

DAVIE

Brief to the Standing Committee on National Defence

NOVEMBER 3, 2023





Chantier Davie Canada Inc. (Davie) has followed the Standing Committee on National Defence's *Review of the Impact of Canada's Procurement Process on the Canadian Armed Forces* with great interest. We appreciate the opportunity to share key considerations to support the Committee's review. We have also provided these considerations to the Standing Committee on Government Operations and Estimates to support its *Study on the National Shipbuilding Strategy*.

As the Committee is aware, Davie was named as a strategic partner under the National Shipbuilding Strategy (NSS) on April 4, 2023. This position was earned as a result of our past 10 years of evidenced delivery for a variety of customers. We are a Canadian success story, globally renowned and award-winning, delivering some of the world's most complex ships – from dynamically positioned Subsea Construction Vessels to LNG-powered ferries – to customers at home and around the world.

The addition of Davie to the NSS means adding a mature shipyard without the learning curve required to transform from a shipyard that builds smaller, less complex vessels. By adding a shipyard with world-leading design and engineering capability, and proven experience in building and delivering large vessels, Canada has the opportunity to take a significant step forward with respect to shipbuilding efficiency and delivery through contracting approaches which recognize the experience of industry.

Davie is in the unique position of being a mega-yard, meaning we can build multiple ships at once and complete upgrades to our facility at 'no cost to Canada', while still delivering ships; we would never fully cease production while upgrading our facilities. Because of Davie's multiple construction berths, we can build multiple ships simultaneously, making the shipyard critical to the vitality of Canada's shipbuilding industry. When Russia first imposed sanctions on 25 Canadian businesses, they targeted critical national security assets perceived to be a threat. Davie was one of only two Canadian shipbuilders sanctioned.

Davie's entry into NSS represents a positive turning point in the Canadian shipbuilding industry. We appreciate the critical role the Committee plays on improving the Government of Canada's procurement process.

1. *Creating a competitive export market is key to the stability and sustainability of the shipbuilding industry in Canada*

In addition to Canada, we also follow Britain's namesake National Shipbuilding Strategy closely. The UK's revised National Shipbuilding Strategy places a heavy emphasis on creating an 'exit plan' for the industry to ensure continued work for shipyards after all domestically required ships have been built. That means building competitively priced ships now in order to develop an exportable product later on. It is a win-win-win for the taxpayer, the industry and its workers. The UK's recent development of a cost-effective warship with a fixed price of USD \$336M per vessel has already culminated in the sale of five ships to two foreign governments.

We believe that this is what is essential for breaking the 'boom and bust' cycle in Canada. Building an export industry is what will create a sustainable and strong shipbuilding industry – not simply continuous work from the government. If shipbuilding programs are not cost-effective and not creating an exportable product, their usefulness are reduced to a short-term artificial economic stimulus and the cost-benefit of building ships domestically quickly dissipates.

Canada's NSS is a highly commendable, necessary and generational program but it must not be seen as the 'be all and end all'. To the contrary, to be successful, domestic shipbuilding projects must be considered as a baseload of work to create the stability needed from which to develop the kind of sustainable and competitive export opportunities that we see shipyards in Europe thriving from – particularly in France, Spain, Italy, Finland, Germany, Norway, Poland, the Netherlands and in the future, the UK.

There is no reason why Canada cannot do the same, and with Davie's entry into the NSS, we are determined to make that so.

Canada is not the only country with an ageing icebreaker fleet for which significant fleet renewal will be required. This presents an excellent and large market opportunity for Davie and its National Icebreaker Centre. Davie's acquisition of Helsinki Shipyard in Finland — an undisputed industry leader in the design and construction of complex Arctic vessels, having delivered over 60% of all icebreakers currently in operation globally — further demonstrates its, along with Canada's and Quebec's, conviction of the existence of an icebreaker export market.

2. Future-proofing the Royal Canadian Navy's and the Canadian Coast Guard's fleets

Significant changes have unfolded since the inception of the NSS in 2011, prompting us to reevaluate the composition of our future fleet considering new global realities. Recent events in Europe have underscored the pivotal role autonomous systems will play in shaping the outcomes of future conflicts. Additionally, the aggressor in Europe has expressed a clear interest in the Arctic, a once-closed waterway that now commands our attention, and sits as a critical passage and frontier between the United States, China and Russia.

Likewise, the tumultuous environment in the Indo-Pacific region has demonstrated the necessity of being prepared for extended, expeditionary operations in support of our regional allies far from Canadian shores. China's approach emphasizes the importance of shipyards in their Military-Civil Fusion strategy, showcasing how the development of shipyards and related commercial products bolsters their national security posture and capabilities.

Furthermore, the world has witnessed an increase in environmental and humanitarian crises, necessitating specialized ships for response efforts. These evolving circumstances demand that we adapt, which may entail reevaluating the future composition of Canada's fleet.

