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RESOLVE CLASS

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Resolve Class

THE STORY OF THE RCN'S NEWEST SUPPLY SHIP OFFERS TESTIMONY THAT, IN FACT, A NAVAL PROGRAM CAN RUN ON SCHEDULE AND ON BUDGET

BY TIM MAHON

A certain French emperor allegedly once said "God is on the side of big battalions," as well as "an army marches on its stomach," which have been variously interpreted by military strategists and historians for the last two centuries as admonitions to secure strong and reliable lines of supply when campaigning.

History since then has taught modern armed forces the perspicacious nature of these aphorisms: Rommel in North Africa, Cunningham in the Mediterranean, Nimitz in the Pacific, Woodward in the Falklands – all relied on holding extended supply lines, sometimes extending to thousands of miles, to support effectively the efforts being made on the front line. In a naval context the security of lines of supply and communications depends on two things, in modern warfare. The first is dominance – in the air, on the sea (and under it) and in the electromagnetic spectrum. The second – interdependent and equally vital – is an adequate transport and logistics support force, more often than not based on replenishment at sea (RAS) vessels, more often referred to these days as auxiliary oiler replenishment (AOR) vessels.

Whatever the nomenclature, the purpose of such vessels is clear. To provide reliable, sustainable and effective support in the form of fuel, consumables, war materiel and other essential supplies to combat and support vessels while both parties are under way. That demands careful design and meticulous planning – neither of which should come as a surprise to any reader of CDR or, indeed, anyone involved in naval affairs, in government, non-governmental organisations or industry. And, it certainly comes as no surprise to the executives and workforce of Federal Fleet Services, the company building Canada's next AOR – the Resolve-class.

Canada's Navy has been in dire need of a supply ship since HMCS Protecteur went out of service

The history of the Royal Canadian Navy's search for a new generation AOR vessel is convoluted – and has been covered several times in these pages. Suffice it to say that under the then much vaunted (and now much criticised) National Shipbuilding Procurement Strategy (NSPS) Seaspan's Vancouver shipyard was selected as the preferred shipbuilder for the non- combat vessels for the RCN and the Canadian Coast Guard. Among the vessels to be built are three Offshore Fisheries Science Vessels (OFSV), one Offshore Oceanographic Science Vessel (OOSV), one Polar icebreaker and two Queenston-class Joint Support Ships (JSS).

JSS FALLS BEHIND SCHEDULE

Seaspan has been diligently building the first of the small class of vessels – albeit without all the benefits of the shipyard modernisation program it is engaged in yet being available – but for whatever reason has fallen behind schedule. Complex vessels require efficient and complex project management and it is entirely to be expected that problems will occur. What sets apart companies that are able to succeed in the long term, from those that may potentially falter, is how those problems are recognised, analysed and overcome. And that means it is done in a timely manner with great efficiency and at as low a risk to the constructor and customer alike as possible.

The original budget for the four OFSV ships ran to $244 million, with deliveries envisioned for 2016. The current indications are that the programme will run out to $687 million, with delivery by 2021 at the earliest. Those figures are, of course, estimates and therefore subject to considerable potential debate. One of the reasons they are estimates is that only one vessel has so far been contracted and has commenced construction, largely because Seaspan lacks the capacity to build the vessels in parallel.

As for JSS – no firm contract has yet been awarded, even though the original NSPS framework contemplates that Seaspan will cut steel on them after the OFSV/OOSV programme is complete. But, there is a fly in the ointment here too, since there is now significant debate as to whether the Polar icebreaker – a vessel sorely needed by Canada and for which there is currently a 12 year period in prospect during which Canada will have no such capability at all – may perhaps be brought forward as a priority build. Government reports indicating that the lack of an icebreaker is the most pressing current need, lend weight and credence to this surmise. Originally budgeted at $720 million, current governmental estimates place the cost to build the single vessel at Seaspan at around the $1.3 billion mark.

POLAR ICEBREAKER SITUATION MAY DELAY JSS DELIVERY EVEN FURTHER

If the icebreaker does take priority over JSS, the net result for the RCN is that there will be a nine year gap during which it will have access to only a single AOR – the Resolve-class vessel currently being built by Federal Fleet Services. There is a strong argument, of course, that fire on board the existing Protecteur-class vessels, causing their premature retirement ahead of their planned out of service date of 2017, has been an unexpected complication and has caused wholesale changes in the setting of priorities.

Which is certainly true, but then, to quote another European commander of some repute (this time German), "no battle plan survives contact with the enemy." In an industrial context, sensible risk management is an absolute prerequisite for efficient management of large scale projects such as those components of the NSPS in question here.

Alex Vicefield, the executive who has been largely responsible for turning around Chantier Davie and for investing the effort, resources and cold hard cash in Federal Fleet

Alex Vicefield (left) with Federal Fleet Services, CEO Spencer Fraser at the Davie shipyard

Services to make the Resolve-class a reality, is eloquent on the subject of risk management. "Contracts such as this demand very careful risk mitigation and one of the best methods of reducing risk is to adopt practices and disciplines that work elsewhere," he told CDR.

