the purchase and delivery of equipment needed by our men and women in uniform.*

- Throne Speech, November 2008

### INTRODUCTION

When it was first announced in 2010, Canada’s National Shipbuilding Strategy (NSS) immediately became the most expensive capital procurement in the history of the country.<sup>1</sup> Seven years later, a ballooned budget, reduced scope of work and capabilities, missed deadlines and a rapidly declining naval capability have also made NSS an inadequate attempt for Canada to have its cake and eat it too. Much to its praise, the NSS,<sup>2</sup> was introduced with the intention of replacing both Royal Canadian Navy (RCN) and Canadian Coast Guard (CCG) ships – an effort aimed to build over 50 large ships and 115 smaller ships – and bring economic growth to Canada. It was prematurely hailed as a political “win-win;” however the only real winner appears to be Industry, specifically the winning shipyards, and the real losers: Canadian taxpayers writ large, and the RCN in particular.

Although uniquely postured to collaboratively find solutions among key players both internal and external to government to “procure the best value [...] on budget and on time that meet the needs of the Government of Canada (GoC) and Canadians,”<sup>3</sup> this ambitious project – Canada’s largest fleet replacement since the end of the Second World War – “got a lot of it wrong.”<sup>4</sup> From the get-go, a national project of such magnitude, variety of stakeholders,

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<sup>1</sup> Ken Hansen, “For Smarter Shipbuilding, Canada Should Look to Denmark,” *Macleans* (Oct 23, 2017). <http://www.macleans.ca/opinion/for-smarter-shipbuilding-canada-should-look-to-denmark/>

<sup>2</sup> The National Shipbuilding Strategy is also widely referred to as the National Shipbuilding *Procurement* Strategy (NSPS).

<sup>3</sup> Jennifer Spence, “The National Shipbuilding Model for Procurement: Separating the Wheat from the Chaff,” *How Ottawa Spends, 2014-2015*, ed. G. Bruce Doern et al (The School of Public Policy and Administration Carleton University, 2014), 166.

<sup>4</sup> James Cudmore, “Warship Cost Could Rise to \$30B, Vice-Admiral Mark Norman confirms,” CBC news (December 2, 2015). Accessed <http://www.cbc.ca/news/politics/warships-30-billion-navy-mark-norman-1.3347145>

impending significant capability deficiencies, coupled with a firm budget and lack of expertise and history of failed defence procurements,<sup>5</sup> should have been cause for alarm for Canadian political leadership (as it had been for the RCN). It would appear however that the GoC imperative was more about building a future at the cost of its present ability to continue to secure its national interests.

As with all wicked problems, solutions cannot be achieved without significant compromise among its stakeholders. As will unfold, NSS has many stakeholders, but as this paper argues, the most relevant are those at the ‘pointy end’ upholding Canadian maritime defence and security requirements: the RCN (and the CCG). The aperture of scrutiny of this paper will rest on the RCN in particular and show that despite the proactive inclusive efforts of GoC to “get it right,” the use of defence procurement to promote its own economy was first and foremost the goal of the GoC, outweighing any real comprehension of the true costs and risks of maintaining a terribly aged and deficient naval capability. Influenced in part by regional partisan politics, a nascent national shipbuilding expertise and a desire to appear to appease all stakeholders meant that “getting it right” also meant that “we got a lot of it wrong.”<sup>6</sup> Building a future ship building industry should have been *part* of the solution; sourcing *immediate* key capability replacement to return the RCN to what it has been doing, should have been the other.

## OUTLINE

This paper begins with a quick look at the importance of a naval capability to Canada prior to examining the appeal of the “build in Canada” option and NSS itself. In so doing, lessons of Canada’s past shipbuilding attempts emerge and are scrutinized against the extant

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<sup>5</sup> Relevant examples of failed defence projects include the Upholder submarine acquisition, F-35 Joint Strike Fighter Program, the Maritime Helicopter Project and the Joint Support Ship Project.

<sup>6</sup> Cudmore, “Warship Cost Could Rise to \$30B ...”

strategy. The costs of NSS – both realized and unrealized – are then identified and demonstrate that true costs go beyond dollars and cents. To round out the narrative, the complexities of the wicked problem shipbuilding presents, and the challenges of NSS will be discussed. Finally, this paper will conclude with the recommendation of what Canada ought to have done and, what still can be.

