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CANADA'S NATIONAL SHIPBUILDING STRATEGY: OFF THE SHELF, OR BUILT AT HOME?

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Exercise Solo Flight

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CANADA'S NATIONAL SHIPBUILDING STRATEGY: OFF THE SHELF, OR BUILT AT HOME?

Introduction

Boom and bust – that is the type of cycle that best describes the Canadian ship building industry, or at least it was until the National Shipbuilding Procurement Strategy (NSPS) was introduced by the Government of Canada (GoC) on June 3rd 2010.¹ One of the goals of NSPS was to address and rectify this “boom and bust” cycle in Canadian shipbuilding by creating a long term solution that would see the peaks and valleys of such a cycle smoothed out over several decades, bringing financial stability to shipyards and their workers across Canada.² NSPS, now the National Shipbuilding Strategy (NSS), has been estimated to have an approximate value of \$111 billion dollars (CAD) and will contribute the construction of at least 28 ships.³ The most significant portion of these funds will be accounted for by the government’s commitment to build 15 Canadian Surface Combatant ships (CSC) for the Royal Canadian Navy (RCN), totalling in at close to \$62 billion, or just over half of the total value of the entire NSS.⁴ With the public’s perception that government agencies tend to waste money and mismanage large, expensive projects such as the NSS and the CSC procurement, it is important that the RCN and GoC examine the options available carefully, and ensure the public gets the most “bang for

¹Canada, Public Works and Government Services Canada, "Government of Canada Announces National Shipbuilding Procurement Strategy." Last modified 3 June 2010. <https://www.canada.ca/en/news/archive/2010/06/government-canada-announces-national-shipbuilding-procurement-strategy.html>;

²Canada, “2016 National Ship Building Strategy Annual Report: Rebuilding the ship building industry”, Ottawa: Government of Canada, 2016; 37.

³Canada, House of Commons, *The Readiness of Canada’s Naval Forces*, Ottawa: House of Commons, 2017, 39; Canada, “2016 National Ship Building Strategy Annual Report...”

⁴Canada, Office of the Parliamentary Budget Officer, *The Cost of Canada’s Surface Combatants*, Ottawa: Office of the Parliamentary Budget Officer, 2017, 1.

the buck”. RCN requirements will have to be balanced against those of the GoC to find a suitable solution in the procurement of the CSC.

Maintaining a national shipbuilding industry can be expensive, and as the Canadian shipbuilding industry has demonstrated in the past, it can be prone to periods of inactivity and capability/capacity loss. Reinvestment in a lost capability can be costly and difficult to justify when an “off the shelf” solution to a project such as the CSC can be produced overseas at what seems to be a significant savings when compared to a the same ship “built in Canada”. This paper will look at the potential savings to build the CSC overseas while comparing and contrasting the benefits of building the CSC domestically. It will be shown that the Government of Canada’s main objective in the procurement of the CSC is the economic development of the nation. As such, cost savings to the Canadian public and timelines for capability renewal and advancement for the RCN are secondary and tertiary considerations.

An “Off the shelf” Approach

The GoC has acknowledged that the RCN is currently suffering from a capability gap with respect to its ability to carry out Area Air Defence (AAD) following the retirement of the Tribal Class destroyers. The GoC is also aware that the RCN will have a difficult time providing the balanced force requirements desired by the government as it endeavours to employ RCN assets internationally.⁵ Until very recently, the RCN has also been unable to carry out sustained blue water operations without support from allies through the lending of Auxiliary Oil

⁵Canada. House of Commons, *The Readiness of Canada’s Naval Forces*, ..., 25.

Replenishment (AOR) Vessels.⁶ Yet, the NSS is proceeding with the production of Arctic and Offshore Patrol Vessels (AOPs) and Canadian Coast Guard Vessels ahead of the CSC and Joint Support Ship (JSS) in the Halifax and Vancouver shipyards.⁷ There are many reasons for the order in which ships in the NSS are built, and the positioning of the CSC and JSS have more to do with identification of hulls and ongoing procurement projects than immediately filling a capability gap. However, it can be argued that there is a perception that filling this capability gap is a low priority for the GoC, seeing as the first CSC isn't predicted to enter the construction phase until 2026 with the first ship being completed 18 month later, and last in the 2040s.⁸ That would leave a capability gap identified and unanswered for over a decade or more since the retirement of HMCS Athabaskan.⁹ One solution to addressing the capability gap, and the replacement of the Canadian Patrol Frigate (CPF) would be to pursue the option to build the CSC in a foreign shipyard sooner than 2026. This option to buy an “off the shelf” warship has been discussed since the CPF Project was identified in the 1970s and is argued by many to be a more cost efficient solution to purchasing a warship that is “built in Canada”.¹⁰

