Making Waves

AOPS and the NSPS: Wishful Sinking?
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As we look ahead in 2015, how does the Arctic/Offshore Patrol Ship (AOPS) program stand in relation to the objectives of the National Shipbuilding Procurement Strategy (NSPS)? A Contract Definition contract has been signed and Irving Shipbuilding is pressing ahead with training a workforce and building new construction infrastructure for the new ships, and has acquired an overseas partner to assist in the design of the vessels. On 16 January 2015, Irving and the federal government signed a Build contract for the AOPS. The cautionary news: the total cost of the ships will increase by $400 million, and the contract, while providing a strong profit incentive to build six ships, only guarantees five AOPS. In addition, while steel will be cut in September, the design work is only 90% final. Solid progress to be sure.

Yet, late in 2014 there were a few troubling indications that all may not be well for AOPS in the months ahead. First, in October 2014, Dr. Elinor Sloan published a report entitled “Something has to Give: Why Delays are the New Reality of Canada’s Defence Procurement Strategy.” She cited the AOPS as one example of a procurement project the schedule of which has slipped from an original first ship delivery date of 2013 to an estimated delivery some time in 2018.

Second, on 28 October 2014, the Parliamentary Budget Officer (PBO) produced a report, “Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships.” The report suggested that, instead of the six to eight ships originally contemplated, with no further delays the existing budget would only allow for four ships. Moreover, if the project encountered a schedule delay of a year, then only three ships could be built. Finally, the PBO cautioned that schedule delays for AOPS could have “a significant impact” on the government’s purchasing power and for the Canadian Surface Combatant (CSC) project later on.

Third, David Pugliese, a journalist with the Ottawa Citizen, reported that senior officials from the Department of National Defence (DND) and the Department of Public Works were meeting with Treasury Board officials early in December 2014 to seek an increase in funding for the AOPS project. Not a good sign.

In addition, I should note that in a February 2013 Report the PBO had highlighted the fact that the budget for the navy’s Joint Support Ship (JSS) was not sufficient to replace the navy’s existing supply ships with vessels of similar capability.

So, not enough funds for the two JSS, the six to eight AOPS and the 15 CSC. See the common thread here?

These unsettling developments point to a fundamental flaw in the NSPS, namely unrealistic and inadequate cost estimates and fanciful planning and budgeting. Ever since the NSPS was formally announced in 2010, there has been a steady litany of reports that the $25 billion naval warship portion of the total NSPS budget of some $35 billion was insufficient to cover the costs of building six to eight AOPS and the 15 CSC. Indeed, early indications were that, if design work for the CSC began in 2011 – which it clearly has not – then the CSC project alone would require $26.6 billion to build plus another $15 billion for in-service support over 20 years; more than $41 billion in all. The fall 2013 report of the Auditor General of Canada concluded that Canada would not receive the naval warships it requires “if budgets are not subject to change.”

And are the navy’s budgets going to increase in the near future? Not likely. The government is committed to a policy to eliminate the federal deficit by FY 2014/15, and before an upcoming federal election. Moreover, given the current anemic projections for Canadian economic growth in the short to medium term, there is little to suggest that governments can expect a booming economy to inject windfall gains into a stagnant defence budget.

This leads back to the prior question of what the NSPS really is. It seems to lack the necessary end-means link that is a prerequisite for any meaningful strategy. And it certainly does not appear to be a recognized policy of the government in the sense of approving a plan and setting aside sufficient funds for its implementation. Is it nothing
more than a wish-list compiled to give the appearance of solid planning and commitment?

However we choose to characterize the NSPS, it is clear that all of the key stakeholders – the elected politicians, the procurement civil servants, the navy planners, the industry manufacturers and even the taxpayers – have been complicit in ignoring the seemingly self-evident reality that the NSPS lacks an adequate funding basis. What joins them all together is the fervent hope that when the actual contracts are signed the money will somehow magically materialize to cover what is sure to be ‘sticker shock’ as all the bills are tallied up.

Government commitment is perhaps the weakest link in the NSPS. Is it reasonable to expect any government with at most a four to five year planning horizon to budget properly and fully for a strategy which encompasses upwards of 50 years or more? I have a sinking feeling that past Canadian defence procurement history tells us that the answer is no.