## BACKGROUND

### **Why is RCN Capability Replacement Imperative?**

Modern naval seapower is both expensive and technologically challenging to build or acquire.<sup>7</sup> There has thus always been a tendency in Canada to defer on new ship construction despite RCN efforts to highlight the issues of continuing to employ aging platforms to serve Canada's national interests and contribute to its national security.<sup>8</sup> Unfortunately, this myopic view has created the core problem that the RCN currently faces: not enough platforms to deliver on GoC requirements.

Prior to 9/11, the RCN possessed just enough warships to conduct the government's missions; "now, and in the future security environment, there are not sufficient of them to meet both the domestic and the expeditionary mission requirements in the event of simultaneous domestic and international crises."<sup>9</sup> By 2014, with fewer platforms available in the naval inventory, the ability of the RCN to conduct operations was in jeopardy. Cursed with shipboard fires and collisions, the long-abused tankers and destroyers – key elements to naval operations

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<sup>7</sup> Rob Hubert, "The Royal Canadian Navy: Facing Rough Seas," *Canadian Global Affairs Institute*, (January 2016), p2.

<sup>8</sup> The RCN's Capstone documents – *Leadmark 2020* (2001) and *Charting the Course from Leadmark* (2005) are two main avenues used by RCN senior leadership to inform Canadians (and political leadership) of the role of the Navy, its requirements and how it executes the national defence policy of the day.

<sup>9</sup> Canada. Department of National Defence, *Securing Canada's Ocean Frontiers: Charting the Course From Leadmark*, (Ottawa: RCN), 2005, p39.

already pushed beyond their end-of-life cycles – were forced to be decommissioned. Today, remarks Senator Colin Kenny, “Canada has got some real problems.”<sup>10</sup>

To the credit of the Harper government, it was the first to recognize and offer a tangible solution via the NSS – but this solution will take *years* to effect and alone does very little to address the RCN’s current parade state and by consequence, its inability to deliver on national requirements without clever problem solving.<sup>11</sup>

### **Why “build in Canada?”**

At the heart of the government’s decision to build domestically is the investment in its economy, namely through job creation, domestic investment and regional spin-offs. The GoC has never been shy of admitting this main objective. Long has the creation and maintenance of skilled jobs, and minimizing dependence on foreign sources been a powerful political force.<sup>12</sup> The economic benefits of constructing large vessels are substantial. GoC estimates that “the strategy’s large vessel component alone will contribute nearly \$4.4 billion to the gross domestic product and create or maintain up to 5,500 jobs per year between 2012 and 2022.”<sup>13</sup> Moreover, Canada’s Industrial and Regional Benefits (IRB) Policy and the Industrial and Technological Benefits (ITB) Policy ensure that Canadian industry benefits from Canada’s defence and security

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<sup>10</sup> Colin Kenny, “Canada’s shipbuilding strategy needs redraft that includes Davie,” *Montreal Gazette*, January 23, 2018. <http://montrealgazette.com/opinion/opinion-canadas-shipbuilding-strategy-needs-redraft-that-includes-davie>

<sup>11</sup> As will be highlighted further in, an example of “clever” problem solving included going cap in hand to allied countries to rent a refuelling capability on each coast.

<sup>12</sup> Elinor Sloan, “A Tale of Two Shipbuilding Programs: Canada and Australia,” *The Dispatch*, Vol 8 no. 4 (Winter 2015), p12.

<sup>13</sup> Canada. “About the National Shipbuilding Strategy,” <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/apropos-about-eng.html> . Accessed 10 May 2018.

purchases.<sup>14</sup> Specifically, Irving and Seaspan are required to undertake IRB business activities in Canada equal to the value of their contracts.<sup>15</sup>

If ships were built in foreign yards the direct impact on the Canadian economy would be limited to industrial offsets such as components or repair contracts. Building in Canada provides significant direct and indirect benefits – but also comes at a significant cost: both in increased tax dollars (as infrastructure, delays and true cost to build reveal), and in the diminished maritime defence capability (and thus global influence) Canada can wield in the short and medium term. “Building ships takes time. Rebuilding an entire industry takes even longer”<sup>16</sup> – but is the expense of “crippling the RCN for the next decade”<sup>17</sup> worth it?