The “boom and bust” cycle of shipbuilding leads to increased initial costs when restarting the industry due to lack of experience among workers and shipyards.¹¹ Historically, it has been shown that initial costs for the first six or seven ships in a run of warships carries a premium of approximately 16% due to the learning curve that must be overcome from the lack of experience

⁶Jane's 360. “MV Asterix welcomed to RCN, will deploy to 'RIMPAC'” Last updated 6 Mar 2018. <http://www.janes.com/article/78390/mv-asterix-welcomed-to-rcn-will-deploy-to-rimpac>

⁷Public Services and Procurement Canada, “Shipbuilding projects to equip the Royal Canadian Navy and the Canadian Coast Guard” last updated: 22 Nov 2017, <https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/mer-sea/sncn-nss/projets-projects-eng.html#s8>

⁸Canada. House of Commons, *The Readiness of Canada's Naval Forces...*, 36

⁹The Star, “Canada's last Cold War destroyer retires after final sail” Last updated: 8 Mar 2017, <https://www.thestar.com/news/canada/2017/03/08/canadian-navys-last-destroyer-ship-to-take-final-tour-around-halifax-today.html>

¹⁰Stacey, R.W, “Canadian Naval Shipbuilding: Enough is too much” Toronto: Canadian Forces Command and Staff Course. New Horizons Paper, 1990, 11.

¹¹Canada, Office of the Parliamentary Budget Officer, *The Cost of Canada's Surface Combatant...*, 13.

in building major warships.¹² This premium can be reduced when a shipyard is already producing the same warship, as is the case in the European market. As an example, with the CSC budget, the 16% savings would equate to almost \$10 Billion CAD – no small number. Shipyards in France, Italy, Spain, Denmark and Germany are all currently producing warships for their domestic markets.¹³ Procuring a warship from a foreign market also has the benefit of accelerating delivery, and thus is able to close the capability gap more rapidly than is currently planned.¹⁴ This option would also give the least risk of delay as it would already fit into a schedule of ships being built.¹⁵ Recently, a French-Italian consortium from the firm Fincantieri had proposed just such an offer to the GoC, promising to deliver a warship sooner, and for less money than any other supplier was capable of doing.¹⁶ If the GoC’s priority was closing the capability gap soonest, this option would have been further discussed, but instead was eliminated as having fallen outside of the proper proposal framework. Subsequently, the GoC committed to pursue the original plan to build a foreign design domestically.

With the financial gains and closing of the capability gap of an “off the shelf” procurement come some detractors. Approximately 30% of the cost of the CSC is projected to be related to the acquisition of equipment that must be procured from companies external to Canada.¹⁷ That equals approximately \$18.6 billion CAD that will be sourced external to Canada

¹²Ibid.

¹³Ibid., 8.

¹⁴Peer, David, “Realistic Timeframes for Designing and Building Ships” *Canadian Naval Review*. Vol 9, no.1 (2013), 9.

¹⁵Schank, John, F. Arena, Mark, V. Kamarck, Kristy, N. et.al, “Keeping Major Naval Ship Acquisitions on Course: Key Considerations for Managing Australia’s SEA5000 Future Frigate Program” Santa Monica: RAND corporation, 2014, xvi.

¹⁶The Chronicle Herald. “Feds reject controversial French-Italian warship proposal” Last updated: 5 Dec 2017. <http://thechronicleherald.ca/canada/1526704-feds-reject-controversial-french-italian-warship-proposal>

¹⁷Markowski, S and Wylie, R. “Australian Naval Shipbuilding Strategy 2009” in *National Approaches to Shipbuilding and Ship Procurement*, edited by Douglas L. Bland, 71-104. Kingston: Queens University, 2010, 87; Canadian Association of Defence and Security Industries. *Sovereignty, Security and Prosperity: Government Ships: Designed, Built and Supported by Canadian Industry*. Ottawa: CADSI, 2009, iv.

