



# CANADIAN NAVAL REVIEW

VOLUME 10, NUMBER 3 (2015)

**The Case for a More Combat-  
Capable Arctic Offshore  
Patrol Ship**

**NOPEC: A Game Worth  
Playing?**

**Interoperability and  
the Future of the Royal  
Canadian Navy**

**A Clash of Naval Strategies  
in the Asia-Pacific Region**



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# CANADIAN NAVAL REVIEW

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Credit: Cpl Michael Bastien, MARPAC  
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Interoperability on display. HMCS *Regina* (bottom) and HMS *Diamond* D43 (top) conduct a replenishment at sea with FS *Marne* A630 on 27 June 2014 near Crete, Greece, during *Operation Reassurance*.

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# Editorial

## Always the Bridesmaid, Never the Bride

In November I had the privilege of attending the Halifax International Security Forum (HISF). This annual forum brings together high-level politicians, diplomats and military personnel to discuss security issues. The agenda is set in advance by a group of academics and includes plenary sessions and off-the-record sessions to discuss issues in the security realm.

The forum was opened by a speech by Peter Van Praagh, President of HISF. He argued that ‘modernity’ had been challenged in 2014. The challengers were China, Russia and ISIS/ISIL/Islamic State. These challengers are in the ascendancy and modernity is under threat as they attract more adherents to their anti-modern causes. There were three things, he said, that the West could do to counter these forces: (1) start succeeding to provide a model that others will find attractive; (2) stop pretending that we share strategic values with China and Russia, we can cooperate on tactical matters but we don’t share a strategic vision; and (3) members of the West must meet to discuss important matters and cooperate to achieve strategic goals. His third point was the segue to the HISF discussions. His speech illustrated a theme of the forum – that there is an inevitable progression toward modernity which ends with a state looking very much like the states in the West (in particular, the United States). I question this conclusion. Do all roads lead inevitably to liberal democracy? The assumption at HISF was yes. But that’s a debate for another day. Here I would like to discuss some of the plenary sessions, and make some observations about the forum in general.

The plenary sessions included high-level representatives from government, military and/or security organizations, moderated by someone from the media. The first session, “Fortress North America,” discussed how we can no longer consider ourselves safe in North America based on our distance from conflict. The threat now involves citizens within our countries who wish us harm – the so-called lone wolf terrorists for example – or cyber-attacks that need not be conducted from within the state. It became clear that the panelists believed that the lines between the home game and the away game have become blurred. The conclusion was that there is a need to be vigilant at home, there is a role to be played outside North America in order to prevent the threat from reaching our shores, and that increased cooperation between Canada and the United States – with mention of Mexico – is a positive goal. There was, thus, nothing surprising here.



*Rob Nicholson, Minister of National Defence, speaks during a discussion session entitled “Fortress North America: How Glorious? How Free?” at the sixth annual Halifax International Security Forum in Halifax, Nova Scotia, on 21 November 2014.*

The second plenary session was entitled “The Next Last Great War: The Next Battle for Modernity” and was an interesting discussion of what the panelists see for the future. In this session a former Prime Minister of Israel and a former President of Estonia illustrated the challenge of addressing global conflict when we can’t even agree on the threats posed by it. For the former Israeli Prime Minister, Russia and the events in Ukraine are “a secondary or tertiary” threat; the threat posed by fanatical Islam is the number one threat in the world and the threat on which everyone must focus. The former Estonian President had a somewhat different view. He noted that the basis of security in Europe established after World War II had been violated by an anti-modern counter-enlightenment Russia in Ukraine, and this was of huge significance. The Indian representative on the panel had yet another perspective. In his view, colonialism was still playing a role as states continue to sort out their boundaries, and the next great battle would be to the west of India where few states have managed to consolidate control over their territories. The panelists referred to the notions of “geographies of the mind,” whereby commonalities among



people don't correspond to the borders that appear on maps, and "the menace of unreality" whereby truth/reality is manipulated by states (Russia was the example) via active social media campaigns to create truths that serve state interests. There was debate about whether you can force modernity on a state, and whether the clash within Islam can only be settled by Muslims, not by outsiders. As well, it was noted that there are forces of anti-modernity *within* the West – backlash against science, anti-immigration groups, anti-Semitic groups, and anti-women's rights groups, for example. As the US representative on the panel noted, the West needs a strategy, not just reaction but a plan to outline the threats and clarify the end goals, that is currently lacking.

The third plenary session was entitled "Who Controls the Map?" The panelists discussed the increased prominence of non-state actors and the implications of these actors on the state. In particular the panelists discussed terrorists and criminal organizations. One of the panelists was head of US Southern Command and according to him, SOUTHCOM spends most of its time focusing on drug cartels. This keeps them busy – he noted that when they seize drug funds, there are such huge amounts of money involved that they *weigh* the money rather than count it. The panelists discussed how to address non-state actors operating in an asymmetric fashion, with one panelist suggesting that "the best way to win against asymmetric actors is to use asymmetric actions." What this meant exactly was not clarified. Several panelists pointed out that the West has to get better at understanding the history of a conflict before blundering into it, and recognize that local actors must take the lead in addressing conflict.

The next plenary session was entitled "O Say Can't You See?" This session, as the title suggests, focused on the role of the United States in the world, and contained only two speakers – Senator John McCain (R-AZ) and Senator Tim Kaine (D-VA). It was illustrative of the state of American politics, with one speaker discussing the failure of leadership in the United States and the other noting the continuing positive contributions of US foreign policy to the world.

The final plenary session I want to discuss was entitled "Get Smart: Gaining Intelligence, Missing the Meaning." In the wake of 9/11, security has been a major focus of governments everywhere. In the United States the 9/11 Commission concluded that the attacks were successful in part because of a failure of communication and coordination among intelligence agencies, the military and constabulary organizations. What this panel made clear is that these problems are, if anything, even worse now. As one speaker noted there are 1,027 government



US Senator John McCain speaks at a press conference during the Halifax International Security Forum in Halifax, Nova Scotia, on 22 November 2014.

organizations in the United States – with over 100,000 employees and taking up 17 million square feet in office space – working in intelligence. Panelists pointed out that money was thrown at intelligence agencies after 9/11 with little or no plan about how the agencies should grow. The increase in spending has not led to better intelligence, and certainly not to the ability to predict events that threaten the West. Furthermore, intelligence sources on the ground in global hotspots are few and thus, although massive amounts of information are collected, it is often not accurate or helpful.

I have briefly discussed five of the seven plenary sessions. The other sessions focused on asymmetric warfare and Africa in the future. But what was *not* discussed? The sessions focused almost entirely on the conflict in Ukraine and ISIS. In the public sessions – I was not privy to the closed sessions – there was little discussion of China and Asia in general. And as far as I could see from the list of attendees, very few Asians were in attendance, whether that was by choice or whether they were not invited, I don't know. And most importantly for the purposes of *Canadian Naval Review*, despite the attendance of a number of admirals and the fact that HISF is held in a naval city with an ocean in sight, there was almost no mention of oceans or navies. No one was discussing shipping, or piracy, or attacks from the sea, or sea level rise (although this was mentioned by Senator Kaine), or maritime disputes in the East China Sea and the South China Sea, or the growing naval forces in Asia.

It is great for Halifax to host this prestigious security forum. I may disagree with Peter Van Praagh's ruminations about modernity but I agree that it is important to get people together to discuss security issues. I find the absence of discussion about Asia and maritime issues puzzling, however, and a bit discouraging. Why is it that navies always seem to be the bridesmaid but never the bride? 🍷

Dr. Ann Griffiths

# The Case for a More Combat-Capable Arctic Offshore Patrol Ship

Rob Huebert



Credit: MARLANT Museum

HMCS *Labrador* in ice in Baffin Bay, circa 1955.

The Royal Canadian Navy (RCN) is poised to embark upon a new chapter in its history. It is about to be equipped with a new capability that will allow it to defend Canada as a *three* ocean state. It is hoped that construction of the long-awaited Arctic Offshore Patrol Ships (AOPS) will begin in the fall of 2015. *If* this happens, it will mean that the Canadian Navy will be able to operate in the Arctic. The last time it had the ability to do this was in the 1950s when HMCS *Labrador* was commissioned as a navy icebreaker. However in 1957 it was transferred to the Coast Guard returning the navy to being a two ocean force.<sup>1</sup> This new class of warship will mean a transformation for the Canadian Navy. This will require new skills and training and will ultimately affect the overall composition of the fleet well into the future. The addition of these new ships is necessary – Canada is a three ocean country and its limited ability to act in its Arctic backyard has always been problematic.

But as is often the case, the devil is in the details. Are the AOPS as currently configured going to provide Canada with the necessary security in the Arctic? With the addition of four to eight<sup>2</sup> of these vessels Canada will gain an impressive new capability to operate in the region. But the ‘known’<sup>3</sup> specifics of the ships suggest that they are

primarily being designed to perform constabulary roles. Outside of the helicopter that it can carry, the AOPS will have a very limited combat capability, mounting only a 25-mm gun, radar and space for additional sensors. This is a result of the Canadian Forces’ current evaluation of the strategic environment in the region as well as the difficulty of building a vessel that can operate in the Arctic. Building a vessel that can sail into ice-covered waters as well as operate some of the time in blue water requires a vessel that will be expensive. A ship cannot do everything, nor should it be expected to. The question is, given that these vessels will probably serve the Canadian Navy for anywhere between 25-40 years, is it reasonable to assume that they will only need to undertake constabulary duties for this entire time period?

This article will argue that Canadian officials should consider the possibility that these vessels require a more robust combat capability than what is currently being considered. To do so, the article will address two main questions: is there a need to build a better combat capability and is it feasible?

This article offers a response to the article entitled “Canadian Security and Safety in the Arctic: Probable Challenges, Practical Responsibilities,” written by Dr. Whitney

Lackenbauer which appeared in the last issue of *Canadian Naval Review*.<sup>4</sup> The crux of the debate here is that Lackenbauer, like the Canadian Navy and the Canadian government, believes that the main requirements of the AOPS will be almost exclusively constabulary in nature. He does not believe that Canada will face a direct military threat in the Arctic. Therefore, the AOPS as currently configured will be more than adequate for its foreseeable service life. This is based on his reading of the international circumpolar security environment. But is he, and the Canadian government, right?

Before I answer that question, it is necessary to consider the argument that Lackenbauer offers in supporting the constabulary focus of the AOPS. There are four main elements to his argument. First, he goes through the Canadian government's assessment and agrees that Canada will not face a significant military threat.<sup>5</sup> He has found that the government's focus on having the AOPS provide support for other vessels, along with the modest support capability of the site being built at Nanisivik is the proper policy to follow. Second, he points out that the government is correct in being concerned that if Canada acts too aggressively in the Arctic, others – meaning the Russians – might feel that they need to respond accordingly. Thus a better combat capability for the AOPS could provoke the Russians into increasing the combat capabil-

ity of their Arctic forces. Third, he points out that the American government has come to an assessment that is very similar to the Canadian view that the region will remain a low-threat environment. Fourth, he offers the observation that even if both the Canadian and American governments are wrong and the region does experience an increase in tensions, only the Americans would have the ability to respond to Russian submarines and ice-strengthened aircraft carriers. He does concede that the Russian intervention in Ukraine has heightened tensions between the West and Russia, and that there has been a spillover effect into the Arctic. But he goes on to say that regardless of the situation in Ukraine or elsewhere, it is not in Russia's interest to allow the cooperative regime that has developed in the Arctic to be replaced by a return to the tensions of the Cold War. Therefore, the region will retain its current low-level military threat status.

Taken as a whole these are substantial reasons to argue that an effort to increase the combat capability of the AOPS is misguided and therefore a waste of resources and effort. But are they correct? I would say no for several reasons. First, there is no question that the Canadian government has engaged in a significant effort to evaluate the threat environment that it faces. As Lackenbauer has pointed out, the rhetoric of the current government was originally very aggressive, but it has now been moderated.



Nanisivik, Nunavut, from the air, 15 March 2006.

Credit: Internet





Credit: Wikimedia Commons

Norwegian frigates KNM *Fridtjof Nansen* and KNM *Helge Ingstad* in Oslo, Norway, 24 April 2010.

Canadian Arctic policies make it very clear that the official position is that there is no military threat in the Arctic.<sup>7</sup> The problem is that governments, even when they have the best of intentions, will often get the future wrong. Few Western governments foresaw the end of the Cold War and the dramatic transformation that it had on Arctic security. Likewise few predicted the rise of the threat of Islamic fundamentalism or that Canada would be employing deadly force in Libya and Iraq.

But even if governments get things right, events change. The British government may have been correct in the 1920s when it predicted that there was and would be no naval threat to the British Empire. It was therefore correct in instituting the 10-year 'holiday' on battleship

construction. At the end of the 1920s it was very difficult to think of any naval threat to British naval power. But events changed quickly. It almost seemed that the British government hoped that the existence of the policy would shape events rather than the events shaping the policy. Thus, although the Canadian government may be correct that today the only real need for the AOPS is for constabulary duties, there is no guarantee that this will be the case in the future. Therefore the prudent action would be to consider that a vessel that could be serving into the 2050s and possibly 2060s should be prepared for an unknown future.

What of the second argument – that the development of an increased combat capability on these vessels could cause other actors to increase their capabilities therefore resulting in the development of an arms race in the region? This one is harder to evaluate, and there are a number of considerations involved here. What would an arms race look like? How is it possible to determine if others act simply because of Canadian procurement policies? While this is a possibility it is difficult to determine why any other state would feel compelled to act just because of what Canada has done. The Norwegians have bought and deployed a very combat-capable frigate that also has a limited ice capability.<sup>8</sup> There is no evidence to suggest that the Norwegian decision created a reaction by any of the other Arctic states. Once again focusing on Russia, it seems safe to suggest that current Russian efforts to strengthen capabilities have little to do with the cumulative actions of the NATO forces in the Arctic and much more to do



Credit: Wikimedia Commons

Russian icebreaker *50 let Pobedy* is an *Arktika*-class nuclear-powered icebreaker and the largest nuclear-powered icebreaker in the world.