## CANADA’S \$39B SHIPBUILDING PROJECT

### **How is this time Different?**

Initially estimated to cost \$38.6 billion, the 30-year plan, once adjusted for inflation, more than doubles the amount spent by Canada on shipbuilding during the Second World War.<sup>18</sup>

Summarizes Auger,

The NSPS was introduced to change the shipbuilding dynamic and implement a more strategic procurement process that will also sustain the Canadian

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<sup>14</sup> *Ibid.* In addition, through the Value Proposition, the strategy requires the shipyards to invest a value equal to 0.5% of contracts to benefit the domestic marine industry in three priority areas: human resources development; technology investment; and industrial development. To date, the shipyards’ contracts have generated \$15 million in obligations under the strategy’s Value Proposition.

<sup>15</sup> Canada, Innovation, Science and Economic Development Canada, “National Shipbuilding Strategy.” <http://www.ic.gc.ca/eic/site/sim-cnmi.nsf/eng/uv00050.html> Accessed 12 May 2018.

Note: The IRB Policy and the ITB Policy apply to the two large NSS shipbuilding packages. Administered by Innovation, Science and Economic Development Canada, the IRB Policy and the ITB Policy leverage major government procurements to encourage long-term industrial development and significant economic activity in Canada.

<sup>16</sup> Tim Page, “Shipbuilding, not ship-leasing, is the right choice for Canada” *Montreal Gazette*, 29 January 2018. <http://montrealgazette.com/opinion/columnists/opinion-shipbuilding-not-ship-leasing-is-the-right-choice-for-canada>

<sup>17</sup> Kenny, “Canada’s shipbuilding strategy needs redraft ...”

<sup>18</sup> CBC news, “Canada’s \$39B Shipbuilding Project,” 13 November 2013. <http://www.cbc.ca/news2/interactives/shipbuilding/>

shipbuilding industry. The strategies main goal is to provide long-term, predictable federal shipbuilding work in Canada.<sup>19</sup>

What differentiates NSS from previous shipbuilding attempts is the horizon it is built upon and governance structure put in place. Unlike previous defence procurements, NSS involves multiple partners, comprises three distinct components, and is managed by a secretariat and responsive to an independent governance structure.<sup>20</sup>

Also unique to the process was an unprecedented move by the GoC to consult with industry, regional stakeholders and other levels of government *before* the NSS was created to “establish a positive direction on the procurement process for the renewal of the federal fleet.”<sup>21</sup> It was determined that a continuous build strategy founded on a new buyer-supplier relationship best met the objectives of best value for Canadians.<sup>22</sup> It appears that one lesson garnered from Canada’s failed attempt to spark a shipbuilding industry in the 1980s had been ‘hoisted in:’ that “a steady and predictable production of ships over the long term is critical”<sup>23</sup> to mitigating or avoiding another “boom and bust” cycle of shipbuilding.

The endorsement of shipyards east and west is indicative of regional benefits considerations and quite possibly, partisan politics at play. Irving would walk away with a lucrative \$29.3 billion ‘contract’ for the construction of 23 combat ships; and, Seaspan a modest

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<sup>19</sup> Martin Auger, “The National Shipbuilding Procurement Strategy: A Five Year Assessment,” *Library of Parliament* (Ottawa: 2015), p1. <https://lop.parl.ca/content/lop/ResearchPublications/2015-35-e.pdf>

<sup>20</sup> Canada, “About the National Shipbuilding Strategy.” Note 1: The three distinct components include large-ship construction, small- ship construction and vessel repair, refit and maintenance projects. Note 2: The three RCN ship projects alone account for greater than 85% of the large-ship construction component and yet, the build sequence does not reflect an effort to close the capability gap.

<sup>21</sup> Steve Durell, “Shipbuilding Centers of Excellence: The Road Map to a Sustainable Industry,” *The Claxton Papers - National Approaches to Shipbuilding and Ship Procurement*, (Kingston: Defence Management Studies Queens University, 2010), p108.

<sup>22</sup> Jennifer Spence, “National Shipbuilding Model for Procurement,” p170-171.

<sup>23</sup> Sloan, p13.

\$7.3 billion for the construction of 17 non-combat ships.<sup>24</sup> However the lesson of ballooning costs seems to have been lost.