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This prompts pertinent questions. Given that Canada's fleet will always be considerably smaller than those of many of our allies, how can we effectively and meaningfully contribute by operating alongside partner nations with unique ship capabilities?

From our standpoint, there are two key avenues to explore:

- Firstly, we envision Canada as the foremost authority and guardian of our shared Northern front, emphasizing specialization in Arctic-capable ships. With the Arctic potentially replacing traditional East-West trade routes, it becomes crucial to assess our readiness for all-of-fleet year-round Arctic operations in the coming decades.
- Secondly, we propose an enhanced role in providing vital support functions, akin to the role of the Combat Support Ship Asterix. Presently, Asterix is proving instrumental in enabling our allies who lack such vessels to perform long-range patrols and safeguard their maritime sovereignty and fisheries from intrusions. The remarkable gratitude expressed by our allies over the past five years, throughout all corners of the globe, underscores the value of this class of ship, one that continually operates alongside our partners to provide replenishment and support — an embodiment of Canadian hospitality.

Notably, Davie has conceptualized a unique vessel type previously absent from Canada's fleet but widely utilized among our allies. Additional vessels of this type, such as the multipurpose Global Logistics, Aviation, Amphibious, and Medical Support platform (G-LAAM) which Davie presented at CANSEC in 2022 and 2023, holds the potential to become a versatile, Arctic-capable asset within Canada's fleet, equally adept at humanitarian missions and combat roles.

Additionally, the replacement of the Kingston-Class Maritime Coastal Defence Vessels (MCDVs) under the NSS will become a significant undertaking, with Davie ideally positioned for this endeavor. The new MCDVs, inspired by the example set by our allies, are poised to grow in size, approaching corvette dimensions, weighing between 1,500 to 3,500 tons.

These vessels will be capable of global operations alongside and at times instead of, the Canadian Surface Combatants. As the three National Shipbuilders continue to enhance their competitiveness, these sought-after vessels, in high demand worldwide, could represent a promising export opportunity in the years to come.

3. *Canada (Québec) can be an internationally competitive exporter of ships*

The cost of building the type of icebreakers that Davie is being tasked to build under the NSS comprises roughly 50% labour and 50% materials. While material costs do not differ exponentially from country to country, labour costs do. The good news is that in Québec City, labour costs are, overall, less than or equal to those in Europe where ships are being built for domestic governments and exported globally at competitive prices. In fact, when we acquired Davie in 2012, the availability of the local skilled labour pool and labour rate levels were key considerations.

Davie has always had a strong export business; warships in WWII, cargo ships in the post war period and up to the 1980s, oil drilling rigs in the 1990s, and offshore oil and gas service vessels into the 2000s. We are determined to ensure that Davie's export success continues as a global centre of excellence for icebreaking vessels.

4. *Davie's greatest challenges entering NSS: domestic contracting and contract framework efficiency*

The question the Committee quite rightly has been asking is, *why do ships in Canada cost so much more and take so long to build?*

From our perspective, the reasons differ from yard to yard. For some, it has been a mix of capacity, infrastructure, experience, labour rates and labour availability. Fortunately for Davie, given its size, infrastructure, history and labour pool, we have not suffered from these issues. Furthermore, having a significant footprint with several production lines means that any delays on one program do not have any material impact or cause delays on the others.

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For Davie, the single challenge we face going into the NSS is contracting efficiency. The enormous success of the Asterix (Resolve Class Combat Support Ship) program is proof of this.

The Asterix:

- Was delivered on time and to budget - over 6,000t of steelwork at Davie in less than 2 years;
- Has operated flawlessly without a single day of downtime since delivery and has circumnavigated the globe;
- Has performed over 420 supply operations;
- Has operated with 15 different navies;
- Has delivered 78 million litres of fuel;
- Has been widely applauded internationally for its role in enabling NATO and our allies in operations ranging from the Sudan evacuation effort this year to counterterrorist operations in East Africa to sanctions enforcement in Korea and freedom of navigation operations in the South China Sea;
- Has single-handedly ensured the Royal Canadian Navy's ability to operate as a global expeditionary force.

How Davie achieved this unprecedented feat is in no small part due to the different contracting framework we agreed to with Canada for this project; the underpinning principles of it are key to making the industry competitive, exportable and therefore, sustainable. It was not revolutionary.

In essence, the kind of contracting terms which are used in shipbuilding projects worldwide were applied:

- i. Instead of a costly and time-consuming iterative process regarding specification, a high-level statement of requirements was provided by the Royal Canadian Navy to Davie, who was then responsible for delivering a design and ship capable of meeting all the requirements therein. This reduced the very costly eventuality perhaps suffered on other programs in the NSS where design and build changes are introduced part-way through a construction project, creating significant delays.