regardless of if the ship is procured domestically or not, leaving an estimated \$43 billion CAD that would be further lost to a foreign market and not re-invested in the Canadian economy. As well, to keep costs down, the “Canadianization” of a selected design would have to be foregone, as it is estimated that a significant increase to the overall budget would have to be taken into account, all but eliminating the majority of gains realized by building offshore in order to modify an existing design to Canadian requirements.¹⁸ By not choosing to “Canadianize” a design, the cost savings could be maintained, though the RCN would likely have to adapt its operations to the ship and not vice-versa.¹⁹ For example, a reduction in arctic operations would have to be considered, leaving that gap to be filled by the AOPs or another ship. It is, however, rare that any nation would procure a ship from a foreign market without making some sort of modification.²⁰ Delays in the procurement of foreign ships are not guaranteed to be completely eliminated. Australia for example encountered significant delays and cost over runs when procuring their Hobart Class Guided Missile destroyers from the Spanish company, Navantia.²¹ Norway procured the Fridtjof Nansen frigates from the same shipyard, meeting the budget requirements, but encountering some delays and political issues when it was revealed that the shipyard had cut corners in quality to meet deadlines and budgetary requirements.²² This is likely a scenario that the GoC would want to avoid, and poses a higher risk that could be beyond the GoC’s control. Further risks to the acquisition of an “off the shelf” warship from a foreign manufacturer include

¹⁸Sing, D. *“Procuring Warships For the Canadian Navy: Does Canada Spend Its Money Wisely?”* Toronto: Canadian Forces Command and Staff Course, New Horizons Paper, 1995, 20.

¹⁹Schank, John, F. Arena, Mark, V. Kamarck, Kristy, N. et.al, “Keeping Major Naval Ship Acquisitions on Course: Key Considerations for Managing Australia’s SEA5000 Future Frigate Program” Santa Monica: RAND corporation, 2014, xvi.

²⁰Ibid., 31.

²¹Ibid.,171.

²²Defence Aerospace, “Final Frigate Received from Shipyard in Spain: Important Milestone for Norway” accessed: 3 May 2018. <http://www.defense-aerospace.com/articles-view/release/3/121839/navantia-delivers-final-frigate-to-norway.html>; Defence Industry Daily. “Continuing Controversies: Disputes with Navantia Over Norway’s Fridtjof Nansen Frigates”: Accessed: 3 May 2018. <https://www.defenseindustrydaily.com/continuing-controversies-disputes-with-navantia-over-norways-fridtjof-nansen-frigates-updated-02628/>

access to shipyards in a time of war, increased costs related to maintenance at home due to a lack of experience and capability, and access to supply sources.²³ Such a procurement policy would enable the continuation of the historic “boom and bust” cycle in Canada and only add to the increase of the potential cost to restart the industry again, if the GoC were to change future procurement policy. Australia is currently modelling its naval procurement system after Canada’s NSS after having experienced the pitfalls of foreign procurement.²⁴ The procurement of the CSC from a foreign shipyard, though appearing at first to be able to address the capability gap, and provide the appearance of a cost savings is fraught with risks that could undermine the very reason for pursuing such an option in the first place. Once the mistake has been realized, there would be further costs associated with, once again, salvaging an industry that the GoC allowed to fail. The loss of \$63 billion CAD investment in a capital procurement project would be a difficult political sale to make to the citizens of Canada, and is perhaps the reason the GoC has not formally pursued an “off the shelf” option.

A “Built in Canada” Approach

Canada may pay a premium for a “built at home” CSC.²⁵ As the NSS stands now, the CSC project will see a foreign design produced in the Halifax Irving Shipyard.²⁶ There will be a decade or more capability gap in the RCN, and the majority of the \$62 billion dollar capital ship

²³Treddebeck, J. M. “*The Economic Significance of the Canadian Defence Industrial Base.*” In *Canada’s Defence Industrial Base*, edited by David G. Haglund, 15-48. Kingston: Frye and Company, 1988. Kingston: Centre for Studies in Defence Resources Management, 1987, 16-18; Peer, David. “Realistic Timeframes for Designing and Building Ships” *Canadian Naval Review*, Vol 9, no.1 (2013); 9; Schank, John, F. Arena, Mark, V. Kamarck, Kristy, N. et.al, “Keeping Major Naval Ship Acquisitions . . .”, 32.

²⁴Price Waterhouse Cooper. *Value for Canada The Cost versus Benefit to Canadians of the National Shipbuilding Strategy*. Toronto: PricewaterhouseCoopers LLP, 2017, 13.