### **Learning from the Past**

With only the *Halifax* class and *Kingston* class domestic builds in “recent” stern arcs, Canada has a limited shipbuilding history to leverage. Despite a \$9.4 billion budget, the Canadian Patrol Frigate Project (CPFP) - Canada’s first attempt to “kick-start” a Canadian defence industry in support of modernizing her fleet in the 1980s – costs soared and delivery delayed.<sup>25</sup> By the time HMCS *Halifax* was introduced to the fleet, her technology alone was already antiquated. Of the \$9.54 billion committed, \$240-360 million was spent on supporting infrastructure at Irving shipyard in Saint John. An additional \$58 million was allocated to sub-contracting Davies Shipyard in attempt to defuse political pressure from the Quebec government.<sup>26</sup> Millions more were spent on research and development and, not less than three years following the roll-out of the last frigate, a bail out payment of \$55 million was offered to Irving to “cushion the blow of the shipyards closure.”<sup>27</sup>

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<sup>24</sup> CBC news, “Canada’s \$39B Shipbuilding Project,” Note 1: 23 combat ships include the Canadian Surface Combatant (CSC) and the Arctic Offshore Patrol Ship (AOPS); Non-combat ships include the Joint Support Ship (JSS), polar icebreaker and research ships for the Coast Guard. Note 2: Another \$2 billion is set aside for the acquisition of smaller vessels for both the navy and the coast guard; Auger, “The National Shipbuilding Procurements Strategy: A Five Year Assessment,” p4. Note 3: Two years after its announcement, Canada signed long-term strategic “umbrella” agreements with the two shipyards selected to build large vessels – Halifax’s Irving Shipyards (Irving) and Seaspan’s Vancouver Shipyards (Seaspan). Although not contracts in the traditional sense, these agreements “highlight the principles and general intent of the relationship between Canada and the designated shipyard... [and] set out certain preconditions to contract awarding.”

<sup>25</sup> Laurie Watson, “Missing the Boat: Offshore Versus Domestic Procurement,” in *Forum: Journal of the Conference of Defence Associations Institute*, 6:3 (1991), p 14-15. Note: Not only were hundreds of millions of dollars spent on infrastructure alone, it took 11 years to deliver the RCN the long sought after, and badly needed, warships.

<sup>26</sup> *Ibid.*, Note: Davie Shipyard would in fact go on to build six of the 12 Canadian Patrol Frigates.

<sup>27</sup> Kelly Toughill, “No Questions Asked,” first printed in the *Toronto Star* 14 March 2004. Accessed 7 May 2018  
<http://www.siliconinvestor.com/readmsgs.aspx?subjectid=51904&msgnum=48&batchsize=10&batchtype=Next>

Despite the regional economic surge provided by the CPFP, perhaps the most compelling lesson learned, and main driver behind the extant national strategy to deal with Canada's current maritime capability deficit, was the inability to spark a new industry.<sup>28</sup> In the face of competitive international subsidized shipyards, Irving could not acquire enough commercial contracts to keep its Saint John doors open. Just as the industry boomed, it then busted, with years of expertise lost.<sup>29</sup> This loss of expertise would come to haunt future shipbuilding decisions - both the NSS and its infamous predecessor, the Joint Support Ship (JSS) – which will be addressed further on in this work.

### **The Cost of NSS**

When announced in 2010, spending \$35-\$40 billion over 20-30 years to build major ships and a hundred or so smaller vessels was a palatable investment for many Canadians if it meant that an industry was going to be revitalized. Adjusted for inflation and 'through-life cost estimates,' not done (or at least not communicated) in the early stages however, shows that the 'all-in' investment cost of NSS hovers around \$122 billion.<sup>30</sup> Despite these breathtaking numbers, concerned abounded that there was simply not enough money in the strategy for the ships needed by the RCN and CCG. They were well founded; initial budgets were "set early in the options analysis phase based on rough estimates and parametric modeling."<sup>31</sup> Rough estimates were treated as budget caps and resultantly, along with de-scoping original capability requirements in an attempt to reduce costs, budgets were also adjusted.<sup>32</sup>

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<sup>28</sup> *Ibid.* Note: Over 3,000 jobs were created in Halifax.

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

<sup>30</sup> CBC news, "Canada's \$39B Shipbuilding Project."