*Russian ships block the Ukrainian navy ship **Slavutych** moored in Sevastopol Bay on 20 March 2014. At far left is the **Grisha** V-class corvette **Ternopil** reportedly seized by Russian soldiers using stun grenades and automatic weapons. The black-and-white ship with the blue funnel band is the ocean-going tug **Korets**.*

with Russia's desire to assert better control over its Arctic region. The increase in Russian military action in the region seems likely to be related to the Western response to its actions in Ukraine. Furthermore, it should also be pointed out that the increased willingness of Russia to use force to 'protect' its borders started in Georgia in 2008 and not in 2014 in Ukraine. Therefore, it is difficult to imagine that a Canadian decision to build a more robust combat capability would somehow contribute to a deterioration in the region.

The third reason offered by Lackenbauer is that the Americans have come to the same conclusion as the Canadian government that the Arctic will remain a low-threat military region. The same critique that was offered against the Canadian government can also be applied against the American government. While the assessment may have been correct at the time it was taken, there are no guarantees that such an evaluation will stand for the 20-30 year lifecycle of the AOPS. Is it prudent to base Canadian procurement policy on American assessments? When this was done in the 1960s regarding the Soviet aerospace threat, the Canadian government decision to cancel the construction of the Avro Arrow was seen as a bad decision by many observers.

The related argument that, even if the assessments of the

Canadians and Americans prove to be incorrect, ultimately it will be the Americans who will need to act and not Canada, is problematic on several levels. As Lackenbauer has pointed out, the United States continues to struggle with the lasting impact of the 2008 economic crisis. And, while the United States has expanded its examination of the developing international Arctic regime, it has not been able to gather the political will to support the modernization of the existing US Coast Guard fleet of icebreakers, let alone add any other Arctic-capable vessels to either the navy or coast guard.<sup>9</sup> The United States has also slowed down the production of the aircraft that it needs for all purposes and has slowed the tempo at which submarines are being built. This suggests that it will be more difficult than in the past for the Americans to build up their forces.

Should Canada and/or the United States re-evaluate their optimistic view of the Arctic security regime, they will be able to build more assets but between now and when that happens Canada will need to rely on the existing capabilities of allies and friends. So this argument is only correct in so far as the United States is given enough warning to build up its forces to protect Canada's Arctic security as it did for much of the Cold War. This is also based on the assumption that the Americans will retain their willingness to do this, something that may not be true in the future.



*The first ground-based interceptor is lowered into its silo at the missile defence complex at Fort Greely, Alaska, 22 July 2004. The interceptor is designed to destroy incoming intercontinental ballistic missiles before they reach US airspace.*

Thus it is possible to find issues with each of the arguments offered by Lackenbauer – there is a need to hedge one's bet; current Canadian positive assessments of the Arctic strategic context may be wrong; the Americans may be wrong; and it is dangerous to assume that the Americans will always be willing to provide security in the Arctic simply because Canada does not want to do so. But there are two fundamental issues that must be considered that go beyond Lackenbauer's arguments. First, what would a threat that would require a greater combat capability than currently envisioned look like? Second, could the AOPS provide a more meaningful combat role to meet this need?

Unfortunately, recent events have demonstrated how quickly relations between Russia and the United States and Canada can change. The optimistic view of a cooperative Arctic security regime is based primarily on continued good relations between Russia and the other Arctic states. As long as this axis remains strong, the Arctic will remain a region of cooperation and positive relations. If this relationship breaks down, then the region will increasingly face competition and tension. The current situation in

Ukraine may be resolved – though it is not clear how that would occur – and perhaps relations will return to what they were throughout the 1990s and early 2000s. But even if relations with Russia over Ukraine return to an even keel, is it possible that other threats may arise? Just as it was impossible for the UK in the 1920s to imagine a naval threat to its survival, so too do some people find it impossible to think of an Arctic threat.

One possibility may have to do with core strategic interest in the Arctic. The United States is increasingly using its bases in Alaska to support its efforts to defend against a North Korean missile threat, and it has been increasing the capability of the interceptors that it places in Fort Greeley, Alaska. After the end of the Cold War, the base was converted into a test site for the American anti-ballistic missile (ABM) program. However over time this has changed and it will soon host the bulk of the American interceptors. Furthermore, it is apparent that whenever the North Koreans increase their missile capability, the Americans increase their response.<sup>10</sup> At what point will China and Russia see this American move as a threat to their security? When that happens what will be the overall impact on Arctic security? Will this ultimately provoke the Chinese to develop Arctic-capable forces? Such concerns remain vague and unlikely but cannot be discarded out of hand.

While it is possible to talk of the need of insurance 'just in case' or to talk of possible scenarios that may or may not come to pass, all of this is moot in the face of the next core question – could the AOPS be configured to be more combat capable and, if so, what could the ships do? This is where the shoals of practicality may sink any argument that the ships should be more than they are currently planned to be. The ships will be a difficult compromise because of the combined *Arctic* and *offshore* elements, and they will be expensive to build. Is it enough for them just to have a constabulary function?<sup>11</sup> What would it mean to give them a better combat capability? First, it is doubtful that they could ever be a useful anti-submarine platform by themselves. In order to be able to cruise through ice, the ships need to have a hull configuration that does not allow them to perform well as an anti-submarine vessel and they will be slow, with a top speed of 17 knots. But this points to the need to ensure that the AOPS can support Canada's maritime helicopters. Through the innovative use of maritime helicopters based on its frigates and destroyers, the Canadian Navy was able to offer a credible defence against Soviet submarines. The return of the 'unidentified' submarine in Swedish waters has reminded the West that there are submarines that will be sent into northern waters. To ensure that the AOPS have





B-585 *Sankt-Peterburg*, lead boat of the Project 677 *Lada*-class diesel-electric submarines being built for the Russian Navy, shown at the International Maritime Defence Show 2011. This class is rumoured to be the type involved in the incidents in Swedish waters 17-24 October 2014.

the capability of handling the most potent of Canada's maritime helicopters seems only prudent.

It would also seem prudent that consideration be given to ensure that these vessels are able to incorporate the best sensor and data fusion capabilities. At this point, there is no need. But there have been rumours that the Norwegians are thinking about giving their new frigates an improved ability through their Aegis combat system to integrate with an American-centred ABM system. It may be necessary in the future to think of such a role for the AOPS.

Finally there is the issue of meeting a future maritime surface threat or aerospace threat. While there are plans to place a small gun on board – 25 mm – there seems to be no desire for a more capable gun or missile system, nor does there seem to be any intent to prepare the vessels to be able to accept a more robust capability in the future. The Danes have been successful in using advanced compartmentalization to allow their vessels to load or offload a range of combat capabilities. Designing the AOPS to be able to accept different modules would also seem to be a prudent action.

Yet this does not seem to be the case. It is assumed that there is no conceivable future scenario that would warrant the expense of building in such a capability in the next 20-40 years. But there are possibilities that are easy to imagine. What about a conflict over fish stocks? Few had foreseen the conflict that developed between Canada and Spain in 1995 over turbot beyond Canada's 200-mile EEZ. If fish stock do move northward as the ice melts, the international fishing fleets will follow. It is naïve to think there will be no conflicts over these new fisheries.

Ultimately it is easy to think of future needs for a robust set of capabilities for the AOPS. Just as the decision-makers

could not anticipate all of the needs of the Sea Kings half a century ago, today's planners need at least to make allowances for these vessels to be called upon to do a lot more in the next decades. Simply assuming that events will stay exactly as they are is wrong. 🇨🇦

#### Notes

1. Charles Maginley, *The Canadian Coast Guard 1962-2002* (St. Catharines, Ontario: Vanwell Publishing, 2003).
2. Even though the project has been in consideration since the election of Prime Minister Stephen Harper in 2006, and officially announced in July 2007, as of November 2014 there are still no official numbers as to how many ships will be built.
3. The design phase is advanced and there is an understanding of the key attributes of the ships but officially there is no confirmation of the final design. This presents a serious challenge in talking about what its capabilities will actually be. The paradox is that to wait to comment on this issue until the official announcement is made means discussing the topic when it is too late to change anything!
4. Whitney Lackenbauer, "Canadian Security and Safety in the Arctic: Probable Challenges, Practical Responsibilities," *Canadian Naval Review*, Vol. 10, No. 2 (2014), pp. 10-15.
5. Chief of Force Development, Department of National Defence (DND), "Arctic Integrating Concept," Ottawa, 2010.
6. Chief of Naval Operations, United States Navy, "The United States Navy Arctic Roadmap for 2014 to 2030," Washington, February 2014; Office of the President, United States, "National Security Strategy," Washington, May 2010; and White House, "National Strategy for the Arctic Region," May 2013.
7. DND, "CDS/DM Directive for the DND/CF in Canada's North," 12 April 2011; and DND, "Canadian Forces Northern Employment and Support Plan," November 2012.
8. Naval Technology, "Nansen Class Anti-Submarine Warfare Frigates, Norway," 2014, available at [www.naval-technology.com/projects/nansen](http://www.naval-technology.com/projects/nansen).
9. See for example, Ronald O'Rourke, "Changes in the Arctic: Background and Issues for Congress," Congressional Research Service 7-5700, 14 February 2014.
10. Global Security.org, "Ground Based Interceptor," September 2014, available at [www.globalsecurity.org/space/systems/gbi.htm](http://www.globalsecurity.org/space/systems/gbi.htm).
11. Once again information on the costs are difficult to acquire. The best official effort to address this has been provided by the Office of the Parliamentary Budget Officer, "Budget Analysis for the Acquisition of a Class of Arctic/Offshore Patrol Ships," Ottawa, 28 October 2014. <http://www.pbo-dpb.gc.ca>.

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# NOPEC: A Game Worth Playing?

Andrew Bergel



Credit: Wolfgang Meinhardt

*Liquefied Natural Gas (LNG) Carrier **Galea** seen at Barcelona, Spain, 13 November 2009. The G-class ships can deliver approximately 130,000 cubic metres of LNG.*

The Canadian government claims that Canada is an energy superpower, and this could be true *if* the energy had somewhere to go. The energy-hungry United States has been Canada's historic market but it is quickly increasing its own oil and gas production. Canada needs new markets, and because of geography, these new markets will be across an ocean, either the Atlantic or the Pacific, or both. Canada will need pipelines to move the oil/bitumen, port infrastructure and maritime security provided by the navy, and it will also have to consider endangered whale species, environmental impacts of increased tanker traffic, and costs of offshore oil spills. If it seems unlikely that Canada could build this capital-intensive infrastructure itself, what about the possibility of cooperating with the United States and Mexico to create a North American energy organization? And how would it fit with the current state of global energy markets? This article looks at the current situation before relating it to the possible payoffs of a coordinated North American strategy. Would coordinating energy resources be a game that North America can win, or should the countries be playing it at all?

Before discussing Canadian energy and the potential for export or coordination within North America, we need

to acknowledge the volatility in oil prices. The last time crude prices fell below \$60 a barrel, in 2008, global financial markets had crumpled into cardiac arrest after gorging on a diet of American mortgage derivatives. While far from robust, the world economy six years later can at least be said to be resting in long-term recovery, medicated by a steady regimen of near flat central bank rates and quantitative easing. Yes, Europe is still quivering after a tough dose of austerity and, yes, China is hardly sprinting across the GDP finish line as in years past, but all this cheap money in the system should, in theory, work in oil's favour by spurring demand. But, here we are, watching the price of oil wither under a global price war, and no sign yet of an economic growth spurt.

Could all the geopolitical posturing among energy producers finally provoke a wake-up call for North American producers by having them look more closely at forming what some have termed a North American Organization of Petroleum Exporting Countries (NOPEC)? Even if, like me, one is exceedingly uncomfortable with the environmental externalities of widespread US hydraulic fracking, Canadian oil sand production and Mexican energy market liberalization, these movements are happening and are increasingly critical for all three economies –





Credit: PA2 Dan Tremper, USCG

The supertanker **Hellespont Alhambra** enters US waters for the first time on 16 May 2002. Now renamed the **TI Asia**, she is one of four TI-class supertankers, the largest ocean-going ships in the world as of 2008.

none more so than Canada. With over 21% of the S&P/TSX 60 in the energy sector compared to only 8.4% of the American S&P 500, the Canadian government has put a fifth of its economic eggs in one basket by banking on turning Canada into an energy superpower. So where does this leave us?

### ***Chickens, Prisoners and a Poorly Hunted Stag***

At first glance, rising supply and diminishing demand for oil would seem an easy case for an OPEC production cut to force prices back up, especially given break-even price points for many members of well above \$100 a barrel. So why is Saudi Arabia suddenly ready to leave oil production at current levels thereby sacrificing the financial solvency of several of its fellow OPEC members? The answer is simple, OPEC is not only on the verge of losing its traditional status in the oil market, but its relevance altogether. Similar to NATO, OPEC has been searching for a *raison d'être* in recent decades, and just as a resurgent Russia has offered new purpose to NATO, so has growing North American (and Russian) oil production done for OPEC. It has offered new motivation for Saudi Arabia, which plays a similar anchoring role within OPEC that the United States does in NATO.

For the Saudis this amounts to playing two classic games at once – chicken and prisoner's dilemma. First, Saudi Arabia is playing a straightforward game of chicken between OPEC and the rapidly increasing supply from North America. Riyadh understands that first mover status<sup>1</sup> must be protected lest Saudi Arabia lose further market share in the face of quickly developing technologies related to fracking and bitumen extraction and refining.