This propensity for procurement delay is a built-in consequence of the Treasury Board demanding a much-too-early statement by DND of the overall life-cycle cost sequence of the Treasury Board itself. This in turn means that all major defence acquisition programs must be planned to give the government the time it needs to fully fiscally commit to the strategy long before detailed and realistic costs can be estimated with fully engaged manufacturers. This results in ‘gotcha’ budgets that understandably bear little reference to real-world costs that can only be determined much later on in the procurement process.

As the Auditor General emphasized in his fall 2013 report, “Chapter 3: National Shipbuilding Procurement Strategy,” an “indicative” budget estimate – which is really no more than an early ballpark guess – somehow becomes a fixed budget “cap.” And this happens well before potential industry shipbuilders enter the process, and long before the government enters into firm contractual negotiations with the winning shipbuilder.

As a result, the initial ‘placeholder’ figure almost always bears little relationship to the final true – and invariably much higher – costs of the ship program. This in turn inevitably means schedule delays, lower capabilities and/or fewer ships. So the question is not why we should be surprised by the new normal of defence procurement but, rather, how we can change the dysfunctional aspects of this budgetary process so that the navy can acquire the ships that are needed to carry out the government’s maritime policies.

Collaborative Naval Procurement: Lessons from the ANZAC Frigate Build
Jeffrey Collins

Often associated with aircraft acquisitions like the F-35, collaborative procurement is rarely mentioned in Canada as a possible route to replacing the Royal Canadian Navy’s (RCN) destroyers, frigates, replenishment ships and submarines. This can be attributed to the fact that naval ships remain the only major military platforms still manufactured domestically. In short, Canadian politicians are reluctant to have expensive ships built offshore. At the same time, domestic shipbuilding in a country with a history of ‘boom and bust’ building cycles and a small, relatively inexperienced workforce increases the local premium paid to build at home.

The idea of bi-national shipbuilding may seem like a non-starter from a political point of view, however, the success of the ANZAC-class frigates acquired by Australia and New Zealand in the 1990s and early 2000s would suggest that collaborative naval procurement merits further attention. Totaling 10 ships—eight for Australia, two for New Zealand—this class of warships has the unique distinction of being built on time and on budget. As one defence publication remarked, the 3,600 ton ANZACs were the “most successful major defence project in Australian history.”

Named after the famed Australia-New Zealand Army Corps of the First and Second World Wars, the ANZACs originated as part of a large-scale Australian naval shipbuilding cycle that began in 1984 and ended in the early 2000s. Included in the build were two missile-guided frigates, six Collins-class diesel-electric submarines, eight ANZACs and six mine-hunters, in addition to various patrol vessels. Out of all of the projects though, the A$3.93 billion (1988 values) ANZAC frigate project remains the largest single defence contract awarded in Australia in the 20th century. How the project evolved to include New Zealand was largely the result of favourable geopolitical factors.

On an individual level, there were two like-minded Labour Party governments in Canberra and Wellington, both

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1. Elinor Sloan, “Something has to Give: Why Delays are the New Reality of Canada’s Defence Procurement Strategy,” Canadian Defence and Foreign Affairs Institute, University of Calgary, Calgary, October 2014.
of which were intent on maximizing industrial offsets in defence acquisitions. Second, New Zealand’s Labour government had declared the country a nuclear-free zone in 1985. This led the United States to retaliate by suspending its obligations to New Zealand under the ANZUS treaty. Without a superpower patron, Wellington turned to Australia as its primary defence partner. Consequently, it became somewhat of an unspoken understanding that for New Zealand to demonstrate its credibility as an ally it would need to join Australia’s frigate replacement program. As it happened, the Royal New Zealand Navy (RNZN)’s four frigates were facing obsolescence leaving the country urgently needing new surface combatants in order to retain capability. By 1989 New Zealand was on board for the project.

However, in order for the frigates to be palatable to a relatively anti-military spending electorate, New Zealand only agreed to purchase two frigates, holding options for two more. Furthermore, the key to justifying the expenditure of NZ$942 million to the public was the promise of industrial offsets of at least 70% of New Zealand’s portion of the project cost for local businesses. The success to achieving these goals lay in the various methods adopted to build the ships.