<sup>31</sup> Canada. Office of the Auditor General. "Chapter 3: National Shipbuilding Procurement Strategy," *Fall 2013 Report of the Auditor General of Canada*, Ottawa, 2013. Note: Parametric modeling provides cost estimates based on ships constructed in the past with similar requirements and characteristics.

<sup>32</sup> Canada, *Fall 2013 Report of the Auditor General of Canada*.

Prominent among those concerned included the Parliamentary Budget Officer (PBO) and the Auditor General of Canada. Shockingly, BPO reports on both the CSC and the AOPS predicted a 50% probability of full delivery of either capability given the approved budgets.<sup>33</sup> This echoed the report of the Auditor General (AG) who in 2013 “identified that budget caps were set early and could result in a reduced number of ships or capabilities.”<sup>34</sup> Regarding the CSC project in particular, it concluded that it was “insufficient to replace Canada’s 3 destroyers and 12 frigates with 15 modern warships with similar capabilities.”<sup>35</sup> To add insult to injury, the BPO further concluded that the proposed funding for the arctic base at Nanisivik - which would support the AOPS class - was also inadequate, derailing any great ambitions of the Harper government.

Costs concerns over the CSC project are more than justified. Circa 2007, it was estimated that the project would cost approximately \$15 billion for all 15 ships. Mere years later, the budget nearly doubled (\$26.2 billion) without an approved design. Today official estimations sit around \$60 billion. When queried to the drastic change in cost, then Chief of the Navy, Vice-Admiral Mark Norman cited a lack of shipbuilding expertise across both the private and public

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Note 1: “In 2009, the requirements for the AOPS were reduced in order to stay within the allocated budget. For example, DND reduced the top speed in order to lower the cost associated with the propulsion system and overall size of the vessel, and to help keep the proposed ship project achievable and affordable.” Additionally the original demand was for eight AOPS which was subsequently reduced to six and then five.

Note 2: Interestingly, AOPS was never a naval requirement rather a political one handed to the RCN to operate.

Note 3: One of the reasons cited by the Fall 2013 Report surrounding the failure of the original JSS procurement was the inadequate budget for the requirements included in the RFP. When the project was re-introduced under NSPS, DND reduced its requirements to two ships, with the option for a third. The Fall Report accurately captures the risks of Canada acquiring fewer than three ships: “Canada’s ability to respond autonomously to crises and contingency operations will be significantly diminished when one ship is in maintenance.”

<sup>33</sup> Ken Hansen, For Smarter Shipbuilding Canada Should Look to Denmark,” *Macleans*, 23 October 2017. Accessed 6 May 2018 <http://www.macleans.ca/opinion/for-smarter-shipbuilding-canada-should-look-to-denmark/>

<sup>34</sup> Canada, *Fall 2013 Report of the Auditor General of Canada*, p20.

<sup>35</sup> *Ibid.*

sector. “We didn't have the mature industry and so there was a lot of guessing and speculation going on. And to be quite blunt, we got a lot of it wrong.”<sup>36</sup>

The fact of the matter is that Canada does not definitively know how much CSC will cost until the first ship is constructed. What is known is that CSC is the most complex item on the NSS docket. It is also known that inadequate inflation projections were a serious contributing factor to the failure of the initial JSS program and will play a role in any present or future procurement.<sup>37</sup> As recent as last year, the BPO warned that every year the awarding of the contract is delayed beyond 2018; taxpayers will spend an extra \$3 billion due to inflation.<sup>38</sup>

### **The True Cost of NSS: A Capability Deficit**

The true cost of NSS is not so much the ballooning capital investment of rebuilding an industry rather the continued degradation of Canada’s naval capability as the RCN patiently waits for her aging fleet to be rebuilt, and with it, any international clout Canada had secured on the talents of a strong and capable navy. The RCN has amassed incredible maritime responsibility and respect both at home and abroad that continues to evolve with the complexities of an uncertain security environment. Without warships and tankers, the RCN cannot continue to deliver on Canada’s commitments and maritime requirements. What good are ships tomorrow if they are needed today?

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<sup>36</sup> Cudmore, “Warship Cost Could Rise ...”

<sup>37</sup> Canada. *Fall 2013 Report of the Auditor General*. Note: One of the reasons that the original JSS procurement did not succeed was the inadequate budget for the requirements included in the RFP. “When the project was re-launched, DND reduced its requirements to two ships, with the option for a third. The decision was made to replace the existing two ships and their capabilities rather than significantly improve them, as had been previously planned. There are no indications that funding will be available for a third ship. Departmental documents indicate that by acquiring fewer than three ships, Canada’s ability to respond autonomously to crises and contingency operations will be significantly diminished when one ship is in maintenance.”