Thus, a supply war becomes a price war targeting American tight oil and Canadian bitumen since many new North American projects cannot find comfortable profit margins at oil trading below \$80 per barrel. Already, projects by Total and Shell have been put on hold in Alberta, while US wildcatters from the Bakken to Eagle Ford fields must go back and revise projections across a swath of smaller fracking operations. Mexico too now must brace for less optimism after its recent energy sector liberalization. Furthermore, once-burned producers in North America may be reluctant to rush back into the market without government incentives and subsidies. All of this follows a similar script to the mid-1980s drilling bust in the United States, and if the Saudis get their way, it could be some time before we see the same enthusiasm for unconventional North American extraction.

That said, a re-establishment of OPEC control of the global market is less likely now than 30 years ago. Shale, tight oil and bitumen technology is much further along than in the 1980s, with a host of US projects already underway but not yet reaching market. Additionally, the International Energy Agency estimates that much of the US Bakken drilling can be profitable as low as \$42 a barrel. The current Canadian government has shown unwavering commitment to keeping the oil sands running and, for the United States, capping potential wells for a rainy day is hardly a new practice, especially since many American shale oil projects can be shut down and restarted in months if not weeks, depending on the market conditions.

The second game Saudi Arabia is playing is prisoner's dilemma. This scenario is familiar to all fans of cop shows, and involves separated suspects being questioned



Credit: Russian Presidential Press and Information Office

Maria van der Hoeven, Dmitry Medvedev, Prince Andrew and Taro Aso visit the Sakhalin-II project on 18 February 2009. The Sakhalin-2 project is an oil and gas development in Sakhalin Island, Russia. In background, **Grand Aniva** is a spherical-hold LNG carrier.



Credit: USN Aviation Warfare Systems Operator 2<sup>nd</sup> Class William S. Stevens

*The Liberian-flagged oil tanker MV **Sirius Star** is at anchor November 2008 off the coast of Somalia. The Saudi-owned very large crude carrier was hijacked by Somali pirates 15 November about 450 nautical miles off the coast of Kenya and forced to proceed to anchorage near Harardhere, Somalia.*

by police. The suspects' interests are best served by all keeping quiet but they all have incentive to be the first to talk in order to reduce their sentence. So, in the absence of trust, there is a temptation to defect from the solution that is best for everyone to pursue your own interests. This same dilemma applies to OPEC. While the Saudis look to be leading OPEC to confront new suppliers in North America, this tactic presents a dilemma for the organization itself. This dilemma is based on the temptation among some OPEC members to cheat on production quotas for short-term financial gain. From Riyadh's perspective, cutting production to defend global oil prices will only further incline its more financially desperate cohorts to cheat at Saudi expense, a lesson the Saudis have learned in the past. However, by not cutting production, any defecting states in poor fiscal position, such as Venezuela or Iran, will only drive the price down further. Such downward pressure is preferable to Riyadh, given the alternative option of members quietly selling on the back of Saudi cuts. It is preferable because it serves the prior game between Saudi Arabia and North America by making the price even less attractive for future tight oil and bitumen projects, and because the Saudis aren't forced to sell less at already low prices. In essence, Riyadh is going with the grain by admitting that defection is likely within OPEC. In fact, Saudi Arabia may very well be counting on it to help fuel the ongoing price war.

Finally, there is a prestige factor that shouldn't be lost in these parallel games. What if the Saudis did cut production and prices didn't rise? There are reasons to believe that a Saudi cut would not move up the needle. Markets are fickle and the market may decide that North American supply would offset a cut, other OPEC members would cheat, independent suppliers such as Russia would ramp up production, or that economic slowdowns in China and Europe would cause less demand. Any combination of these factors could quickly undermine Saudi prestige in global oil markets by exposing its attempts to influence the price via less supply as impotent. Since regaining market share – and therefore prestige – is the point of these games in the first place, cutting in an over-supplied market is pointless. Ultimately, Riyadh has adopted the classic economic tactic of dumping goods to drive out competition.

Beyond the economic equation, there are also geopolitical factors to account for in Riyadh. Who does the lower price hurt? Iran for one, which requires a far higher price than Saudi Arabia to balance its budget and has far less hard currency reserves than other petro states in the Middle East to ride out tough times. There is little love lost between Riyadh and Tehran, and the timing in the midst of the nuclear negotiations is far too conspicuous to be coincidence. Russia is another victim of low prices, and even





Credit: Wikimedia Commons

*A drilling rig for natural gas in the Marcellus formation in eastern Pennsylvania.*

being paid in dollars against a dropping ruble is putting a band aid on a bullet wound. Moscow has a long tradition of playing spoiler to OPEC by selling into OPEC-engineered cuts to raise the price, so why offer Russia another chance? Like Iran, Russian-Saudi relations have a frosty history, and in the case of both Iran and Russia, Riyadh is helping not only its own market leverage but American political leverage as well. After all, Western sanctions on both Moscow and Tehran were done in the hopes of swaying them away from policies viewed as antagonistic. Lower oil prices make such sanctions more painful for both Russia and Iran. On the flip side, Europe, Japan and China (and quite a few other struggling markets) welcome lower fuel prices to stimulate their economies. This economic stimulus will (theoretically) spur the demand side of the equation, allowing the Saudis to capitalize after they have regained market share by freezing out alternate suppliers in North America. Once market dominance is re-established, prices can be allowed to rise again, leaving the Saudis to reap much higher rewards.

While Saudi Arabia attempts to maintain its market hegemony before it is too late, North American production has left itself vulnerable by playing a poor stag hunt over the past decade. The example of a stag hunt was provided by Jean-Jacques Rousseau many years ago to illustrate how actors can all win from cooperation by hunting large game, like stags, but there are incentives to defect from cooperation and hunt small game alone, like rabbits. The North American market, aside from Mexico, has benefited from competitive free market mechanisms. Shale and tight oil extraction especially is a product of competitive innovation not often seen by state-directed petro regimes. However, a drawback of this type of liberal oil market is a lack of overall transnational policy coordination. So while US wildcatters have been excellent at hunting shale rabbits up and down the country, this hasn't lent itself to bagging the stag across the border in Alberta. To be fair, Canada's frustration over these issues, such as the XL Pipeline, is not only a result of political incongruence between Washington and Ottawa, but is also endemic to

the longstanding energy relationship between the two countries. With a policy built around one major customer, Ottawa is now scrambling to find outside markets as the United States begins to reach energy independence. But years of relying on American downstream value-added industries, notably refining, puts Canada in a precarious position. By creating a better integrated North American energy extraction, distribution, refining and export model, NAFTA could be supplemented by NOPEC. But is it realistic and what would it look like?

### ***Hunting Stags Together, Could a NOPEC Work?***

In a perfect world for NOPEC – the kind of world where President Obama and Prime Minister Harper keep photos of each other on their night stands – both states would capitalize on each other's comparative advantage and build a unified infrastructure to marry their oil and gas production for a 21<sup>st</sup> century market. In the case of natural gas, there is a strong case for increased integration in North America. Natural gas provides a cleaner backstop for renewables that don't yet meet grid requirements due to power generation intermittencies in wind and solar production. Between Russian intransigence and instability in the Middle East, markets in East Asia and Europe are thirsty for new providers of liquid natural gas (LNG), and what better place from which to import than a stable liberal-democratic North America?

Credit: Verne Equinox/  
Wikimedia Commons



*The Canaport facility in Saint John County, New Brunswick, April 2009. This photo shows the LNG terminal jetty and LNG storage tanks as well as a supertanker carrying oil for the crude terminal.*

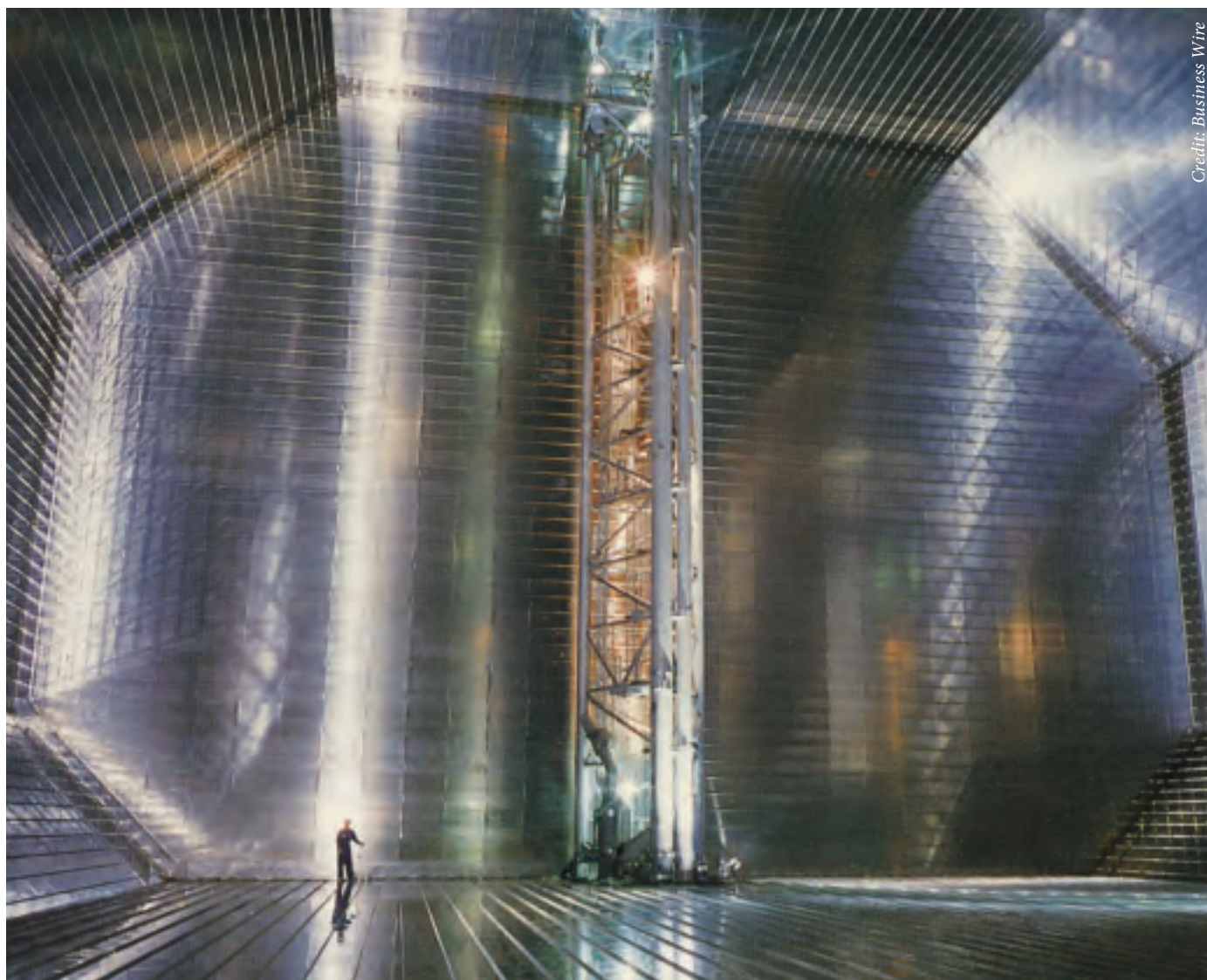
To meet this growing demand abroad, Canada and the United States would need to erase national boundaries in matters related to energy and begin a coordinated pipeline distribution network and port overhaul that would facilitate better access to consumers across the Atlantic and Pacific Oceans. First North American demand would have to be met, particularly in the midwestern and north-eastern American states. The best way to address this

would be increasing shale gas production in the Marcellus formation located underneath much of the US rustbelt. Natural gas is a more local market than oil given the costs of liquefying it for overseas exports. Thus, through increased extraction and better distribution, the archaic heating oil market in the northeast United States could be replaced.

And while this regional natural gas demand growth is being satisfied, overhauls to American mid-Atlantic ports and along the Gulf of Mexico would be needed to prepare for LNG exports across the Atlantic. The United States would take the lead as the main LNG distributor to Europe. Proximity of American extractable reserves to the mid-Atlantic and Gulf coast provides a natural advantage for US gas exports that should be quickly exploited if they are to provide an alternative to the pipelines across Ukraine from Russia into Europe. Once sufficient LNG

terminal capacity is in place through these ports, the Americans can integrate production and shipment from the Bakken shale formation south into Texas, furthering exports both across the Atlantic and through the Panama Canal into the Asian market.

Just as proximity provides advantages for the United States going east across the Atlantic, under an integrated NOPEC, Canada could focus on specializing its ports for export across the Pacific. Fueled by the Montney and Horn River shale gas fields in British Columbia, the port infrastructure around Vancouver and further north in Kitimat would become the critical North American LNG exit point for all exports west to consumers in Japan, South Korea and China. Some Canadian production could also flow south to meet demand in the Pacific Northwest of the United States, allowing the Central Rockies formation to focus almost solely on the California market. Given



Credit: Business Wire

Completed in 2008, the world's first Q-Max LNG carrier, named **Mozah**, was equipped with the largest membrane containment tanks ever built. This new class of super-large LNG vessels, the Q-Max, has the capacity to carry 266,000 cubic metres of LNG, almost 80% more cargo than conventional LNG ships.



the relatively low price of natural gas in North America, liquefying and shipping it makes sense for Canada given more richly priced Asian LNG markets. By coordinating and specializing for different global markets the United States and Canada can avoid needless infrastructure overlap, like proposed LNG terminals in Coos Bay and North Bend, Oregon, as well as Guysborough County, Nova Scotia, both of which are far from where the heaviest extraction would take place.

The United States could also play a more effective role in Canadian bitumen extraction by making available diluent byproducts from shale gas in the Bakken, Central Rockies and Marcellus formations. These diluents could be shipped north to the oil sands, facilitating an increased pipeline transport of heavy bitumen oil down into the belly of US refining capacity. Quicker and more efficient distribution of bitumen oil into the US continental market would seamlessly fit with the ban lifted in summer 2014 on American crude exports by freeing up some Alaskan production to focus on Asia. This would make the first American tanker from Alaska that made its way to South Korea this past fall after the ban was lifted far less lonely. An increase in American diluents would also make pipeline shipment across Canada to the East Coast easier to execute. And with the European Union now looking to loosen restrictions on the import of bitumen oil, opportunities abound for export across the Atlantic. Canada would also have to do its own part to address its lack of value-added industry by updating its West Coast and East Coast refining capacity to handle difficult-to-refine bitumen oil. Once done, these enhancements to the current system would enhance oil sand production in a manner that could meet price challenges like those posed by the Saudis.