²⁵Lerhe, Eric. *Fleet Replacement and the Build at Home Premium: Is it too Expensive to Build Warships in Canada?* Vimy Paper 32. Ottawa: CDA Institute, July 2016, 3.

²⁶Canada, Office of the Parliamentary Budget Officer, *The Cost of Canada’s Surface Combatant...*, 1.

procurement will remain in Canada. As previously stated, approximately 30% of that \$62 billion will go to foreign equipment purchases that are not produced in Canada, such as weapons and armament, propulsion and gearing, and certain high tech systems.²⁷ The remaining \$43 billion dollars will go to the production of the CSC, salaries for employees and indigenous research and design, among other things.²⁸ What is not discussed in detail in the literature or the media on the subject is how Canada will profit from the “built in Canada” CSC. Communications and messaging about the NSS and CSC is a subject that has been discussed in government literature, identifying a lack of a clear communications strategy as an obstacle to overcome.²⁹ Price Waterhouse Cooper released a document in May 2017 outlining the cost and economic benefits of the “built in Canada” strategy.³⁰ That document seems to clearly communicate the benefits brought and kept in Canada that policies such as taxation of income would bring. There may be a premium paid by Canadians, however, it is estimated that overall, the CSC would be 13% cheaper to build in Canada when compared to the European market.³¹ Through taxation alone, cost savings would be anywhere between 29% and 41% less than a foreign built ship.³² In fact, when taxation, and potential EI payments to laid off workers are factored in, costs associated with a foreign “off the shelf” approach could actually increase by 10% when compared to “built in Canada” program.³³

²⁷Canadian Association of Defence and Security Industries. *Sovereignty, Security and Prosperity: Government Ships: Designed, Built and Supported by Canadian Industry*. Ottawa: CADSI, 2009, iv.

²⁸Price Waterhouse Cooper. *Value for Canada The Cost versus Benefit ...*, 5.

²⁹Canada. “National Shipbuilding Strategy: February 2012-December 2015 Status Report.” Ottawa: Government of Canada, 2015, 3.

³⁰Price Waterhouse Cooper. *Value for Canada The Cost versus Benefit ...*

³¹Price Waterhouse Cooper. *Value for Canada The Cost versus Benefit ...*,6.

³²Ibid.

³³Lerhe, Eric, *Fleet Replacement and the Build at Home Premium: Is it too Expensive to Build Warships in Canada?* Vimy Paper 32. Ottawa: CDA Institute, July 2016, 20.

There are arguments made that state the federal GDP gains from the defence industrial base, or more specifically, naval procurement, are minor.³⁴ That may be so, but when the numbers are compared to regional and provincial GDP gains, it is clear that defence spending has a positive effect. For example, defence spending in Nova Scotia (NS) yields historical GDP gains of close to 4%, while close to 7% of the defense spending budget is allocated to that province,³⁵ Shipbuilding, being the main source of this spending.³⁶

It is interesting to note that at first glance, the idea of procuring naval vessels in Canada at a premium is contrary to the governmental idea of fiscal responsibility and cost savings in times of peace. Upon further inspection, it can be noted that defence industrial base can be utilized to stimulate regional economies while avoiding provincial infighting associated with other government programs.³⁷ NSS is just such a tool to stimulate the economies of NS and British Columbia (BC), as well as a tool to garner potential votes.³⁸ Combined with projected savings through tax collection and local spending of employees, regional economic benefits are hard to ignore.

The major benefit of the NSS in its current form, as previously discussed, is the elimination of the “boom and bust” cycle on naval procurement in Canada. By maintaining the construction of the CSC and other ships in Canada, the NSS will contribute to approximately 30 years of stable employment in NS and BC.³⁹ In order to maintain employment and regional

³⁴Guerard, M. “Canadian Defence Industrial Preparedness: Is an Indigenous Canadian Shipbuilding Industry Essential?” Toronto: Canadian Forces Command and Staff Course, New Horizons Paper, 1992, 18.

³⁵Poole, Erick, and Phil Wall. *The Economic Impact of Canadian Defence Expenditures: FY 1990/91 Update*. Kingston: Centre for Studies in Defence Resources Management, 1992, iii, 13.

³⁶KPMG. *Economic Impact of the Defence and Security Industry in Canada*. Toronto: KPMG, 2012, 4.

³⁷Treddenick, J. M. “*The Economic Significance of the Canadian Defence Industrial ...*”, 16-22.