<sup>38</sup> David Pugliese, “DND needs an extra \$54M – just to evaluate bids to build,” *Ottawa Citizen*, 7 March 2018. Accessed 15 May 2018. <http://ottawacitizen.com/news/politics/dnd-needs-an-extra-54m-just-to-evaluate-bids-to-build-it-a-new-fleet-of-warships/wcm/43fba7aa-864c-4f17-8241-1285ccee70ae>

Pundits of NSS suggest that the state of the RCN is not as bad as it has been made out to be. That the recent return to service of the *Halifax*-class frigates (the backbone of the Canadian Navy), following an extensive multi-billion dollar mid-life refit has left Canada in good hands.<sup>39</sup> While certainly a success story, two important observations relevant to NSS need to be noted. First, HCM was also significantly underfunded. Notwithstanding a subsequent budget increase of \$1.2 billion, it occurred *after* certain systems upgrades were removed and placed in the Defence Acquisition Guide (DAG) for future investment – an interesting and perhaps telling fact given plans for the acquisition of the CSC.<sup>40</sup>

Second, any naval expert will inform that frigates alone, despite how multi-functional and capable they are, can only provide part of a nation's maritime response. Oceans are vast and navies are designed through necessity to sail in task groups, replete with destroyers for long range area defence (and command and control) and tankers for replenishment. At a minimum, the ability for the RCN's east and west coast fleets to self-replenish cannot be overstated. The state of today's navy is absent its destroyers and, until very recently, *grâce à* a sole-sourced contract to Davie Shipyards to source an interim solution, absent a replenishment capability.<sup>41</sup>

### **A Wicked Problem - Too Many Stakeholders to Please**

In considering the attributes of a “wicked problem,” the complexity of NSS reveals that it, like other significant defence procurements, is indeed a wicked problem for which complete

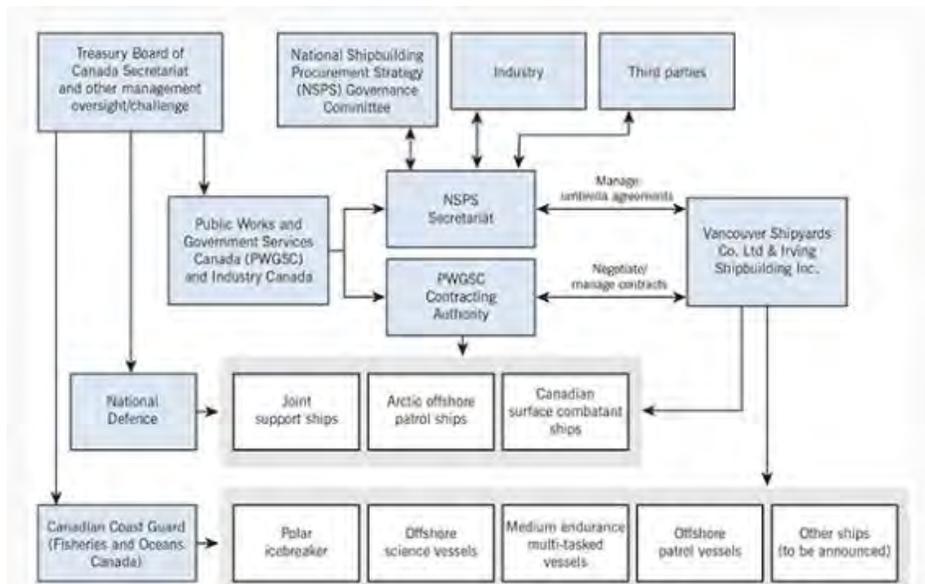
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<sup>39</sup> Rob Hubert, “The Royal Canadian Navy: Facing Rough Seas,” *Canadian Global Affairs Institute*, (January 2016), p7-8. Note: the refit is called Halifax Class Modernization (HCM).

<sup>40</sup> Stewart Webb and Chris Murray, “Canada’s Hidden Plan for Predicted Failure: Planning for the Introduction of the Canadian Surface Combatant,” *Canadian Global Affairs Institute*, (January 2016), p5.