## Conclusion

If better production, including updating ailing Mexican infrastructure, can be added to an integrated strategy outlined above, North America might soon offer a formidable counterweight to Saudi-directed machinations in OPEC. Unfortunately, this would not only require major changes in the existing system but also concerted political will across the continent.

The Americans pose the greatest threat of defection from the plan. Much less of the American economy depends upon energy extraction than in Canada or Mexico, and a price war initiated by the Saudis not only helps Washington by jeopardising Iranian, Venezuelan and Russian financial solvency, it also provides low-cost energy to fuel a global economic recovery. These consequences are all well aligned with short- to mid-term American interests,

and forcing Washington to look at the long-term potential of NOPEC could be difficult. This is especially challenging due to the nature of the North American market and politics. American and Canadian energy companies are not state-owned or directed, and Mexico is now attempting to move toward this model. These same private sector innovations and profit models that led to the bitumen, shale and tight oil boom could end if prices linger for a long time below \$80 a barrel.

If the NOPEC plan is to work, a lot of capital intensive investment will be needed to upgrade ports across Canada. Currently, Canada is equipped to *import* LNG, not *export* it, and only the Canaport project in Saint John, New Brunswick, is fully operational for imports. While there are 17 proposed export terminals, all except one are located in British Columbia, these carry costs between Cdn \$25-\$40 billion per project. If coordination between Washington and Ottawa (and perhaps Mexico) doesn't take place in port terminal infrastructure, both countries risk expensive overlaps within a North American energy cartel. The XL Pipeline has already become a political football between Canada and the United States, and US environmental legislation and global carbon reduction schemes could only make integration that much more difficult, leaving hundreds of billions in proposed infrastructure projects stranded.

All this begs the question, should North America coordinate on such a scale in this dirtiest of industries? One need look no further than the recent depreciation of the Canadian dollar for a cautionary tale on what hanging too much of your economic future on oil and gas can bring. Thus, the larger argument is whether or not this is a game best left unplayed, in favour of moving away from limited and environmentally damaging sources of energy altogether – after all, while you can't win if you don't play, you also can't lose. This remedy would leave the Saudis to play increasingly obsolete games all by themselves. 🍷

## Notes

1. First mover status is an economic term for first to the market and thus largest market share that needs to be protected by keeping new competitors out.

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# Interoperability and the Future of the Royal Canadian Navy

Andrew Touesnard

In the wake of the terrorist attacks of 11 September 2001, a spotlight was shone on the dangers of relying on a fragmented organizational structure to ensure security. The failure to foresee the attacks was apparently due to organizational incompetence stemming from the nature of the American intelligence community. As a result, an ethos of interconnectivity and coordination came to symbolize the post-9/11 era. An analogous trend can be seen in the increasing interconnectivity among security forces, both intra-nationally and multi-nationally. To be prepared to meet future challenges, Canada's maritime security forces must continue to focus on improving interoperability in terms of joint and combined capabilities, in both the context of protecting the homeland and in force projection. This is key to maintaining sovereignty in the Arctic, and facing problems of national security, maritime law enforcement and international terrorism.

This article will discuss the prospects for increased interoperability in Canada's maritime security forces. NATO defines 'interoperability' as "the ability to operate in synergy in the execution of assigned tasks."<sup>1</sup> The term may encompass both joint and combined capabilities. By contrast, 'force interoperability' is "the ability of the forces of *two or more nations* to train, exercise and operate

effectively together in the execution of assigned missions and tasks."<sup>2</sup> 'Joint capability' refers to the capacity to conduct operations involving multiple services or agencies within a single government. This includes not only different military services, but also civilian agencies such as the Canadian Coast Guard (CCG), Royal Canadian Mounted Police (RCMP) and development organizations.

At the strategic level, interoperability among states enables the forming of coalitions, and allows for effective contributions by allies. It depends on the harmonization of perspectives, strategies, doctrines and force structures of multiple states in order to attain common national objectives. Interoperability at this level ensures operations adhere to the national strategies of each state. At the operational and tactical levels, force interoperability depends on synchronization among allied forces, which requires standardized communication protocols and common operating procedures. At these levels, force interoperability is highly dependent on two factors: strategic interoperability; and technological interoperability.<sup>3</sup> For combined forces, the benefits of technological interoperability "come primarily from their impacts at the operational and tactical levels in terms of enhancing fungibility and



Credit: PH2 Gabriel Wilson

Exercising with allies. The USS **Abraham Lincoln** carrier battle group along with ships from Australia, Canada, Chile, Japan and South Korea during RIMPAC 2000.





Credit: Corporal Dany Veillette, Canadian Forces Joint Imagery Centre, Ottawa, Ontario

*Troops depart Canadian Coast Guard Ship **Pierre Radisson** to reach the landing zone in Frobisher Bay, Baffin Island. As part of **Operation Nanook 09** soldiers from the Arctic Response Company Group conducted an amphibious landing at Iqaluit. The troops were taken ashore from HMCS **Toronto** and CCGS **Pierre Radisson**.*

flexibility.<sup>74</sup> In other words, when technological interoperability is at its highest, multinational forces become more uniform, and therefore more interchangeable and better able to respond to unanticipated circumstances.

### ***Joint Capabilities at Home***

The impetus to achieve a high degree of joint operability in maritime security forces is particularly strong for Canada. Five separate agencies share the task of protecting Canada's coasts. Depending on the distance from shore and the issue involved, the lead agency could be the Royal Canadian Navy (RCN), the CCG, Transport Canada, the RCMP or the Canada Border Services Agency (CBSA). The RCN and CCG have at least two responsibilities in common: contributing to maritime search and rescue; and supporting the RCMP, mainly by providing transportation. While the RCN and CCG cooperate on tasks like search and rescue, there have traditionally been no mechanisms for day-to-day coordination on other tasks. However, members of the RCN, RCMP and CCG have been brought together (along with staff from Transport Canada, the CBSA, and the Department of Fisheries and Oceans) to form Marine Security Operations Centres (MSOCs). The MSOCs act as hubs for the management and analysis of data that contribute to maritime domain

awareness. Data from all five agencies is combined, organized and presented to multiple national headquarters. First proposed in 2004, the MSOC project offers an example of the interagency cooperation that has been sought in the post-9/11 era. In terms of enabling joint operations, the MSOCs represent a significant step in the right direction.

Should Canada's maritime security be based on a military role or a constabulary one? Perhaps neither on its own is sufficient to meet Canada's security needs. This is a perfect example of why Canada needs interoperability among domestic agencies. But, according to Dave Mugridge, the "Coast Guard and Federal Police Services ... regard interoperability with their naval colleagues as professional heresy."<sup>75</sup> In order to address modern security threats, Mugridge calls for a future maritime security strategy that can provide "a means of integrating both traditional international blue water sea-power and domestic constabulary actions into one credible comprehensive deterrent capability."<sup>76</sup> A Canadian strategy should be a product of multi-agency consensus, offering a joint perspective for the future.

The arming of the CCG has been widely discussed. The Standing Senate Committee on National Security and Defence recommends it become an armed national security agency with an enforcement mandate, and the House of Commons Fisheries Committee suggests it should be returned to Transport Canada with similar reforms.<sup>77</sup> The Canadian International Council also favours arming the CCG, recommending it be moved to Public Safety Canada.<sup>78</sup> Each group has a distinct rationale but in essence there are two reasons for arming the CCG: enforcing the law in the maritime domain; and asserting Canadian sovereignty. The former is currently an RCMP responsibility but the RCMP is arguably under-equipped and under-manned for the task. Asserting Canadian sovereignty is connected with what Michael Byers called "the quiet authority of a deck-mounted gun."<sup>79</sup> Because of the CCG's experience patrolling and operating icebreakers in the Arctic, it is well-positioned to assert Canada's sovereignty in the region. It can also do so at less cost than the RCN.<sup>80</sup> But with a clear trend toward increasing military presence in the Arctic, particularly by Russia, an unarmed coast guard may command little authority.

### ***Combined Capabilities at Home***

Due to Canada's position as a small to medium military power, inter-agency cooperation cannot offer solutions to all potential future challenges. Therefore, it is essential that Canada be prepared to work with allied countries to further mutual interests. This process must begin at the strategic level, and extend to the operational and tactical levels.

The Arctic Council is a good place to start. The Council, a product of the Conference of Parliamentarians of the Arctic Region, was established in 1996 to promote cooperation on issues related to the Arctic. It has shown an ability to deal with issues of ‘soft security’ such as environmental and human security, but its charter states that it “should not deal with matters related to military security.”<sup>11</sup> As a result, uncertainty remains around issues of military security in the Arctic.

There are five coastal states with territorial claims to the Arctic: Canada, Russia, the United States, Norway and Denmark. The Arctic Basin and its periphery are believed to hold vast mineral and energy deposits. Between advances in resource extraction technology and climate change, the possibility of economic exploitation of the Arctic has moved out of the remote future and into the coming decades. The five countries universally advocate an approach based on international cooperation while simultaneously asserting their interests. From a strict realist perspective, it could be said that the most convincing claims in the region come from the United States and Russia because they are the most capable of asserting military presence there.

Russia in particular has made a number of military moves in the Arctic. For example, on 12 September 2013, a task group from Russia’s northern fleet arrived at the Novosibirsk Islands in the company of four nuclear-powered icebreakers. Russia has said that it will rebuild its airbase on Kotelnny Island and resume a permanent presence in the region.<sup>12</sup>



Credit: Master Corporal Holly Canning, Formation Imaging Services

HMCS *Summerside* (background) and Her Danish Majesty’s Ship *Vaedderen* (foreground) sail in formation off the coast of Nuuk, Greenland, while conducting interoperability exercises during *Operation Nanook 13*, 6 August 2013.



Credit: U.S. Coast Guard photo by Petty Officer 3rd Class George Degener

Ens. Paul Rigez, of the US Coast Guard Cutter *Alder*, conducts manoeuvring board training with Canadian Acting Sub-Lieutenant Joseph Kinley on board HMCS *Goose Bay* during a Shiprider exchange, 28 July 2010.

The United States emphasizes asserting sovereignty, facilitating economic activity and protecting the US homeland.<sup>13</sup> In 2007, a US Coast Guard icebreaker, USCGC *Healy*, was sent to the Arctic Ocean for a scientific mission to map the sea floor off the coast of Alaska, and has returned several times since then in cooperation with Canada. Canada, for its part, states that it “must have the capacity to exercise control over and defend Canada’s sovereignty in the Arctic” and that a “visible” military presence will be the key to accomplishing this.<sup>14</sup> But does Canada have the ability to do this? The Canadian government has expressed interest in the Arctic in recent years, although little action has yet been taken.

The need for interoperability in the Arctic lies mainly at the strategic level, especially in terms of diplomacy. There is an ongoing dispute between Canada and the United States in relation to the Beaufort Sea but the countries are cooperating on mapping the sea floor in order to resolve this. As well, the question of the status of the Northwest Passage, which Canada designates as internal waters and the United States designates as international waters, remains unanswered. Despite these differences,



longstanding diplomatic and military ties between the two countries leave them well-positioned to cooperate on issues of economic interests, security and sovereignty in the region. Indeed, aside from a few differences, Canada and the United States have significant common interests in the Arctic and this would have a positive effect on interoperability of the organizations that provide sovereignty and security, and may present opportunities for Canada to benefit from American maritime assets.

The full implementation of the Shiprider program in 2013 demonstrates the viability of close cooperation between Canadian and American agencies. The program, which built on a series of pilot operations going back to 2005, employs mutually accepted standard operating procedures to allow ships crewed by both RCMP and US Coast Guard personnel to operate on both sides of the border. In addition to preventing cross-border criminal activity, these combined operations serve to secure the border from threats.

Canada could also conceivably benefit from increased cooperation with the United States if territorial disputes were to continue with Russia. The *realpolitik* nature of Russia's foreign policy has been illustrated by operations in Georgia in 2008 and in Ukraine in 2014. While there is at present no reason to assume that disputes cannot be resolved diplomatically, the trend toward the militarization of the Arctic is beyond dispute and Canada should act accordingly.

### ***Joint Capabilities Abroad***

In the modern era, interconnectivity on the global level has blurred distinctions between offence and defence.

For instance, the 2008 Canada First Defence Strategy states that due to globalization, Canada's prosperity and security depend on stability in other parts of the world.<sup>15</sup> Similarly, the RCN's 2005 strategy document states that "Canada's long-term interests are best met through forces that can contribute to the resolution of global problems at their source: security in Canada ultimately begins with stability abroad."<sup>16</sup> Both statements refer to the potential negative security implications of allowing lawlessness to grow elsewhere in the world. In order to help mitigate such threats, force projection should continue to be an important part of Canada's contribution. In the maritime context, there are a number of issues of concern including piracy and international shipping, sea-based terrorist attacks and organized crime.

Because the world economy is based on goods that are transported across the oceans on merchant ships, the burden of protecting global trade falls largely on navies. One area of concern is the asymmetric capabilities of non-state actors in the maritime domain. A variety of events in the past 15 years suggest a trend toward increasing asymmetric capabilities at sea: the 2000 suicide attack on *USS Cole*; the 2002 Al-Qaeda attack on the French oil tanker *Limburg*; Hezbollah's 2006 attack on the Israeli ship *Hanit*; and the 2008 terrorist attacks in Mumbai. All of these events were launched from the sea. Furthermore, the organizational competence of organized crime (e.g., piracy, smuggling) will likely continue to increase if left unchecked. Additionally, there are state-orchestrated actions by non-state proxies at sea. The theatre in which these threats will likely be faced is the littorals, that "legally constrained" and "politically ambiguous" zone that runs



Vessels supporting Vancouver 2010 Olympic Games marine security and safety operations – from the RCMP, Vancouver Police Department, Canadian Coast Guard, Port Metro Vancouver Authority and Canadian Border Services Agency – sail past the City of Vancouver.