First, there was the awarding of a 15-year performance-based contract for the design, construction and testing to prime builder Tenix Defence Systems. The intent was to build the frigates using an existing, proven ship design. In the contest for designs, the Meko 200 from West Germany’s Blohm + Voss beat out the Dutch M-Class by Royal Schelde. The Meko 200 offered the ability to assemble the ship in modules, allowing for the simultaneous building of the ships’ hulls at different locations in both countries. This multi-yard assembly alleviated much of the delays associated with a one yard build.

Second, the ships’ combat system, designed by Saab, was constructed and tested before being installed on the ships, thus avoiding many of the expensive delays associated with the Collins submarine project where combat system development pushed the project back by years.

Third, Tenix established an Industrial Supplies Office to coordinate those Australian and New Zealand small-medium enterprises (SMEs) hoping to bid on the subcontracts. The genius of the office was its use of a ‘reverse garage sale’ in awarding SME contracts. The method was that Tenix placed on display the components it needed and SMEs were invited to see which could be manufactured locally. This approach to establishing the frigates’ supply line ensured that schedule discipline could be maintained as successful bidders largely already had existing production lines.

The combination of these factors kept the ANZAC build on budget and on schedule with a local premium cost of less than 5%. The industrial participation rates exceeded the 70% requirement in both countries by 10%. In New Zealand, clearly the junior partner in the acquisition, over 400 businesses participated in the project, equating to NZ$800 million worth of contracts.

This is not to say there were no problems. New Zealand’s kerfuffle with the United States over the ANZUS treaty led to prolonged delays in the transfer of technology to the RNZN’s two ANZAC frigates, the HMNZS Te Kaha and HMNZS Te Mana. The Americans took particular issue with New Zealand obtaining the Mk 49 radar, Mk 41 vertical launch systems and 5” Mk 45 Mod 2 gun. Much diplomatic discussion among the three capital cities eventually ironed out the dispute but it illustrates the challenges of a bi-national ship build when most of the weapons technology is held by a third party. Similarly, as Wellington hesitated over pursuing the two optional frigates (it eventually did not) Canberra turned up the pressure, asking that New Zealand pay for the parts needed
for the two frigates regardless of whether it purchased them, though this too was eventually resolved.

The above problems notwithstanding, the ANZAC acquisition demonstrates the strength of adopting a collaborative approach in the shipbuilding sector. Economies of scale are generated when more vessels are purchased, costs become fixed and production efficiency increases as the labour force improves skills. Likewise, even when one of the two countries involved is the prime builder, a modular ship design allows for components to be manufactured in both countries. Savings in both money and time can particularly be seen when SMEs with existing production capabilities are a part of the project. Finally, local industry can still play an important role in through-life support, as witnessed by the C$1.5 billion Class In-Service Support Contract awarded to the Canadian Submarine Management Group for the RCN’s UK-built submarines.

Reports from both the Office of the Auditor General and Parliamentary Budget Officer make it clear that Canada’s National Shipbuilding Procurement Strategy (NSPS) is in need of serious revision. The Canadian Surface Combatant, Joint Support Ships and Arctic Offshore Patrol Ships are all underfunded, leaving the RCN to contend with the serious likelihood of making capability-cost trade-offs in the near future. In this sense, Canada should look towards collaborating with Australia on at least some of these platforms, particularly the surface combatants and support ships.

It should do this for three reasons. First, Australia and Canada share similar operational requirements – particularly, interoperability with the US Navy – and both countries need to replace their frigates and support ships in the same 2020-2030 timeframe. Australia is also looking at developing naval capabilities to operate in the Southern Ocean and Antarctic waters just as Canada wants to operate in Arctic waters, which would make Canada an ideal partner.3

Second, Australia has over four decades of consecutive naval shipbuilding experience, including in collaborative projects, which stands in stark contrast to Canada’s boom and bust cyclical industry. A collaborative acquisition with Canberra in the lead and with Ottawa obtaining its portion of industrial offsets would be an effective way of generating savings and providing the RCN and Royal Australian Navy with the capabilities they need in a timely fashion.

Lastly, as with the ANZAC project, both countries are home to like-minded Prime Ministers who share a common view of their country’s roles in international affairs. As such, a window of opportunity exists to pursue an alternative approach to naval acquisition that satisfies both operational and political requirements. Timing, in other words, is of the essence.

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