<sup>41</sup> Kenny, “Canada’s Shipbuilding Strategy ...” Note: in 2015 the GoC accepted a proposal from the Davie Shipyard in Quebec to provide Canada with a supply ship, the MV Asterix that meets all of the requirements of the government, the RCN and NATO. Since the establishment of the NSS, Davie is the first shipyard in Canada to deliver a vessel on time and on budget.

resolution cannot be determined.<sup>42</sup> The complexity of NSS is shaped by the enormity of the strategy and the multiple ministries (and personalities) that share significant responsibilities for managing the acquisition of federal ships.<sup>43</sup> The intricacy of this federally charged ‘NSS brotherhood’ is depicted by Figure 1 below.



**Figure 1 - Interrelationships between key entities in the National Shipbuilding Procurement Strategy**

Source: 2013 Fall Report of the Auditor General of Canada

Not evident in Figure 1, is the level of influence and “buy-in” each stakeholder truly has. This only becomes evident in the design of NSS and decisions taken after the fact. Demonstrative of the level of influence the RCN truly has was the decision to build the CCG polar class icebreakers ahead of the much needed replenishment ships for the RCN. Moreover,

<sup>42</sup> Wicked Problems, Accessed 21 May 2018, [https://www.wickedproblems.com/1\\_wicked\\_problems.php](https://www.wickedproblems.com/1_wicked_problems.php)  
Note: First introduced in 1973 by Horst Rittel to address planning issues. A wicked problem is a social or cultural problem that is difficult or impossible to solve for as many as four reasons: incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with other problems.

<sup>43</sup> These include National Defence, Public Services and Procurement Canada, and the Canadian Coast Guard (under Fisheries and Oceans Canada). Industry Canada also administers the industrial and regional benefits resulting from the NSS, and the Treasury Board of Canada Secretariat provides oversight. Additionally unique to NSS is the addition of the NSPS Secretariat and the Governance Committee. Then there are the shipyards themselves.

when limited shipbuilding capacity at Seaspan revealed lengthy build delays of the icebreakers and the domino effect it would have on the Navy, the follow on decision by the GoC to do nothing confirmed this position and suggests an attempt to appease multiple stakeholders at the same time.<sup>44</sup>

Proponents of NSS were seen among all stakeholders, including RCN leadership whom for decades had lobbied government for a commitment to replace its aging fleet. Although NSS would not address immediate RCN concerns, it would provide a future capability. In its 2001 and 2005 capstone documents, *Leadmark 2020*, and *Charting the Course from Leadmark*, the need for a continuous build strategy is specifically mentioned:

To bridge the gaps in our vulnerabilities, and to remain capable of fulfilling the complete range of emerging naval missions, Canada requires a sustained, long-term acquisition and modernization program to deliver a combination of assets.<sup>45</sup>

For navies, transformation is necessarily an evolutionary process; requiring naval senior leadership to continually look forward. Take note however that the above assertion is already nearly two decades old. Since then the RCN has extended the life of its frigates and, out of necessity, decommissioned its destroyers and tankers.

### **Challenges with NSS**

While NSS is considered an overall success, PSPC itself acknowledges that it has been overshadowed by many challenges. Its top three include ineffective decision making due to lack of shipbuilding expertise, unnecessary complexities in accountability and responsibilities from

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<sup>44</sup> Newswire, “RCN’s New Mothership Sails On-time and To Budget,” Last Updated 27 December 2017, <https://www.newswire.ca/news-releases/the-royal-canadian-navys-new-mothership-sails-on-time-and-to-budget-666596503.html> Note: Due to program and shipbuilding delays, the first JSS will likely not be delivered until 2026 at the earliest and possibly as late as 2028. Following the successful delivery of MV *Asterix*, Davie Shipyard has offered to build a second Resolve-class Naval Support Ship for the RCN in order to fill the capability gap over the next decade. This offer has gone unaccepted.

<sup>45</sup> Canada, *Securing Canada’s Ocean Frontiers*, (Ottawa: RCN), 2005, p40.

the involvement of many departments and the absence of “formalized comprehensive mechanisms in place to control costs, measure progress and results;”<sup>46</sup> meaning “that the government would not be able to reliably determine if shipbuilding investments were achieving the Strategy’s objectives.”<sup>47</sup> The NSS has many other challenges that preclude it from delivering on time and on budget. The predominant two, as highlighted throughout this paper, are delays and actual build costs.