Credit: Master Corporal Chris Ward, CFB Esquimalt Imaging Services



*"You can't surge trust." Senior naval commanders and staff from the Five Eyes navies pose for a photo during the inaugural Five Eyes Navy Staff talks, which took place from 20-24 October 2014 at CFB Esquimalt.*

along the world's coastlines.<sup>17</sup> All of these threats must be considered together with conventional naval warfare as future challenges that navies may be called upon to confront.

To meet these threats, the RCN must be prepared to work in concert with other military forces and civilian agencies. Such operations would be designed not only to achieve military objectives, but also to protect and "favourably influence" civilian populations.<sup>18</sup> Military forces, including the RCN, will be instrumental in maintaining the stability necessary to conduct these civilian initiatives. As such, it will be essential to coordinate a response that is multi-agency and derived from a government that is united in common purpose. This coordination among combat, stabilization and influence activities could result in more versatile command structures at the tactical level as well as the operational level. If this move toward inter-agency operability at the national level does not occur, then criminals and terrorists may benefit from the divisions.

A major naval role in force projection concerns sea-basing which supports far-flung forces in the absence of nearby logistics centres. Joint sea-basing is the capability to plan and launch joint operations from the sea without the help of land-based infrastructure.<sup>19</sup> There will be a role for this capability as governments look for ways to reduce their footprints ashore. An important consideration is the potential use of 'swarming' attacks, in which large numbers of fast and manoeuvrable boats are used to target naval forces. Other potential threats to the RCN's sea-basing capability include rocket artillery, subsonic and supersonic anti-ship missiles, and technological warfare such as attacks on sensors and network nodes. Thus, sea-basing can be a critical vulnerability as well as a strength.

Recent trends suggest that important contributions will be made by naval forces in "the insertion, support,

sustainment, and extraction of special operations forces; joint intelligence, surveillance, and reconnaissance, preparations from the sea; the provision of joint and tactical maritime supporting fire from the sea; and the protection of forces and populations ashore from an extension of a naval formation's force-level defensive capabilities."<sup>20</sup> In order to support forces operating ashore, the RCN would benefit from sophisticated sea-to-land precision strike capability. Government support for such a capability was indicated in a 2005 Defence Policy Statement.<sup>21</sup> If future joint operations are carried out in a suitable theatre of operations, this capability could prove indispensable.

### ***Combined Capabilities Abroad***

While joint capabilities are essential to Canada's future expeditionary capabilities, they may not be sufficient for some tasks. A major power may be inclined to see coalition building in terms of the legitimacy it provides but for Canada it is essential to pursuing many national interests abroad. In order to address foreign sources of instability, "the Navy must ... maintain a spectrum of capabilities to lead and operate with our allies."<sup>22</sup> Canada and its allies will require common procedures, applications, infrastructure and data attributes in order to coordinate on strategic, operational and tactical levels. To be effective in promoting its security interests abroad, Canada must continue to play an active role in its alliances and multinational security organizations.

In order to provide a meaningful contribution, however, the RCN should have the appropriate vessels and force structures for the task at hand. The RCN's Amphibious Assault Ship Project, halted since 2008, was meant to increase Canada's expeditionary capabilities. If it is to carry out joint expeditionary warfare, the RCN should have a small, stealthy and manoeuvrable ship that can carry special operations forces while defending from asymmetric threats.<sup>23</sup> The warships currently used for such operations are unsuitable to operate close to shore in terms of size, armaments and manoeuvrability. While Canada has been proactive in contributing to maritime security, it is falling behind many other countries in terms of force restructuring to meet modern needs.

In addition to its longstanding ties to the British and American navies, the RCN is a member of Combined Maritime Forces (CMF), a multinational partnership comprised of 30 of the world's navies. There are three main task forces, each with its own area of focus: CTF-150 is responsible for maritime security and counter-terrorism; CTF-151 is responsible for counter-piracy; and CTF-152 is responsible for security and cooperation in the Arabian Gulf.<sup>24</sup> As an organization that emphasizes flexibility





Credit: Sgt Matthew McGregor, Canadian Forces Combat Camera

The *Halifax*-class frigate HMCS *Toronto* leads NATO ships through the Black Sea on a training exercise during **Operation Reassurance**, 18 September 2014.

and voluntary participation, CMF membership is tied to no specific political or military mandate. CMF missions involve monitoring of the maritime domain and enforcement of broadly recognized international norms against piracy, terrorism and weapons proliferation. Membership in CMF allows Canada to pursue national objectives far from its shores while sharing the risks inherent in taking on a constabulary role abroad. This is emblematic of the benefits of multinational cooperation and suggests a continuing role for force interoperability in the foreseeable future.

## Conclusion

In the past decade, Canada has made significant progress in terms of improving the joint operations capability and force interoperability of its maritime security forces. Still, it is important that these trends continue if Canada is to be prepared to meet the challenges of the coming decades. Undoubtedly there will be new forms of asymmetric warfare at the hands of political and religious extremists, and from organized criminal groups. These threats may emanate from failed states, where combined joint forces may be needed to restore order.

However, there is no reason to assume that future challenges will come uniformly from non-state actors. An ascendant China continues to raise its military profile and a resurgent Russia asserts both hard and soft power on the world stage. Whatever form tomorrow's threats may take, Canada's maritime security forces will be best positioned to meet them if they are able to cooperate effectively with other services and agencies, and with allies. To achieve this, the focus must be on interoperability at the strategic, operational and tactical levels, in both joint and combined operations. 🇨🇦

## Notes

1. NATO Standardization Agency, *NATO Glossary of Terms and Definitions* (Brussels: NATO, 2008), p. 2-I-8.
2. *Ibid.*, p. 2-F-6 (emphasis added).
3. Myron Hura, Gary McLeod, Eric Larson, James Schneider and Daniel Gonzales, *Interoperability: A Continuing Challenge in Coalition Air Operations* (Santa Monica, CA: RAND Corporation, 2000), p. 12.
4. *Ibid.*, p. 13.
5. David Mugridge, "Canadian Maritime Hubris: The Absence of a Future Maritime Security Strategy," *Defence and Security Analysis*, Vol. 26, No. 1 (2010), p. 108.
6. *Ibid.*
7. Tom Wappel, "Safe, Secure, Sovereign: Reinventing the Canadian Coast Guard," Standing Committee on Fisheries and Oceans, Ottawa, March 2004.
8. Cathrin Bradbury and Edward Greenspon, *Open Canada: A Global Positioning Strategy for a Networked Age* (Toronto, Ontario: Canadian International Council, 2010), p. 67.
9. Michael Byers quoted in Randy Boswell and Matthew Fisher, "Tories Consider Arming Arctic-bound Coast Guard Ships," *The Vancouver Sun*, 22 October 2010.
10. See Bradbury and Greenspon, *Open Canada*, p. 67.
11. Arctic Council, "Declaration of the Establishment of the Arctic Council," Ottawa, 1996; Arctic Council, "Joint Communiqué of the Governments of the Arctic Countries," Ottawa, 1996.
12. *Russia Today*, "Russian Military Resumes Permanent Arctic Presence," 14 September 2013, available at <http://rt.com/news/russian-arctic-navy-restitution-863/>.
13. US Department of Defense, "Arctic Strategy," November 2013, pp. 3-5.
14. Department of National Defence (DND), "Canada First Defence Strategy," Ottawa, 2008, p. 8.
15. *Ibid.*, p. 8.
16. DND, "Securing Canada's Ocean Frontiers," Ottawa, 2005, p. 5.
17. Paul Maddison, "Strategic Trust and Cooperation in this Maritime Century," *Canadian Military Journal*, Vol. 13, No. 1 (2012), p. 8.
18. *Ibid.*
19. See G.J. Flynn, "Seabasing for the Range of Military Operations," Quantico: United States Marine Corps, 2009, available at [www.quantico.usmc.mil/ACTIVITIES/display.aspx?PID=3322&Section=CDI](http://www.quantico.usmc.mil/ACTIVITIES/display.aspx?PID=3322&Section=CDI).
20. Maddison, "Strategic Trust and Cooperation in this Maritime Century," p. 9.
21. Government of Canada, "A Role of Pride and Influence in the World: Canada's International Policy Statement," Ottawa, 2005, p. 27.
22. DND, "Securing Canada's Ocean Frontiers," p. 5.
23. See Kenneth Hansen, "Starting Over: The Canadian Navy and Expeditionary Warfare," *Canadian Naval Review*, Vol. 1, No. 1 (2005), p. 23.
24. Combined Maritime Forces, "About CMF," available at <http://combined-maritimeforces.com/about/>.

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# A Clash of Naval Strategies in the Asia-Pacific Region

Brian Wentzell

I have been reading a number of books about the maritime elements of the Asia-Pacific region. In particular in the past few months I have read Ian Speller, *Understanding Naval Warfare*,<sup>1</sup> Carnes Lord and Andrew S. Erickson, *Rebalancing U.S. Forces: Basing and Forward Presence in the Asia-Pacific*,<sup>2</sup> and Robert Haddick, *Fire on the Water: China, America, and the Future of the Pacific*.<sup>3</sup> These books have made me think about naval strategy in the Pacific. In this article, I want to discuss the ideas raised in these three books and make some observations.

As we all know, the Asia-Pacific region with its huge population and bustling economies is making its mark on international relations. The People's Republic of China and the Republic of India, with the largest populations on earth, both have growing economies. They are huge consumers of natural resources and producers of consumer

and heavy goods of every nature. They also provide world-class information technology and consumer services from their homelands to people around the world. Western countries, including the United States, have taken notice of these events but when it comes to national, military and naval strategies, the West seems to be locked in old ways of dealing with maritime events. This article will focus on the United States and China – however, there is every probability that similar issues will arise with India in the future as it seeks to secure its ocean areas and trade routes.

Before I comment, I'll briefly summarize the books. Ian Speller reviews the principal concepts of naval strategy as espoused by Alfred Thayer Mahan and Sir Julian Corbett. Mahan considered command of the seas to be an end in itself. Corbett understood naval strategy to be part of a maritime strategy that, itself, is an element of a national strategy. For Corbett command of the seas was limited to a specific area of naval operations for a specific period of time. Unfortunately, as will be discussed below, Speller does not consider the Monroe Doctrine that underpinned Mahan's work. The Chinese appear to have learned the principles of Mahan and Monroe and adapted them to their present needs in the East Sea and South China Sea, referred to by the Chinese as the Near Seas.

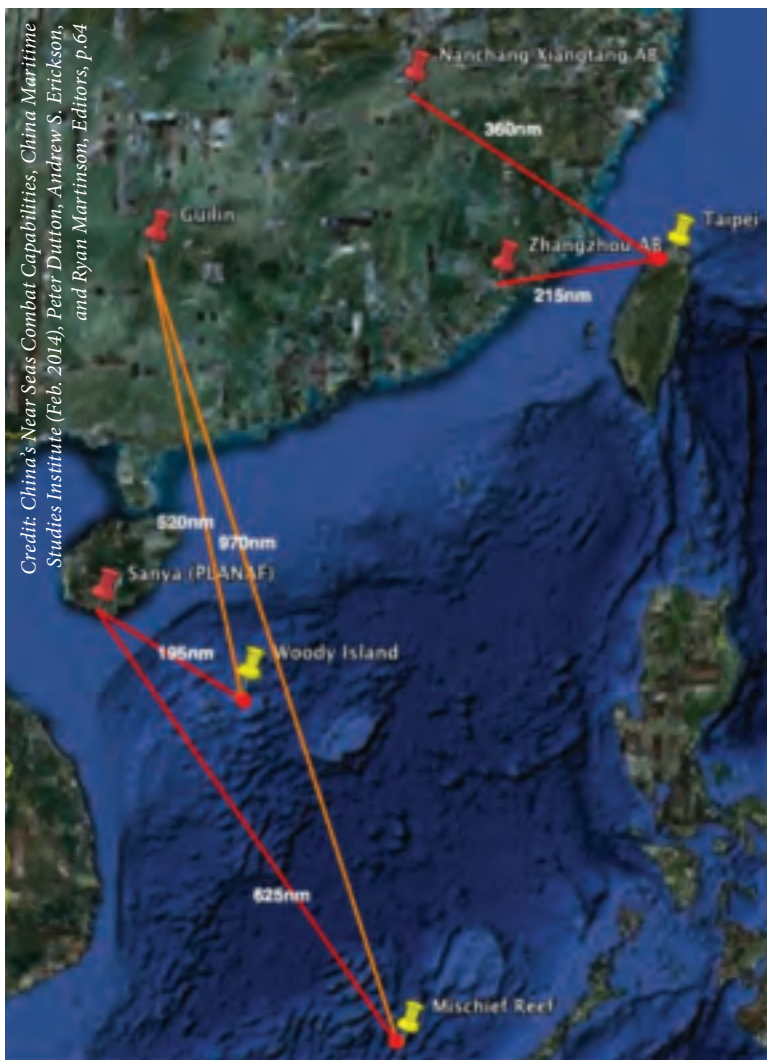
Carnes Lord and Andrew S. Erickson review the state of American naval and military bases from Japan and South Korea in the western Pacific Ocean to Diego Garcia in the Indian Ocean. The western Pacific bases enable the forward basing of US naval and military forces to support allies including Japan, South Korea, Taiwan and the Philippines from diplomatic and military threats by China and Russia. Diego Garcia provides naval, air force, army, logistic and communications facilities to support American operations in the Indian Ocean area, including the Persian Gulf and Red Sea. These bases are the foundation of American naval and military power in these regions and, if neutralized by China, could subjugate American allies to the will of the Chinese government.

