



Innovation in Federal Ship Procurement

Situation: The recent cancellation of two high profile ship procurements, coupled with significant numbers of ships within the government fleets about to reach their end-of-service lives, has brought to light weaknesses in our federal ship procurement practices.¹ These weaknesses have frustrated successive governments' abilities to implement desired Foreign Policy, fulfill Defence and Security commitments, and they threaten our ability to exercise sovereignty over our vast ocean domain.

Solution: The Navy League recommends that the Government of Canada implement procurement reforms to address the issues identified in the enclosed "*Government Procurement Process*" issue paper and follow by establishing a long term plan to refurbish our fleets, as per "*Developing A National Shipbuilding Plan.*"

Benefits: By overhauling the government's procurement process as it relates to the design, build and acquisition of the federal defence and security marine fleets and creating a coherent National Shipbuilding Plan, Canadians will realize the following benefits:

Defence and Security Benefits

- Maintains strategic capabilities for shipbuilding and repair²
- Ability to deploy new technology more frequently³

Government Benefits

- Radically reduced acquisition and in-service support costs⁴
- Ability to effectively manage long term capital acquisitions⁵
- Steady baseline expenditures are easier to implement and manage than giant one-time costs to any given fiscal year
- Avoids shipyard recapitalization costs⁶
- Reduced risk of political considerations overtaking bona fide requirements

Economic Benefits

- Reap additional economic "spin-offs"⁷
- Reduced burden on taxpayers⁸
- Creates pan-Canadian employment opportunities in multiple high technology and skilled trade careers⁹
- Provides incentives for Canadian based research and innovation¹⁰
- Increased stability for federal budgets and steady regional economic benefits

Industry Benefits

- Ability to train and retain a diverse work force in a multitude of trades ranging from very highly skilled technicians and engineers down to basic semi-skilled labourers
- Ability to project long-term opportunities and invest accordingly in required equipment and technology

If followed, it is believed that the government's marine defence and security fleets can be acquired, maintained, and supported cost-effectively while at the same time providing the high level of capability that Canadians require, and moreover, providing the Canadian marine sector with the opportunity to prosper and become a valued strategic industrial resource without need for government incentives. Designing, building, and supporting these fleets in Canada is important to our security and prosperity. It provides – and secures – thousands of highly-skilled Canadian jobs, and it provides a substantial return to the entire Canadian economy in the economic regions of Canada.



Endnotes

- ¹ Procuring ships, particularly warships, is a uniquely challenging endeavour which cannot be compared to commercial or 'off-the-shelf' purchases. Constructing a warship is one of the most complex undertakings of any government. Akin to building a floating city, with computers, sensors and weapons systems, ship procurement requires a nuanced solution. Standards and practices associated with more basic procurement programs cannot be wholly applied.
- ² The United States, United Kingdom, Australia, Japan and all major European powers have accepted the principle that indigenous ship building and ship repair is an essential strategic capability. Russia, China and India have all invested heavily in their indigenous industries and will continue to do so throughout the foreseeable future. Canada is the only major industrial and maritime power that has not.
- ³ The radically reduced procurement lead times, coupled with modern advances like modular design and open-source architecture, would enable us to introduce new or improved capabilities much more quickly and with much lower cost.
- ⁴ *The Australian Naval Shipbuilding and Repair Sector Strategic Plan*, published by the Commonwealth of Australia in 2002, noted "optimum value annuity is achieved with a ship life of closer to twenty years, but replacement earlier than this can be undertaken without significant cost penalty and could be justified on wider shipbuilding or fleet capability management grounds" (p. 177). This report also noted (p. 171) that "continuous ship construction activity would avoid the recurring infrastructure costs and would provide a continuous and relatively steady level of demand for ship acquisition. The current practice of maintaining ships in service for up to thirty years was challenged and it was suggested that replacing ships significantly earlier than current practice would avoid costly mid-life upgrades, and could enhance overall fleet capability and provide better value for money."
- ⁵ This is not the present case. Major procurement initiatives, when cancelled or delayed, not only drive up the cost of procuring the new equipment, they force fleet operators like the Navy and Coast Guard to spend excessive sums to maintain antiquated equipment past its designed lifespan.
- ⁶ Under our present 'boom and bust' cycle of procurement, industry is not able to forecast requirements for investment in machinery, technology and human resources. As such, whenever large procurements arise, a significant portion of project costs is to upgrade the equipment and workforce of the winning shipyard. By stabilizing the procurement curve, it is possible for industry to develop and maintain the capabilities to meet our requirements efficiently and economically.
- ⁷ Economic generation factors remain a subject for debate as there doesn't seem to be a standard model for determining which spin-off benefits can be reasonably included. A 1999 study by a Canadian marine group came up with a ratio of 5:1. A study completed in 2006 for the south-west region of Australia came up with a ratio of 2.84:1 as the indirect (additional) economic generation factor. A more recent study for the Oceans Sector in BC came up with a 2005 ratio of 1.95:1 for the entire sector. Industry Canada sources suggest, based on a UK study, a factor of 1.68:1 for indirect shipbuilding jobs and a factor of 1.55:1 for value added work; their more conservative estimate is 1.5:1 for jobs and 1.38:1 for value added work. At issue in any of these studies is the number of "layers" the study is taken down to (the study used as the basis for Industry Canada's estimates only went down one layer). Thus, conservatively, a ratio between 1.5:1 and 2.5:1 seems reasonable.
- ⁸ Implementing this proposal will save money both on initial purchase price and total cost of ownership. Significant initial savings will come through reforming the terms and conditions of procurement. Effective life-cycle management will reduce operations and maintenance costs over the duration of service life.
- ⁹ While areas surrounding our shipyards will see the most direct economic benefit, components for these ships are built across Canada. In addition Canada's Industrial and Regional Benefits policy assures all regions will benefit from this strategic investment.
- ¹⁰ Canadian innovation in naval architecture, combat systems and sensor technologies is well documented. Unfortunately, we tend to invest heavily in innovation for singular projects, with no consideration to the sustainable development of technology paths. As such, we fail to realize the full benefit of our investment in research and development, and often lose the scientists and engineers responsible to other trades or nations.