

CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Expediting Delivery of Warships

by Ian Mack

March 2025

POLICY PERSPECTIVE

EXPEDITING DELIVERY OF WARSHIPS

by Ian Mack

March 2025



CANADIAN GLOBAL AFFAIRS INSTITUTE
INSTITUT CANADIEN DES AFFAIRES MONDIALES

Prepared for the Canadian Global Affairs Institute
Suite 2720, 700 – 9th Avenue SW., Calgary, AB T2P 3V4
www.cgai.ca

©2025 Canadian Global Affairs Institute
ISBN: 978-1-77397-330-2

Background

The delivery schedule of the Canadian Surface Combatant (CSC) project has slipped by more than five years from when I first became involved with the project in 2007. The initial contract for construction of the first batch of the River Class destroyers has now been awarded, with full rate production of the first ship sometime this year for delivery in the early 2030s. With the Halifax Class frigates now operating beyond their effective 'end of life,' prompt delivery of the CSC is critical.

Furthermore, the uncertainty created by the new U.S. Administration – and Canada's response in terms of employment of U.S. manufactured defence equipment such as the F-35 – might further delay the start of production on the first destroyer.

The good news is that both the Liberal and Conservative parties appear to be interested in addressing military procurement challenges. The Liberals launched a Defence Procurement Review initiative about two years ago, and Pierre Poilievre was reported by the *Toronto Star* on 13 December as saying that "billions of dollars are wasted in flawed defence procurement processes" and that he "vows to address that." Any such efforts must address schedule slippage and late-to-need warship deliveries.

This paper answers two questions: What can be done at this point to expedite deliveries of the River Class destroyers? And what can be done to expedite a new design in parallel or in the future?

Expediting Delivery of River Class Destroyers

With the River Class design essentially completed and planning well advanced to deliver the first three River Class destroyers, an appropriate focus by Irving Shipbuilding is to do what is possible to accelerate delivery of the first batch, while looking at determined planning changes to significantly shorten the delivery schedule for the follow-on batches and flights. Many timesaving techniques have been employed elsewhere in the world, techniques beyond the common approach of adding shifts when the workforce capacity exists to do so.

One option worth considering – which the British used to accelerate the Queen Elizabeth Class aircraft carriers' construction – is collaboration with other shipyards. Ship modules were constructed in parallel with those in the prime contractor's shipyard. Pursuing such partnerships with U.S. shipyards may not be easy in the near term, in spite of last year's ICE Pact focused on collaboration between the U.S., Canada and Finland. However, it is

an option worth developing for future batches, as relations between Canada and the U.S. re-stabilize.

Such advances are possible due to continuing advances in digital design, which enable such cooperation between shipyards or fabricators working from 3D drawings. Similarly, the hulls of future destroyers could be built in another shipyard according to the precision design details from Irving and barged to Halifax for final outfitting. More complex compartments (e.g. operations and machinery control rooms) could be fully constructed offsite by Original Equipment Manufacturers (OEMs), complete with equipment installed and tested, before being welded in place and connected to shipboard support systems. The same approach could be employed with crew cabins to standard designs. A bold option could see Irving Shipbuilding funded to select a 'green field' site to stand-up an entirely new shipyard to double the pace of warship deliveries in later batches of River Class destroyers.

All of these options rely on effective working relationships between the parties to ship construction. If exceptional collaboration is not a characteristic of the current relationship between Irving and its key suppliers, it would need to be improved to render such approaches viable.

Moving in Parallel to the River Class Deliveries

Moving beyond the River Class, what might be done? William Ellery Channing gave us the answer almost two centuries ago when he said that "quantity has a quality all its own".

Canada's Arctic Foreign Policy indicated the government is now considering 'up to 15' River Class destroyers – a change from the definitive number of 15 as the minimum number of surface combatants defined as required by the Royal Canadian Navy (RCN). As the hull buy might now shrink below 15, it makes sense to pursue another class of less expensive surface combatants to be prepared to add the desired firepower for our Navy. And if geopolitics so dictate, an entire new class of such warships might be required to go beyond the Navy's minimum essential fleet size. Such vessels could be autonomous and unmanned or traditional designs, which through exploration by the selected design house and shipyard could allow both these options to be considered before a decision was made.

Canada can draw on production models that are already being used elsewhere to move ahead with a parallel design. Shipbuilders have been experimenting in their planning since at least the turn of the century to speed up ship construction by exploring digital 'design spiral' options that will de-risk production and avoid delays. As production engineering progresses (the final design stage which defines the 'how' to build the detailed

design), blue collar construction teams have done production 'dress rehearsal' trials to provide useful feedback on ways to further improve the planned production tasks in ways that facilitate construction. Near-flawless logistics for just-in-time delivery of all required materiel to the production line location for thousands of discrete work tasks can avoid significant and costly delays subsequently. And mentoring by experts with experience in the parent design-and-build can offer useful insights to Canadian shipbuilders. With a focus on speed and acceptance of the additional costs, these creative approaches all offer time savings.

In addition, there is also much that can be done by the Canadian government to better enable scheduling and timely delivery of an additional class of warships, albeit as enablers:

- Statement of Requirements discipline can be applied, only allowing exceptions to the parent ship's military-off-the-shelf design and systems y if recommended by an Independent Review Panel for Ship Acquisition.