Robert Haddick questions the adequacy of the American naval and military response to Chinese expansion to the edge of the Near Seas. Although the Chinese describe their military doctrine as "active defense" or "counter-terrorism," the American government has labelled it "anti-access/area denial" or A2/AD.<sup>4</sup> Haddick points out that the Chinese have created strategic missile systems,



The Spratly and Paracel Islands are among the maritime disputes in the South China Sea.





Operational Distances: Taiwan versus South China Sea.

an increasingly large and competent navy, and modern air forces that are able to influence naval and military activities up to 2,000 kilometres from the Chinese mainland.<sup>5</sup> This radius of action threatens the security of all American bases from Japan and South Korea through the Philippines and Malaysia to the Bay of Bengal. Only bases in Guam, Singapore, Australia and Diego Garcia lie outside their influence. This vulnerability, coupled with American reliance on relatively short range, ship-based, lightly armed fighter-bombers and surface-to-surface missiles or forward-based, lightly armed air force fighter-bombers, requires the American armed forces to operate within the reach of long-range Chinese air and missile forces. Haddick considers this to be a situation of strategic weakness for the United States. He thinks that the Americans must adopt a new naval and military strategy that addresses the A2/AD challenge with long-range strike weapons and tactics.

The Chinese have an ancient maritime history but China has ignored the oceans for several hundred years to focus on more pressing political, social and economic issues. With the unification of the country under the Chinese Communist Party during and following World War II

and its very strong economic growth in the last three decades, China has recognised its need to become a maritime power once again. The need is rooted in a mixture of nationalism, history, politics, protection of seaborne trade, harvesting marine and natural resources, and defence issues.

While the Chinese reconnect with their maritime history and try to come to grips with their own maritime security requirements, neighbouring countries and the United States see the change of attention as expansionist and threatening to their interests. The resulting competition, now playing out in the Near Seas, involves the United States, Japan, the Philippines, Taiwan, Malaysia and Vietnam as the principal opposing team players. The United States is involved because of its history in the Pacific Ocean and its alliances or security agreements with several Asian neighbours of China. As Lord and Erickson note, the United States is seen to be “the world’s chief security provider.”<sup>6</sup> The other countries are directly involved because of alleged Chinese encroachments on their respective exclusive economic zones or unoccupied islands and islets to which they have longstanding claims.

Aside from the jurisdictional disputes, Speller lays out two competing long-held theories of naval strategy that are relevant to the situation in the Asia-Pacific region. American naval strategist Alfred Thayer Mahan concluded in his 1890 study of naval history that the British imperial experience had demonstrated that “naval mastery, founded upon a superior battle fleet, had provided the vehicle through which Britain had gained global pre-eminence through victory in war and the dominance of world trade.”<sup>7</sup> The Royal Navy had proven, to Mahan’s satisfaction, that a blue-water navy must maintain command of the sea in order to dominate maritime lines of communications. The US Navy adopted this approach in the late nineteenth century and has consistently applied it from late in World War II.

Mahan’s naval strategy expanded upon the earlier Monroe Doctrine, which was introduced by US President James Monroe in his annual message to Congress on 2 December 1823. Monroe stated, with reference to the European powers of that day, “[w]e owe it, therefore, to candor and to the amicable relations existing between the United States and those powers to declare that we should consider any attempt on their part to extend their system to any portion of this hemisphere as dangerous to our peace and safety.”<sup>8</sup> This was a clear message to Russia, Great Britain, France, Spain and Portugal not to advance further claims for colonies or possessions in the Western Hemisphere. Mahan’s concept of naval strategy did not undermine the

Monroe Doctrine but expanded the concept of command of the seas to beyond the adjacent waters of a state. When one studies current Chinese actions in the Near Seas, China's strategy appears to adopt the doctrine of President Monroe and the actions resulting therefrom reflect the use of maritime and naval forces by the United States to influence events in the Caribbean Sea. China has effectively declared that its legitimate national interests consider the Near Seas to be within its exclusive economic zone, as determined by boundaries measured from territorial seas bordering upon the mainland, islands and islets and its air defence identification zone, both of which overlap claims by Japan, the Philippines, Vietnam and other neighbours.



*US President Barack Obama addresses an audience at the University of Queensland in Brisbane, Australia, November 2014. He said the United States "is and always will be a Pacific power."*

The alternative strategic naval theory was articulated by British naval historian Sir Julian Corbett in his major work published in 1911. It was his reasoning that "[n]aval strategy does not exist as a separate branch of knowledge. It is only a section of a division of the art of war."<sup>9</sup> By this he meant that naval strategy was a component of a state's maritime strategy, and therefore a part of a larger national strategy. Thus "command of the sea is only a means to an end. It never ... can be an end in itself."<sup>10</sup> Corbett thought of control as being limited to the command of events in a specific sea area for a defined period of time for a specific purpose.

The Chinese naval activities are clearly part of a national strategy that employs a variety of national maritime assets – civilian, police and naval – as well as land-based army and air force elements to gain effective control of the Near Seas. These seas comprise a defined geographic area. However, in my opinion, the Chinese strategy departs from Corbett's requirement that the operations be of limited duration. In this aspect, the Chinese strategy appears to be more akin to the Monroe Doctrine than Corbett's vision of naval strategy.

In late 2011 the administration of President Barack Obama made a decision to reassert American interests in the Asia-Pacific region, reassure US allies there of American commitment to them and "send an unmistakable signal to the People's Republic of China that the United States is and intends to remain a 'Pacific power' fully prepared to meet the challenge of China's rise and its regional ambitions."<sup>11</sup> In my opinion, this is either an extension of the Monroe Doctrine to the Asia-Pacific region or the use of Mahan's naval strategy to deny that China has a right to create its own version of the Monroe Doctrine for application in its adjacent Near Seas.

As has been widely reported in the media, the Chinese government considers the American signal as unwarranted interference in China's legitimate national interests. Even as confidence-building measures are jointly pursued by the navies of the two countries, the political debate continues and the Chinese government continues to reinforce its claims to the islands and islets in the Near Seas.

To protect its expanding interests and control the access to its external interests, China is now pursuing claims for maritime territory that had long been dormant. Haddick discusses how this involves a carefully designed and orchestrated civilian campaign to exploit marine and natural resources through a growing marine presence coupled with expansion of municipal government on previously unoccupied islands and islets. This campaign is supplemented by a major modernization of its armed forces, including air, naval, missile and space power.<sup>12</sup> The result is that China is reclaiming the seas and enclosed bits of land that it abandoned long ago. Some of these claims are made at the expense of countries lying on the fringe of the Near Seas where overlapping claims exist.

The United States has responded by pivoting additional military and naval forces to the western Pacific and Indian Oceans to reinforce President Obama's message to the Chinese. The American move is also a signal to India and everyone else that the right of free passage in international waters and straits is not to be interfered with. Furthermore, the access to marine and natural resources in and under the sea is to be treated in accordance with international law. The United States reinforces its dictum by assigning US armed forces the responsibility to protect these rights in concert with the military forces of allies and friends.

Will the American response be enough to convince China that the United States takes its work in the Asia-Pacific region seriously? Lord and Erickson ask whether the United States can "continue to rely on major surface



combatants and ... nuclear-powered aircraft carriers to sustain a forward American presence in the Asia-Pacific region in the coming years.”<sup>13</sup>

The problem for the Americans is that the Chinese have developed a well-thought out campaign strategy that is incremental in nature but constantly moving forward. It involves legal challenges to the claims of neighbouring countries to unrestricted access for legitimate peaceful economic and related purposes in the Near Seas. The Chinese exercise their alleged legal rights through the occupation of uninhabited lands, the exploitation of marine and natural resources in putative exclusive economic zones adjacent to the newly inhabited islands and islets, as well as transits of trade routes and international straits.

The campaign includes the Chinese A2/AD naval and military strategy. This strategy constitutes a threat to the United States and its allies, but the Chinese have certain vulnerabilities. In particular China lacks strong allies and friends in the region. As well, the Chinese naval and military forces lack modern combat experience. Finally, China has a long history of internal political turmoil.<sup>14</sup>

Haddick does not question the role of the United States as the chief security provider of the world or, more particularly, the Asia-Pacific region. He does, however, as do Lord and Erickson, challenge the strategy behind the American pivot of additional naval and military forces to

the western Pacific Ocean. While the United States has technological advantages in terms of the sophistication of its ships, submarines, fighter jets and patrol aircraft, it has short-range reach due to the nature of its weapons. This exposes US naval ships and air bases to attack by longer range land-based Chinese missiles and missile-equipped submarines. There is also the risk of sustained attacks by Chinese bombers and fighter-bombers operating from protected homeland bases. Air superiority is a key element of the Chinese military strategy.<sup>15</sup> This exposes the American forces to considerable risk.

At the same time, Haddick claims that the United States has yet to create a workable competitive strategy that will counter the A2/AD strategy. He is not convinced of the efficacy of the existing efforts and he thinks that they ignore the best regional assets of the United States – its allies and partners.<sup>16</sup> These partners provide legitimacy to the American presence and role, and if ignored, their support cannot be assured. Furthermore, the American pivot strategy is not competitive as it plays directly into China’s strengths rather than focusing upon and taking advantage of its weaknesses. Haddick is of the further view that the American strategy lacks defined outcomes.<sup>17</sup> However, one could argue that maintenance of peace, order and respect for international law is an obvious outcome sought by the world’s chief security provider.

Haddick recommends that the United States develop a competitive strategy for this contest with the Chinese. He



Credit: Philippine armed forces

*Chinese reclamation work on Johnson South Reef in the Spratly Islands in the South China Sea.*



The Fleet Replenishment Oiler USNS **Henry J. Kaiser** (T-AO 187) (centre), conducts a connected and vertical replenishment-at-sea with the Amphibious Assault Ship USS **Makin Island** (LHD 8) (right) and the Amphibious Dock Landing Ship USS **Comstock** (LSD 45), 4 August 2014.

suggests that the strategic objective should be the prevention of conflict in the Asia-Pacific region by “bolstering deterrence ... to manage peacetime security in East Asia.”<sup>18</sup> To be effective, the objective of deterrence must be supported by significant American investment in new tactics, long-range weapons delivery systems, and the weapons themselves to overcome the Chinese A2/AD zone and an increasingly competent naval and military competitor.

This competitive strategy challenges the status quo thinking of American politicians, military leaders, military suppliers and their supporters. The political-military-industrial complex in the United States is astute and inextricably wed to maintenance of existing military procurement and sustainability programs. Haddick acknowledges that it will take strong leadership to overcome these entrenched interests.<sup>19</sup> I am not optimistic that this will happen.

That the United States, its allies and friends are standing into danger in the Asia-Pacific region is not in doubt. The underlying causes of this danger are clear and rooted in Chinese maritime expansion throughout the Near Seas. While Speller clearly sets forth the naval strategies available to the countries affected by the events in the Near Seas, Haddick, and Lord and Erickson, have described the commitment and involvement of the United States in support of its allies and friends in meeting the Chinese challenge.

However, in my opinion, the emergence of China as a major maritime power, soon to be followed by India, need not be feared. Competent Western and Asian leaders can and must be found and motivated to open negotiations that result in agreed processes for the effective and

efficient resolution of disagreements over boundaries, the harvesting of marine and natural resources, maritime access issues, and the preservation of legitimate coastal state historic rights and sovereignty. The window for such negotiations will not be open for an indefinite period however. If the opportunity is squandered, the consequences will be armed conflict in which there will be no real victors and undoubtedly great suffering in and beyond the Asia-Pacific region. 🇺🇸

#### Notes

1. Ian Speller, *Understanding Naval Warfare* (London and New York: Routledge Taylor & Francis, 2014).
2. Carnes Lord and Andrew S. Erickson, *Rebalancing U.S. Forces: Basing and Forward Presence in the Asia-Pacific* (Annapolis, Maryland: Naval Institute Press, 2014).
3. Robert Haddick, *Fire on the Water: China, America, and the Future of the Pacific* (Annapolis, Maryland: Naval Institute Press, 2014).
4. *Ibid.*, p. 83.
5. *Ibid.*, p. 89, map 4.
6. Lord and Erickson, *Rebalancing U.S. Forces*, p. 2.
7. Speller, *Understanding Naval Warfare*, p. 1.
8. US President James Monroe in his seventh annual message to Congress on 2 December 1823.
9. Speller, *Understanding Naval Warfare*, p. 37.
10. *Ibid.*, p. 46.
11. Lord and Erickson, *Rebalancing U.S. Forces*, p. 1.
12. Haddick, *Fire on the Water*, p. 2.
13. Lord and Erickson, *Rebalancing U.S. Forces*, p. 9.
14. Haddick, *Fire on the Water*, pp. 85-86.
15. *Ibid.*, p. 87.
16. *Ibid.*, “Chapter 5. America Pivots to Asia, Then Stumbles,” pp. 101-120.
17. *Ibid.*, p. 120.
18. *Ibid.*, p. 213.
19. *Ibid.*, p. 215.

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# Most Capable Design or Most Qualified Team?

Janet Thorsteinson

In the jubilant afterglow that followed the National Shipbuilding Procurement Strategy (NSPS) announcement on 3 June 2010, the government released a video, telling “the story of why this procurement was uniquely successful.”<sup>1</sup> With scarcely any criticism at the time, the procurement was celebrated as the largest in Canadian history, slated to build 28 ships for \$33 billion at shipyards on the East and West Coasts, and create 15,000 jobs over 20 to 30 years.