Davie's and Federal Fleet's association with V.Ships, one of the world's largest ship management and ship supply chain management companies, ensures the companies can do that. Vicefield also adds that building in parallel is an extremely effective counter to inflation, which is one of the largest single risks needing to be managed. While this is scarcely an argument that needs to be marshalled right now when considering the single Resolve-class hull under construction, it does bear thinking about in the context of the Canadian Surface Combatant (CSC) programme, which CDR has recently covered in depth. It is also likely to be a powerful argument that will come to the fore if the JSS programme runs into rough waters.

How likely is that? A briefing note to Ministers during negotiations in September 2015 between Federal Fleet Services and the Government of Canada, a copy of which was obtained under the Access to Information Act, reveals that there are concerns. As certainly there should be. While warning that wholesale adoption of the Interim AOR (iAOR) solution as proposed by Federal Fleet may carry implications for NSPS – indeed, could potentially "draw much needed resources from the projects under" it – the document candidly summarises the situation:

"With the loss of the Preserver and Protector, the RCN is faced with an immediate capability gap that the (iAOR) would fill. Beyond the current gap, however, is the long standing requirement for a third AOR ship as articulated in the JSS policy document that states that the project will acquire two support ships with an option for a third if it is affordable or if additional internal funds become available."

This doesn't mean that JSS should not be built. However, if they are to be slid to the right in terms of scheduling, in order to give build priority to the icebreaker, and if Seaspan continues to have technical and scheduling issues that may put that revised priority somewhat at risk, surely a sensible risk management policy should have a 'Plan B' up the metaphorical sleeves of those responsible for managing budget, resources and capabilities.

The original plan was to have both JSS ships in service by 2018, shortly after retirement of the existing AORs. Current estimates are they are unlikely to be in service before 2027. To be frank, with hindsight the original desire was just that and some of the fault lies in the hopelessly optimistic – not to say unrealistic – judgements made at the time regarding the art of what was truly possible.

The nine year gap – during which there will be but a single AOR to support RCN fleets on two coasts plus its international commitments – will present the RCN with an immense logistical challenge, which will affect the manner in which its operational capability can be bent to governmental needs, which in turn will dictate, at least in part, the evolution of Canadian defence and security policy.

COSTS SOARS TO $2 BILLION PER SHIP

Add to this the financial dimension. The last time the same design as Canada's planned Queenston-class Joint Support Ship was built – then by German shipyards for the German Navy – it was done at an all-in cost of a little over $500 million equivalent. The current government estimate to build each of the two JSS is $1.4 billion, with a Parliamentary Budget Office calculation running even higher at $2 billion each. Numbers do not lie….at least not all the time.

So, what does this mean for the Resolve-class and for RCN logistical support capability? It means serious decisions have to be made: quickly and in a realistic, objective manner, in order to ensure Canada gets what it most seriously needs – value for money in public expenditure. None of this should be interpreted as a wholesale ad hominem assault on the evolution of policies such as the NSPS, or any of the machinations that have taken place over the lifetime of this project.

But, there are serious considerations to be taken into account: experience with the OFSV programme indicates there could be problems moving forward should Seaspan's significant efforts to overcome them not be successful; changes in circumstances have led to potential changes in prioritisation and programme 'queues' that could not have been foreseen at the time; and an alternative – an affordable, effective and innovative alternative – has become available in the interim.

THE RESOLVE–CLASS SOLUTION OFFERS MUCH NEEDED SHIPS EARLIER AND AT A 2.5 $BILLION SAVING

Federal Fleet's proposal is quite simple. Almost breathtakingly so. First, the government leases the first Resolve-class

ship, rather than an outright purchase. This addresses some of the early integration issues the RCN might have with a new class of vessels and transfers risk from the government to the supplier of the service – in this case Federal Fleet, which will leverage the business practices, supply chain management and deep well of operational experience that V.Ships can bring to bear.

It is true, as antagonists of such a solution will point out, that managing vessels in a naval operational environment is vastly different from managing merchant marine vessels. But the differences, dare one suggest, can be significantly outweighed by the efficiency and cost advantages of adopting best practices from a going concern with a global perspective and footprint.