NSS remains plagued by expensive delays on both coasts. For the much needed JSS, Seaspan is not able to commence work until its Coast Guard commitment is completed – pushing its delivery of the RCN replenishment capability to 2026 and 2028.<sup>48</sup> The “so what” of this delay, although not as grave as it would have been without the addition of MV *Asterix* to the naval fleet, remains significant as the aforementioned can only support one coastal fleet at a time.<sup>49</sup> The degradation alone of naval expertise in the continued absence of this essential requirement is good reason to pause and rethink the solution space.

The largest set back of NSS in the view of this author, is its failure to deliver upon the immediate naval requirement: a replenishment capability on each coast (*with* redundancy), and thus has become the impetus for pursuing interim solutions.<sup>50</sup> As highlighted above, a replenishment capability is critical for the RCN to effectively execute the demands of any given

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<sup>46</sup> Canada, Public Services and Procurement Canada, “The State of Canada’s Fleet – National Shipbuilding Strategy: February 2012 to December 2015 status report,” Last modified 2017/04/06. <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/rapport-report-20151231-1-eng.html>

<sup>47</sup> *Ibid.*

<sup>48</sup> Kenny, “Canada’s shipbuilding strategy needs redraft ...” Note: On Nov. 7, 2017, Andy Smith, Deputy Commissioner of the Canadian Coast Guard testified before a parliamentary committee.

<sup>49</sup> Presently, and for the next 18 months, MV *Asterix* is assigned to support the Canadian Fleet Atlantic, while Canadian Fleet Pacific goes without a replenishment capability.

<sup>50</sup> Kenny, “Canada’s Shipbuilding Strategy ...” Note: Preceding the pursuit of *Project Resolve*, interim solutions have included going cap in hand to other countries and renting a replenishment capability to fill Canada’s capability gap. In 2015 the RCN managed 40 days on the Pacific (courtesy of Chile) and 40 days on the Atlantic (Spain) in 2016. For most of the last three years, the government’s ability to maintain operations offshore has been extremely limited.

government. The failure to place this requirement ahead of others in the NSS queue is a gross oversight and speaks volumes to how little the navy is understood.

## WHAT CANADA SHOULD HAVE DONE

While the creation of the NSS was no small feat for Canada, it overlooks both the significance of leaving key capability gaps open and the impacts of the domino effect from cost overruns and delays. Limiting its umbrella agreements with only two shipyards has shaped these phenomena. This paper asserts that the GoC should have pursued a sole-source contract similar to the Davie Shipyards – *Project Resolve* contract in parallel to NSS to eliminate both the risk and growing costs of JSS. Furthermore, given the success of Davie to deliver a superior capability “on time and to budget,” the GoC should heed the advice of proponents like Senator Kenny to pursue additional sole-source contracts with Davie to fill the remaining capability gap. Senator Kenny is not shy to remind that, “for a fixed price, Canada can acquire *four* supply ships the navy needs from Davie for the \$2.6 billion already budgeted for JSS under the NSS.”<sup>51</sup> Moreover, by accepting the Davie offer, Canada could have a replenishment capability on each coast by 2019 – a full decade earlier than NSS can deliver.<sup>52</sup>

## CONCLUSION

Certainly there are merits to investing in a shipbuilding industry such as Canada has done. While the future economic benefits to Canada are intended to be substantial – and indeed, Irving and Seaspan are required to undertake IRB business activities in Canada equal to the value of their contracts - it demonstrates that the priority behind NSS was never about revitalizing an

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<sup>51</sup> *Ibid.* Note 1: In 2015, the government accepted a proposal from the Davie shipyard in Quebec to provide Canada with a supply ship, the MV *Asterix*, that meets all of the requirements of the government, the navy and NATO. Note 2: The government has opted to lease the ship for five years at a cost of \$650 million, including operating costs, rather than purchase it outright for \$659 million.

<sup>52</sup> *Ibid.*

aging defence capability but about shaping significant economic activity in Canada. The misfortune for Canadians is significant. While they laud a strategy that brings jobs and boosts local economies, it comes at cost more substantial than money; it comes at the sacrifice of a core capability required to help secure Canada's national interests.

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