Since then, at each end of the national stage, both the Irving shipyard in Halifax and the Seaspan shipyard in Vancouver have been upgrading their facilities to build the ships. But offstage, in Ottawa, another important decision still remains to be made: who will provide the combat systems for the Canadian Surface Combatant (CSC) fleet, the 15 ships that will replace the Royal Canadian Navy’s frigates and destroyers? As Tim Page, the former President of my association, the Canadian Association of Defence and Security Industries, wrote in 2009, “[t]he electronic systems are the crown jewels of the global defence industry. These systems create and maintain thousands of knowledge-based jobs and are often spun off into commercial applications and export market opportunities. Canada has globally competitive industrial capabilities in many of these technology-related areas that are looking to contribute fully to the rebuilding of the Canadian Forces.”<sup>2</sup>

As of November 2014, the government had not yet announced its decision on a procurement strategy for the CSC itself, let alone which company or companies will provide those electronic systems. In fact, the choice of that strategy may well decide who selects the electronics

contractors. In late 2012, the government’s purchasing department, Public Works and Government Services Canada (PWGSC), wrote a Letter of Interest to Canadian industry, soliciting its thoughts about “High Level Procurement Approaches for the Upcoming Phase(s) of the CSC Procurement.” The choices included: (1) funded designs, in which industry teams are paid to compete for the work; (2) corporate capability, in which a company or a team demonstrates capability; (3) system by system, in which the government would individually compete major elements of the CSC, like the combat management system and the propulsion system; and (4) a shipyard-led strategy, in which the shipyard selected under the NSPS would choose the design and systems, while “demonstrating competition and/or value for money in these selections.”<sup>3</sup>

By late 2013, according to the PWGSC website, it appeared that the procurement strategies were narrowing down. The implementation of the NSPS is guided by a Governance Committee that includes Deputy Ministers from Public Works, Industry Canada and National Defence, the key defence procurement departments. The minutes of their 5 December 2013 meeting, under the agenda item “Canadian Surface Combatants (CSC) Procurement Approach,” state that “[a]n update was provided indicating that Industry engagement resulted in two differing views of ‘Most Capable Design’ or ‘Most Qualified Team.’ The procurement strategy analysis is on-going.”<sup>4</sup>

That may seem like bureaucratic manoeuvring, but billions of dollars and thousands of jobs are at stake. While the Public Works website has been silent on the definitions of those two procurement approaches, Senator



Credit: Erwan Cate/crowdmedia

*The Most Capable Design approach is preferred by European shipbuilders. Shown here is the DCNS naval shipyard in Lorient, France.*



The Most Qualified Team approach is said to favour US shipbuilders. Shown here, Austal USA launches the second 127-metre *Independence*-variant Littoral Combat Ship, *Coronado* (LCS 4).

Colin Kenny supplied some clarification in the 17 November 2014 edition of the *National Post*. The former Chair of the Standing Senate Committee on National Security and Defence wrote that Most Capable Design (MCD) “would involve soliciting competitive bids from different defence contractors and picking the best one.” According to him, this is the option favoured by European firms. Most Qualified Team (MQT) “would entail selecting one contractor based on its overall capabilities.” In the end, the government “would give the winner carte blanche to work out the specifics of how it will get the job done.”<sup>5</sup>

Postmedia’s Michael Den Tandt took a closer look at the political implications of a high-level decision on whether to take the multi-billion dollar combat system integration work to a competition or make the decision to sole-source the decision by default. He speculates that the Canadian government may have delayed a decision in order not to embarrass President François Hollande of France during a state visit. That country’s defence industry would like to bid on the CSC work. Another possibility Den Tandt suggests is that “it may be that DND’s recommendation to bypass a competition on this work (by putting in place a ‘Most Qualified Team’ approach over the ‘Most Capable Design’ concept, which presupposes competing bids) has, at long last, set certain cabinet spider senses tingling.”<sup>6</sup> In this, the year of a federal election, Den Tandt points to the politics of the procurement, given the reaction to a possible sole-sourcing of a new RCAF fighter jet. According to him, “[t]hat DND is even pushing for a sole-source option on the ships’ systems, given how that approach helped cripple the fighter-replacement program, is stunning. The very last thing the Harper government needs now is another big, ugly, expensive and controversial procurement bungle.”<sup>7</sup>

Other factors may influence the decision. A new Defence Procurement Strategy, announced in February 2014, may

have altered the environment in which the NSPS must deliver value. Two key strategy objectives are to “deliver the right equipment to the Canadian Armed Forces (CAF) and the Canadian Coast Guard in a timely manner” and “leverage our purchases of defence equipment to create jobs and economic growth in Canada.”<sup>8</sup> In the Canadian Defence and Foreign Affairs Institute’s publication, *The Dispatch* last September, Jean-Christophe Boucher seized on that point and wrote “[t]here is no clear indication whether the priority is to supply both the Canadian Armed Forces and the Canadian Coast Guard with needed equipment in a timely manner or to use these purchases to promote Canada’s economic interests.”<sup>9</sup> Boucher resolves the point by insisting that Canada buy the most affordable products abroad, no matter the domestic repercussions. As he argues, “[w]e cannot expect the government to spend billions of public funds abroad without suffering undesirable political consequences, but without a clear procurement process that discriminates between military expediency and domestic economic development, Canada’s military procurement fiasco is bound to continue.”<sup>10</sup>

When PWGSC asked the Canadian defence industry for its views on the Canadian Surface Combatant acquisition strategy, it wrote that Canada’s principles for the CSC procurement include fairness, openness and transparency, competition and value for money.<sup>11</sup> The government’s challenge is to maintain those principles in the practical world of defence procurement. 🍷

#### Notes

1. Public Works and Government Services Canada (PWGSC), Transcript of a Video, “National Shipbuilding Procurement Strategy,” no date given, available at [www.tpsgc-pwgsc.gc.ca/app-acq/video/snacn-nsps-video-trans-eng.html](http://www.tpsgc-pwgsc.gc.ca/app-acq/video/snacn-nsps-video-trans-eng.html).
2. Timothy Page, “Defence Procurement: Tougher than Buying Pens but Not Brain Surgery,” CADSI, 2009.
3. PWGSC, “Letter of Interest,” available at [https://buyandsell.gc.ca/cds/public/2013/05/29/991344ee5c70e5d41632d0229ea11fb4/ABES.PROD.BK\\_CSC.B002.E23296.EBSU000.pdf](https://buyandsell.gc.ca/cds/public/2013/05/29/991344ee5c70e5d41632d0229ea11fb4/ABES.PROD.BK_CSC.B002.E23296.EBSU000.pdf).
4. Deputy Ministers’ (DM) Governance Committee, “Governance and Oversight,” Governance Committee Meeting, Minutes of Proceedings, 5 December 2013.
5. Colin Kenny, “The Plan to Replace Canada’s Heavy Warships may Already be Going off the Rails,” *National Post*, 17 November 2014.
6. Michael Den Tandt, “Does Canada Still Need an Independent Military?” Postmedia News/O.Canada.com, 2 November 2014.
7. *Ibid.*
8. Government of Canada, PWGSC, Media Release, “Leveraging Defence Procurement to Create Jobs and Benefit the Economy,” 5 February 2014.
9. Jean-Christophe Boucher, “Harper’s Defence Procurement Strategy Won’t Solve Procurement Anguish,” *The Dispatch*, Volume XIII, Issue 1 (September 2014), p. 12.
10. *Ibid.*
11. PWGSC, “Letter of Interest.”

After over 30 years in the public service, Janet Thorsteinson became Vice-President Government Relations at the Canadian Association of Defence and Security Industries (CADSI).





# Making Waves

## *AOPS and the NSPS: Wishful Sinking?*

Danford W. Middlemiss

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.”<sup>1</sup> 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.<sup>2</sup> 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.



Credit: Background image of Royal Navy Type 45 Destroyer HMS Daring, by Keith Morgan

*Early, unrealistic budget estimates are a huge impediment for the procurement/building of the RCN’s future ships.*

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.<sup>3</sup> 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 estimate for projects.<sup>4</sup> The Treasury Board wants this statement 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, lesser 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. 🍷

#### Notes

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.

2. David Pugliese, “DND to go to Treasury Board for More Money for Arctic Offshore Patrol Ships,” *Defence Watch*, 4 December 2014.
3. See, David Perry, “Doing Less with Less: Canadian Defence Transformation and Renewal,” *Vimy Paper*, Ottawa, Conference of Defence Associations Institute (CDAI), 30 January 2014, p. 21; and Janet Thorsteinson, “From Good Beginnings,” *Canadian Naval Review*, Vol. 9, No. 4 (2014), p. 28.
4. See, for example, Sloan, “Something has to Give”; and Commander David Peer, “Estimating the Cost of Naval Ships,” *Canadian Naval Review*, Vol. 8, No. 2 (Summer 2012).

## 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. Totalling 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.”<sup>1</sup>

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 20<sup>th</sup> 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



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.<sup>2</sup> 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 sub-contracts. 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

Credit: USN Mass Communication  
Specialist 1<sup>st</sup> Class Jason Swink



The Australian ANZAC-class frigate HMAS *Warramunga* (FFH 152) departs Joint Base Pearl Harbor-Hickam to support Rim of the Pacific (RIMPAC) 2010 exercises, 7 July 2010.

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



Credit: USN Mass Communication Specialist 2<sup>nd</sup> Class N. Brett Morton

The New Zealand ANZAC-class ship HMZNS *Te Mana* (F 111) steams in the Persian Gulf supporting **Operation Stakenet**, a Combined Task Force 152 operation focused on ensuring a lawful maritime order in the Persian Gulf and involving units from Bahrain, New Zealand, UK, United States and other regional countries, 27 May 2008.

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.<sup>3</sup>

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. 🇺🇳

#### Notes

1. "The ANZAC Ship Project," *Australian Defence Magazine*, 10 January 2008.
2. Peter Greener, *Timing is Everything: The Politics and Processes of New Zealand Defence Acquisition Making* (Canberra: ANU Press, 2009).
3. John Blaxland, "Closer Australia-Canada Defence Co-operation?" *Australian Strategic Policy Institute*, Special Report, Vol. 3 (2013).



# *A View from the West:* Reefs of Discontent in the South China Sea

**Brett Witthoeft**

A reef is a rock is an island. This seems to be the case in the South China Sea (SCS), where several countries – China, Malaysia, Taiwan, the Philippines and Vietnam – are busy reclaiming and augmenting land features. These developments are not new: Vietnam has constructed a harbour at Southwest Quay since it captured the islet from the Philippines in 1975; Malaysia has built up Naval Station Lima at Swallow Reef since its occupation in 1983; and Taiwan has been steadily building up Taiping Island in the Spratlys, such that it will be able to host 3,000-ton ships by 2016.

Although China controls the fewest land features in the Spratly archipelago, its reclamation and island building work receives the most attention in part because it is viewed as linked to Beijing's increasingly assertive activities in the SCS. As of the time of writing, China is undertaking reclamation work on no fewer than five reefs in the Spratly group (Johnson North Reef, Johnson South Reef, Fiery Cross, Gaven Reef and Cuateron Reef) and one islet in the Paracel Islands in the northern SCS (Woody Island).

Chinese reclamation efforts since 2012 have been remarkable. Before this year, Johnson South Reef was small, only hosting a pier, a small communications building and a barracks. In 2014, China expanded the reef to 100,000 square metres, and the now man-made islet features a fuel dump, a concrete plant and two roll on-roll off docks.<sup>1</sup> Meanwhile, a planned expansion to the 2,400-metre military airstrip on Woody Island was completed at the end of October, with the runway now extending to 2,700 metres. The pre-extension airstrip could accommodate China's Il-76 strategic airlift planes but the new length should be sufficient for the future Y-20 transport planes which, while around the same size as the Il-76, have a much larger projected maximum payload size and thus may need more landing space. Indeed, *IHS Jane's* predicted this summer that the Y-20 will be a part of China's expansion of SCS features.<sup>2</sup>

Andrew Erickson and Austin Strange, both of the US Naval War College's China Maritime Studies Institute, argue that Beijing is most focused on Fiery Cross, where it has already constructed a garrison, coastal artillery, helipad and wharf, and appears to be in the process of adding a 3,000-metre airstrip and enlarging the harbour to accommodate tankers and major warships. This work

could make Fiery Cross double the size of Diego Garcia, the US Navy's strategic outpost in the Indian Ocean.<sup>3</sup> Satellite imagery has shown that Fiery Cross is indeed now large enough for the long runway and harbour.<sup>4</sup>



*Airbus Defence and Space imagery shows land reclamation, harbour modifications and other ongoing construction at Yongxing Dao, also known as Woody Island, part of the Paracel Islands in the South China Sea.*

*Credit: Airbus Defence and Space/Spot Image  
S.A./IHS Jane's 360*

Indications are that, if anything, China is preparing to accelerate its reclamation work. A representative from a subsidiary of the state-owned China Shipbuilding Industry Corporation told *IHS Jane's* at the Shiptec China 2014 exhibition that it is developing multifunctional platform docks for SCS islands. The basic model docks will be able to generate electricity, desalinate water and host 1,000-ton ships, while the more advanced variants will be able to move under their own power for short distances.<sup>5</sup> Once operational, these docks will enable China to develop SCS features much more quickly.

Why is China investing so much time, money (an estimated USD \$5 billion over 10 years is going to Johnson South Reef alone) and effort to turn these reefs into habitable islands? One potential reason is that Beijing could be attempting to increase its ability legally to claim maritime territory in the SCS. The UN Convention on the Law of the Sea (UNCLOS) gives reefs no maritime area, but rocks get 12 nautical miles and islands get 200-nautical mile Exclusive Economic Zones (EEZs). However, this goal can be dismissed, as UNCLOS Article 121 defines an island as being "naturally formed," and any artificial augmentation means that they are classified as artificial islands, which are entitled to absolutely no maritime territory under Article 60.



Credit: Airbus Defence and Space/Spot Image S.A./IHS Jane's 360

Satellite imagery dated 14 August 2014 shows ongoing construction and development of the new island on Johnson South Reef in the Spratly Islands.