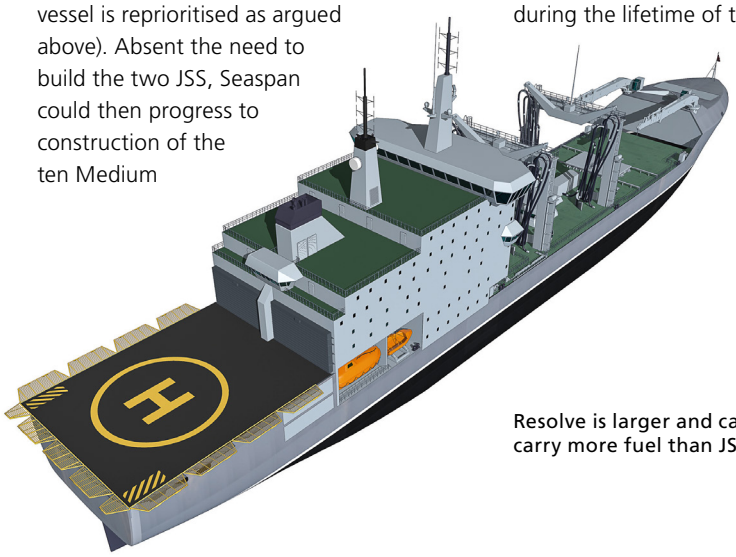
Perhaps even more radically, the proposal then suggests the purchase of two further Resolve-class vessels, for a total programme cost of $1.5 billion, rather than the two JSS ships. This would reduce the nine year gap in which the RCN would have one AOR to seven years, since the second vessel could be delivered within two years. It would provide the RCN with three vessels built to a higher specification than the JSS, according to Federal Fleet Services. And it would save the Government of Canada $2.5 billion – the difference between the Federal Fleet offer and the Parliamentary Budget Office estimate of building the two JSS on the currently projected basis.

It would also ease the apparent logjam in the non-combat programmes of NSPS as well. The four OSFVs and the single OOSV (for the latter of which only long lead time items have so far been contracted) could be delivered by 2022, followed by the Polar icebreaker some two years later (if the vessel is reprioritised as argued above). Absent the need to build the two JSS, Seaspan could then progress to construction of the ten Medium Endurance Ships and Offshore Patrol Ships needed to update the Canadian Coast Guard's capabilities. Currently, these vessels are not contemplated as being in service until the 2030s. Arguably, given the above described circumstances, they could be delivered over a five year period from 2023.

RESOLVE OUT–CLASSES BERLIN CLASS

So how does the Resolve-class measure up against its putative competitor? Compared to the Berlin-class vessel on which the JSS design is based, Resolve is 5% larger in length and beam, displaces an additional almost 6,000 tonnes (+12%) and has four RAS masts as opposed to two. It has the capacity to carry 5% more F76 fuel and 50% more F44 than JSS and a speed advantage of approximately 10%. Both vessels have similar aviation capacities (1 spot, 2 hangars), similar bridge systems (OSI Nav-Tac) and dual propulsion systems; Resolve has a conventional/retractable thruster arrangement, while JSS has a conventional/dual shaft system, but lacks the dynamic positioning advantage offered by Resolve. Both classes can be fitted with a Phalanx Close-In Weapon System. Both vessels can carry a Role 2-3 hospital, making them equally capable in this respect in terms of the humanitarian and disaster relief scenarios envisioned by the RCN.

In the final analysis, an objective observer might be forgiven for believing that the lack of clarity in a decision boils down to obstructions inherent in (perhaps intrinsic to) a procurement system that is to a very large degree driven by politics. In CDR's view that is too simplistic a judgement. Not only have Canadian politics changed radically during the lifetime of the JSS programme, but the exigent circumstances to which the programme has had to react have changed beyond all recognition. NSPS was crafted and developed with a specific series of objectives in mind, many of which revolved around the need to stimulate and revitalise the Canadian shipbuilding industry – a laudable and entirely understandable desire.



Resolve is larger and can carry more fuel than JSS

WHY SHOULD CANADA PAY 4 TIMES THE COST FOR A COMPARABLE SUPPLY SHIP?

At the time that NSPS was finalised, Chantier Davie was not in a position to bid – it was essentially bankrupt; Federal Fleet Services did not exist; the programme of construction for the non-combat component of the strategy was understood and there was no reason to forecast problems, insurmountable challenges or delays.

Fast forward to 2016. Davie has undergone a phoenix-like resurrection; Federal Fleet Services has stepped forward with a credible, innovative and, it may be said, graceful solution that acknowledges and pays tribute to the components of the strategy that may well be eased or accelerated by its solution; and experience to date demonstrates that risk may not have been managed in the most appropriate or effective manner.

All of which may be too ephemeral for some readers. So let us conclude by looking at the figures. "There is strong and credible evidence that this kind of capability can be delivered at the level of price that we have proposed," says Vicefield.

"Other nations have done this successfully – there is no reason it cannot be done in Canada." Converting international currencies to constant 2015 Canadian dollars, the New Zealand Endeavour-class replacement AOR cost $456 million; In Germany the Berlin class price sticker was $551 million and Australia's Modified Patiño-class vessel $582 million each.

Why should Canada shell out between three and four times these costs for a similar (admittedly not identical) capability? There does not currently seem to be a truly defensible reason to suggest it should. And, we know that Federal Fleet Services is resolved to win the debate and provide that sorely needed supply ship capability in an efficient, expeditious manner at an affordable price. ■

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