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- ii. The risk of delivering the ship to agreed specifications, on time and to budget was placed entirely on Davie. If Davie didn't deliver, there would be no payment. Because of our mature status as a shipbuilder, we can take on budgetary and scheduling risks.
- iii. A lean and efficient supervision team by Canada oversaw the construction while Lloyd's Register, the ship's classification society, was independently responsible for ensuring the vessel met agreed specifications (technically speaking, 'notations').

The Asterix project was privately financed and leased to Canada so the exact contractual framework could not be applied to future construction projects; however, the principles which underpinned the Asterix contract could easily be adopted.

5. Avoiding the catch-all framework applied to NSS projects across the board

With the creation of the NSS came the creation of the NSS Secretariat to administer it – a single office managing all major shipbuilding projects whereby contracting frameworks and processes are applied across the board.

The NSS Secretariat, while useful to manage a major complex undertaking, is not necessarily an efficient mechanism for certain programs where significant savings can be made and delays mitigated.

The construction of a military-grade surface combatant with complex combat systems whose value can be exponentially more than the cost of the hull requires a very different contracting environment and framework to, for example, an icebreaker for the Canadian Coast Guard that is built to commercial standards.

For projects in the NSS, Canada adopts its cost-plus-profit (1031-2) contracting policies: Canada negotiates the shipyard's profit margin and then all costs incurred by the shipyard are recharged with profit added on top.

This of course requires a heavy ongoing participation by Canada in every aspect of the shipbuilding program, and massive amounts of supervision looking into every supplier sub-contract, piece of equipment, etc. It also creates several negative potentialities. Instead of alleviating the number one risk to cost and schedule on shipbuilding projects – change orders during construction – it creates an environment for it to become the modus operandi.

While this kind of contracting framework is likely unavoidable for programs like the Canadian Surface Combatant where other forms of cost and schedule control are needed, we strongly believe that contracting principles resembling a commercial standard-form shipbuilding contract can and must be applied for our icebreaker projects, and likely other non-combat programs.

6. ‘Root and Branch’ change for Davie’s programs

In essence, we are looking to assume the same contracting structure used worldwide, and take on the responsibility and accompanying risk to deliver to a fixed-price against a fixed statement of requirements from Canada, without the possibility of constant and costly changes by the client during the construction process.

Davie will be charged with the construction of Canada’s new icebreaker fleet as well as ferries under the NSS. Ferries, as an example, cannot be contracted within the same process and principles as a warship without the outcome being a ferry whose cost is on par with a warship.

To introduce this root and branch change for Davie’s programs does not require any reform. Contracting ships on a fixed-price basis can be easily achieved within the framework of Public Services and Procurement Canada’s existing supply manual; it simply requires a change to the program procurement plan.

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In the commercial shipbuilding industry a '5 x 20' payment term is applied whereby:

- 20% is paid on contract signing
- 20% is paid on steel cutting
- 20% is paid on keel laying
- 20% is paid on launch
- 20% is paid on delivery

These progress payments roughly cover the cash flow required at each stage, with any profit delayed until delivery, further incentivizing the shipbuilder to deliver in a timely fashion.

Another payment method successfully adopted by Davie in the past is based on 'earned value', whereby the shipyard is paid based on a project management methodology that integrates schedule, cost and scope to measure performance. In essence, the client pays incrementally as the value of the ship increases during the construction, thereby mitigating the client's exposure.

Adopting this kind of root and branch change whereby Davie is provided a high-level statement of requirements and accepts the risk of delivery to a fixed-price is a mutually beneficial solution for Canada and the shipbuilder.

Davie is uniquely placed to be a testbed for a fixed-price contract arrangement because it has been an operational shipbuilder for the past decade, and is therefore comfortable with its capabilities and costs. Moreover, Davie has a seasoned engineering team which has been tried and tested over 10 years on multiple large-scale shipbuilding programs.

A fixed-price contract arrangement would allow the shipbuilder to be the master of its destiny and incentivizes it to perform while on the other side, Canada mitigates its risk of running over budget.

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In closing, we are grateful for the federal government's and parliamentarians' work which culminated in Davie's entry as a partner in the NSS. We stand ready to work with government to find a creative solution which will result in the most efficient and lean contracting framework within which to build these mission-critical and highly anticipated ships.

About Davie

Based in Québec, Canada since 1825, Davie is a leader in the construction and maintenance of specialist, mission-critical ships such as icebreakers, warships and ferries, for government and commercial customers. Davie is Canada's largest and highest capacity shipbuilder as well as a partner in the country's NSS under which it will build a fleet of advanced, fuel-efficient polar class icebreakers and hybrid ferries. With our partners, we help build sustainable marine industries, combat climate change, defend territorial sovereignty, support trade, generate exports, and support Northern communities by creating Blue Economy opportunities.

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