- The warship requirements team can provide a "fitted for but not with" list. Such lists require designers to reserve space and other installation requirements for equipment to be fitted after ship delivery. Think of it as an extension of the Continuous Capability Sustainment program being developed to accommodate continual system upgrades to be fitted once ships are in-service. The requirements team can also produce jettison lists of equipment systems, with explanations of when in the design and construction plan that decisions could occur to eliminate the capability from the entire fleet. Both such lists would keep ships on delivery schedules.

- The reuse of past procurement strategies employed in past crises can speed up contract award. As one example, the Canadian Armed Forces were equipped for contingency Operation Archer in Afghanistan in record time, by employing an omnibus approval of multiple sole source contracts and Treasury Board waivers, and acceptance of a "swarming' approach to create project approval documents from drafts in days.

- Recreating a commercial Naval Ship Design Agency capability, combined with the strategic relationships developed with the NSS shipyards can enable parallel activity focused on new vessel designs.

- The approaches of our allies can also save time. For example, the Hunter Class was advanced in Australia with some novel concepts, three of which follow:

- Based on guidance to RAND and acceptance of their recommendations, rapid short-listing to three qualified bidders saved significant time.
- As per the sourcing documentation, Industrial and Technical Benefits would be jettisoned if/when they would cause direct schedule delays.
- Funding for risk reduction studies was provided to the bidders selected and available both prior to bidding and post-bid submission until winner announcement, the latter accelerating the successful bidder's response time.

- Mandated structured and sustainable joint working collaboration across the ship design and build project enterprise for client and key suppliers can enable speed and avoid time-wasting conflicts.
- Agility in decision-making is possible if delegated to the three core departments (DND, PSPC and ISED).
- To enhance the skills and knowledge of government procurement practitioners, impediments to greater use of Interchange Canada can be eliminated.
- The emerging techniques to navigate complex projects can be implemented in all shipbuilding projects, thereby minimizing the harm to schedule.

If there is concern that the RCN could be facing a potentially protracted period of combat, all of the aforementioned concepts should be pursued for the nascent corvette project now in the earliest stages of development.

Concluding Comments

Admittedly I have proposed a lot of change, something the risk adverse military procurement system has traditionally avoided. But we must remember why: to improve the RCN's readiness to address the volatile geopolitical state of the world, with the added benefit of increasing defence spending to address NATO commitments and the very real pressure from the incoming US administration to do so.

The time has come to innovate through trial and error, as Canada did in the lead-up to and during past conflicts. And a famous quote from General Patton comes to mind: "Lead me, follow me, or get out of my way". It is time for such leadership on steroids, to expedite warship deliveries through the application of innovative concepts already implemented elsewhere or by our government in the past.

Author's Note: A number of papers by the author as published by the Canadian Global Affairs Institute and the Policy Insights Forum expand on these concepts.

About the Author

After retiring from the Royal Canadian Navy (RCN) as a Rear-Admiral, ***Ian Mack*** *served for a decade (2007-2017) as a Director-General in the Department of National Defence, responsible for aspects of the launch of the National Shipbuilding Strategy, and for guiding DND project managers for three RCN shipbuilding projects and four vehicle projects for the Canadian Army. Since leaving government, he has widely offered shipbuilding and project management perspectives. Ian is a Fellow of the International Centre for Complex Project Management, of the World Commercial and Contracting Association and of CGAI. 'He also is a past Associate of Strategic Relationships Solutions Inc..*

Canadian Global Affairs Institute

The Canadian Global Affairs Institute focuses on the entire range of Canada's international relations in all its forms including trade investment and international capacity building. Successor to the Canadian Defence and Foreign Affairs Institute (CDFAI, which was established in 2001), the Institute works to inform Canadians about the importance of having a respected and influential voice in those parts of the globe where Canada has significant interests due to trade and investment, origins of Canada's population, geographic security (and especially security of North America in conjunction with the United States), social development, or the peace and freedom of allied nations. The Institute aims to demonstrate to Canadians the importance of comprehensive foreign, defence and trade policies which both express our values and represent our interests.

The Institute was created to bridge the gap between what Canadians need to know about Canadian international activities and what they do know. Historically Canadians have tended to look abroad out of a search for markets because Canada depends heavily on foreign trade. In the modern post-Cold War world, however, global security and stability have become the bedrocks of global commerce and the free movement of people, goods and ideas across international boundaries. Canada has striven to open the world since the 1930s and was a driving factor behind the adoption of the main structures which underpin globalization such as the International Monetary Fund, the World Bank, the World Trade Organization and emerging free trade networks connecting dozens of international economies. The Canadian Global Affairs Institute recognizes Canada's contribution to a globalized world and aims to inform Canadians about Canada's role in that process and the connection between globalization and security.

In all its activities the Institute is a charitable, non-partisan, non-advocacy organization that provides a platform for a variety of viewpoints. It is supported financially by the contributions of individuals, foundations, and corporations. Conclusions or opinions expressed in Institute publications and programs are those of the author(s) and do not necessarily reflect the views of Institute staff, fellows, directors, advisors or any individuals or organizations that provide financial support to, or collaborate with, the Institute.