³⁸Stacey, R.W. “Canadian Naval Shipbuilding: Enough is too much” Toronto: Canadian Forces Command and Staff Course, New Horizons Paper, 1990, 11.

³⁹Canadian Association of Defence and Security Industries. *Sovereignty, Security and Prosperity: Government Ships: Designed, Built and Supported by Canadian Industry*. Ottawa: CADSI, 2009, i.

benefits beyond the 30 years, it will be important to identify replacements for capital ships early in order to keep the industry at work.⁴⁰ For projects such as the CSC, this may be difficult as the identification and procurement cycle for technologically advanced major warships can exceed 30+ years, and in the modern world, the change in technology will easily outpace that cycle; it will be hard to identify capability requirements for the future, when the future changes faster than one can plan for.⁴¹ It will also be important for the CAF and GoC to identify and agree on the life cycle and sequencing of current and future equipment in order for the NSS to be effective in the long term.⁴² If the NSS, as a project, can last beyond 30 years, future naval procurements will benefit from a strong corporate knowledge base that can contribute to a reduction of overall costs from the elimination of the learning curve and “built in Canada” premium associated with the historical “boom and bust” cycle. Reduced overall costs will also make the Canadian Shipbuilding industry a viable exporter, and could perhaps be a contender on the world stage for future naval vessels.⁴³ If the ships are modular enough and not too specific to Canadian requirements, they could be appealing to the global market, just as current “internal” ship equipment and systems manufactured in Canada are.⁴⁴ An increased market base could also lend itself to the reduction in overall costs for Canadian Naval ships in the future. The export dream,

⁴⁰Canada. House of Commons, *The Readiness of Canada's Naval ...*, 50.

⁴¹Canada. *Department of National Defence. Leadmark: The Navy's Strategy for 2020*. Ottawa: Directorate of Maritime Strategy, 2001, 22.

⁴²Fetterly, Ross. “Shaping Future Procurement strategies through Canadian Defence Procurement Reform” in *National Approaches to Shipbuilding and Ship Procurement*, edited by Douglas L. Bland, 47-70. Kingston: Queens University, 2010, 59.

⁴³Lerhe, Eric. *Fleet Replacement and the Build at Home Premium: Is it too Expensive to Build Warships in Canada?* Vimy Paper 32. Ottawa: CDA Institute, July 2016, 3.

⁴⁴Canada. House of Commons. *The Readiness of Canada's Naval ...*, 75, 76.

however, may just be that as historically Canada has not exported a naval ship since World War Two.⁴⁵

With goals identified in the NSS that speak to stability in regional shipbuilding and future economic initiatives, it is clear that the Government of Canada's main objective in the procurement of the CSC is the economic development of the nation combined with cost savings to the Canadian public through the "built in Canada" approach. Naval capability in the medium term will be sacrificed, as it does not appear to be a driving factor behind the NSS and building of the CSC.

Conclusion

Building the CSC in Canada will be more beneficial to the country than choosing a foreign "off the shelf" vessel. Though it would initially appear that there is a "built in Canada" premium, upon closer inspection it can be seen that regional benefits associated with a \$62 billion dollar project outweigh the small potential cost savings of an offshore procurement. On a project measured in the tens of billions of dollars, a capability gap in the RCN must be accepted in the short to medium term, to ensure the responsible spending of such a vast amount of money. Industrial Regional Benefits key to a province's economy must be weighted heavier than an RCN capability in a time of relative peace. If global security were to take a turn for the worse in the near future, perhaps a re-prioritization of capability and regional economic benefits would be

⁴⁵Todd, Daniel and Michael Lindberg. *Navies and Shipbuilding Industries: The Strained Symbiosis*. Westport, CT and London: Praeger, 1996, 177; Canada. House of Commons. *The Readiness of Canada's Naval Forces*. Ottawa: House of Commons, 2017, 75.

in order, but until then, the Government of Canada will likely prioritize the economic development of Canada ahead of the capability desires of the RCN.

For the NSS to be as effective as the GoC has envisioned, long term commitments to RCN and CAF will have to be identified well in advance. Identifying replacements in a timely manner so as to keep ship yards working will be key to enabling the prevention of the “boom and bust” cycle in the future. If capital replacements are not identified, approved and inserted into the NSS in a timely manner, the Canadian shipbuilding industry will likely fall back into the exact same situation that has occurred many times before and shipbuilding capabilities will be reduced again. The result of this will be that future experiences in RCN vessel replacement will feel like it’s the first time all over again.

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