Some Asia observers, though, have noted that China may be attempting a subtle revision of UNCLOS and international norms to suit its interests as it increases in power.<sup>6</sup> Two recent incidents in the SCS highlight this effort: in December 2013, USS *Cowpens*, which was shadowing the *Liaoning* Chinese aircraft carrier group, was harassed by a Chinese warship and forced to stop short; and in August 2014, a US Navy P-8 maritime patrol aircraft was harassed by a Chinese J-11 fighter, reportedly within 10 metres. These incidents are rooted in a disagreement over what activities are permitted in EEZs. The United States argues that UNCLOS allows non-economic military activity in EEZs so American warships and aircraft are free to do as they like in the SCS. China, however, is treating its SCS EEZ as though it is a territorial sea in which military activities require the permission of the coastal state. If China's nine-dash line is assumed to be its claim to the SCS, Beijing's EEZ interpretation, supported by built-up islands, is presumably aimed at closing off access to the SCS to foreign navies.<sup>7</sup>

The SCS features that China has chosen to develop are strategically placed. The runways and ports on Woody Island and Johnson South Reef, along with the major naval base at Hainan Island, give China control of the SCS from north to south. All that is missing for China to control the breadth of the SCS is a feature in the east. China effectively seized such a feature from the Philippines in summer 2012 – Scarborough Shoal. Although Scarborough has not yet been developed along the lines of the Spratly reefs, its size is such that it could support an airstrip and port.<sup>8</sup>

The implications for land reclamation in the SCS could

be far-reaching. The SCS is very important for the region and the world – about USD \$5.3 trillion in trade transits the SCS annually, including one-third of global oil trade and over half of world liquefied natural gas trade<sup>9</sup> – and if China were to exclude foreign navies, it could prompt other countries with SCS interests and/or disputes with China to push back. Indeed, China's SCS land reclamation could spark a land arms race with the potential for confrontation and escalation, such as between China and the Philippines over Scarborough Shoal. The situation bears watching as it piles up, like sand on a reef. 🌺

#### Notes

1. James Hardy and Sean O'Connor, "China Advances with Johnson South Reef Construction," *IHS Jane's Defence Weekly*, 19 September 2014.
2. Richard D. Fisher and James Hardy, "China's NDU Recommends 400-strong Y-20 Fleet," *IHS Jane's Defence Weekly*, 28 July 2014.
3. Andrew S. Erickson and Austin Strange, "Pandora's Sandbox," *Foreign Affairs*, 13 July 2014.
4. James Hardy and Sean O'Connor, "China Building Airstrip-capable Island on Fiery Cross Reef," *IHS Jane's Defence Weekly*, 20 November 2014.
5. Cornelius Weening, "Shiptec China 2014: CSSRC Showcases Plans to build Floating Docks for Spratly Islands," *IHS Jane's Defence Weekly*, 27 October 2014.
6. For example, see James R. Holmes, "China's War on Maritime Law," *The Diplomat*, 4 September 2014.
7. The United States is taking a positive view of this situation. For example, Washington chose to portray the fact that the Chinese navy dispatched an intelligence ship within Hawaii's EEZ for the two most recent RIMPAC exercises as a sign that Beijing accepts UNCLOS rules to free military activities outside of territorial waters. See Andrew S. Erickson and Emily de La Bruyere, "China's RIMPAC Maritime-Surveillance Gambit," *The National Interest*, 29 July 2014.
8. Yoji Kodai, "Japan's Perspectives on U.S. Policy toward the South China Sea," in Murray Hiebert, Phuong Nguyn and Gregory B. Poling (eds), *Perspectives on the South China Sea: Diplomatic, Legal, and Security Dimensions of the Dispute* (Boulder, CO: Rowman and Littlefield, Centre for Strategic and International Studies, September 2014), pp. 86-87.
9. US Energy Information Administration, "South China Sea," 7 February 2014.

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# *Dollars and Sense:* Can DND Afford New Submarines?

Dave Perry<sup>1</sup>

The navy's prospects seem to be improving significantly in 2015. According to current plans, the modernized and life-extended *Halifax*-class frigates will reach Initial Operating Capability by January 2015. With this important milestone, the bridge to the future surface fleet is on schedule and on budget. Furthermore, a contract for the Arctic Offshore Patrol Ships (AOPS) has been signed which will allow construction to start as scheduled by the fall of 2015. While significant progress still remains to be done with the Canadian Surface Combatant (CSC), these two events mean the navy's surface capability is on the road to recovery after a low watermark of modernization-induced non-availability.

As well, after much delay and difficulty, the *Victoria*-class submarines are finally operational. Despite a long road to get there, the *Victoria*-class has finally reached a steady state of operational capability with three boats at various levels of operational readiness. After a more difficult than anticipated introduction of the fleet, this is a significant milestone.

Despite this achievement, the future of Canadian submarines is once more in question. The June 2014 Defence Acquisition Guide (DAG) contains a Submarine Equipment Life Extension plan that would extend the *Victoria*-class service to beyond its current life expectancy, which was to end in the mid-2020s.<sup>2</sup> Although the specifics of this plan are yet to be approved, it would cost "[m]ore than \$1.5 billion" the upper cost bracket used in the DAG. Notable for its absence is any permanent replacement for the submarines. The absence of such a project is all the more conspicuous given what the guide *does* contain. The army, for instance, has a plan on the books to extend its Tactical Armoured Patrol Vehicles – a fleet that hasn't even entered service yet – in 10-20 years. Given this evidence of extremely advanced forward planning elsewhere, the omission of a submarine replacement plan is curious if the navy wants to retain this capability.

What then are the prospects for renewing the submarine capability? Some discussions have started, including at the 2014 Naval Association of Canada (NAC) conference, and this topic has received renewed academic interest.<sup>3</sup> These discussions have for the most part focused on the capabilities and strategic suitability of submarines, or lack thereof. The discussions are still nascent, but the strategic arguments in favour of retaining submarines are compelling.

Largely absent from this discussion has been an examination of their affordability. Since the Canada First Defence Strategy (CFDS) was acknowledged to be underfunded in 2011, and DND has faced three more years of budget cuts since then, the affordability of any future project must be seriously examined. This is especially so because DND remains unable to move its existing program on schedule. Because of repeated delay, projects keep slipping to the right, causing year end lapses of un-spent funding of around \$1 billion annually. The projections for fiscal year 2014/2015 indicate that this non-use of allocated funds could reach an all-time high – somewhere between \$1.7-2 billion.<sup>4</sup> This is problematic since the entire naval program's affordability has been questioned by the Auditor General, and the Parliamentary Budget Officer concluded that the Joint Support Ship (JSS) and AOPS projects are both underfunded.<sup>5</sup> Since the overall defence program is short on funds, and the RCN's portion of it particularly so, there are numerous demands on the increasingly scarce defence budget.



Credit: Alan Rowlands

*The Casing Officer and members of the casing party finish securing HMCS Windsor for the voyage from Barrow-in-Furness, Cumbria, United Kingdom, to her new home port of Halifax, Nova Scotia, 6 October 2001.*

As with other acquisitions, the affordability of a submarine purchase must be assessed in two ways: the cost of acquiring new submarines; and the cost of owning and operating them. On both counts, submarines are likely to be costly.

Estimating the costs of a new acquisition are difficult since publicly available figures are all foreign, making it impossible to know whether published sticker prices include, for instance, inflation, contingencies, project management, initial spares, or taxes, to name only a few major cost concerns. As a result, the safest place to start is Canada's purchase of the four *Upholder*-class boats from Britain.



HSwMS *Gotland*, commissioned in 1996, is an attack submarine of the Swedish Navy. It is the first submarine class to use air-independent propulsion in the form of Stirling engines which use liquid oxygen and diesel as the propellant.

As Peter Haydon wrote regarding the acquisition, “the price was right.”<sup>6</sup> The Chief Review Services audit of the acquisition in 2003 stated that the \$897 million Canada paid for the four boats was an exceptional bargain, finding that it was “no more than 30 per cent of the projected cost of new submarines.”<sup>7</sup> The report stated that buying new submarines would have cost between \$3 and \$5 billion. Assuming those figures were in 1998 dollars, the year of the acquisition, and using the low end of published escalation rates for naval vessels, which is 7% in 2014 dollars, that would place a new diesel-electric submarine at a cost of between \$9-15 billion.<sup>8</sup> These figures indicate nothing more than a possible range of acquisition costs but this author understands that the current estimate being used by the Naval Staff falls within this range. Costs of this magnitude would make new submarines the second most expensive project in the defence program, between the acquisition budgets of the CSC (\$26 billion) and fighter jets (\$9 billion). While a new submarine is unquestionably within the reach of the government of Canada, so far there is little indication that DND will receive any budget relief in the short term. As a result, it is difficult to see how DND could fit a new submarine purchase into its existing budget plans.

The cost of buying new boats is unquestionably significant but for years it has been argued that submarines compare favourably with surface platforms with respect to their cost of ownership. The 1994 White Paper, for instance, stated that “submarines ... can be operated for roughly a third of the cost of a modern frigate.”<sup>9</sup> In an article in *Canadian Military Journal*, Commander Michael Craven argued that a non-nuclear submarine “costs some 30 percent less than a frigate or destroyer to keep at sea on a daily basis, in part the consequence of smaller crew and greater fuel economy.”<sup>10</sup>

How have these estimates compared to the actual experience operating the *Victoria*-class? In reality, the experience has not reflected the expected cost efficiencies. In 2007, DND’s 30 Costing Model showed that the estimated total cost of ownership for the *Victoria*-class, on an annual basis, worked out to roughly 90% of the cost of ownership for the navy’s entire surface fleet. More recently, the 2011/2012 version of the DND Cost Factors Manual shows that the full cost per sea day for the *Victoria*-class is equal

to 95% of the cost per sea day of a frigate.

Despite smaller crews and better mileage, the significant National Procurement (NP) funds spent on spare parts and maintenance have made the *Victoria*-class very expensive. Each of the boats consume more than twice the NP as the pre-modernization frigates, with the result that the navy has been spending roughly equal amounts of its NP on the frigates as the submarines.

Given the significant pressures on DND’s Operations and Maintenance budget, this is an important point to consider, all the more so because the significantly expanded attention paid to life-cycle costs by the central agencies in recent years, particularly in light of the Auditor General’s reports about helicopters and fighter jets. This has resulted in increased attention on full life-cycle costs. There is, however, a high degree of skepticism voiced by the government and the central agencies about DND’s estimates of the costs. While it is possible that a fleet of new boats might be as comparatively inexpensive to operate as expected in 1994, given the significantly higher than anticipated costs of owning and operating the *Victoria*-class, such claims will be evaluated with a healthy amount of cynicism.

Without a significant change in the fiscal picture at DND, a future sub-surface capability is unlikely due to the costs of acquiring submarines as well as operating them. If a future sub-surface capability is to be retained, efforts must begin immediately to convince the government about the value of retaining submarines even if this means increasing the naval budget. 🇨🇦

#### Notes

1. This column borrows from the author’s presentation of the same title to the 2014 NAC conference in October 2014.
2. Government of Canada, “National Defence and the Canadian Armed Forces,” 2014, available at [www.forces.gc.ca/en/business-defence-acquisition-guide/naval-systems.page](http://www.forces.gc.ca/en/business-defence-acquisition-guide/naval-systems.page).
3. See the articles by Michael Byers and Paul Mitchell in *Canadian Military Journal*, Vol. 14, No. 3 (2014).
4. See Government of Canada, “National Defence and the Canadian Armed Forces, Quarterly Financial Report for the Quarter Ended 30 September 2014,” available at [www.forces.gc.ca/en/about-reports-pubs-quarterly-financial/september-30-2014.page](http://www.forces.gc.ca/en/about-reports-pubs-quarterly-financial/september-30-2014.page).
5. Office of the Auditor General of Canada, “2013 Fall Report, Chapter 3.”
6. Peter T. Haydon, “The *Chicoutimi* Accident: Lessons Learned and Not Learned,” *Canadian Military Journal*, Vol. 6, No. 3 (Autumn 2005).
7. Department of National Defence, “Review of the Submarine Acquisition/Capability Life-Extension Program,” May 2003, Chief Review Services Report 7050-11-33 (CRS).
8. Mark Arena et al., “Why has the Cost of Navy Ships Risen?” Rand Corporation, National Defense Research Institute, 2006.
9. Government of Canada, 1994 White Paper, p. 47.
10. Commander Michael Craven, “A Rational Choice Revisited: Submarine Capability in a Transformational Era,” *Canadian Military Journal*, Vol. 7, No. 4 (Winter 2006-2007).

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# Warship Developments: Flexible Examples from Offshore

Doug Thomas

Modern warships and their ships' companies must be flexible – the instability of today's world *almost* makes one yearn for the 'good old days' of the Cold War! Perhaps there was something to be said for the balance of power or maybe the Cold War was just as chaotic but there was a lot less media reporting. The bottom line is that with instability, navies will inevitably be presented with surprises, and situations which require an immediate response without specific training and equipment to meet the challenge. Ships must be able to respond to a broad range of challenges. How can flexibility be incorporated into their design to help in delivering a suitable response?

Well-designed warships and their ships' companies are inherently flexible, which is one of the strengths that naval forces bring to the table. A high-readiness surface combatant or submarine with a fully worked-up ship's company is capable of sailing wherever in the world it is told to go and taking on any challenge within its capabilities.<sup>1</sup> A modern frigate or destroyer is self-sufficient, dependent only on re-supply of food, fuel and munitions as is any fighting unit. Compared to the army and the air force, this inherent flexibility is unique. One example that comes to mind is the Korean War, when three destroyers deployed from Esquimalt on 10 days' notice after North Korea invaded the South and Canada decided to join the UN action to help South Korea. Unlike the rapid naval response, the initial Canadian Army troop deployment took six months to arrive in Korea. Another example was the re-configuration of the squadron sent to the first Persian Gulf War in 1990 – again it was deployed at very short notice with many changes in weapons,

sensors, personnel with special qualifications, and added communications equipment to support a Task Group Commander operating in a high-threat, multinational theatre of operations.

Flexibility can be achieved by removing equipment and sensors for one role, such as anti-submarine warfare, and replacing them, and their operators and maintainers, with mine counter-measures or surface warfare operations equipment. A good example of this modularity is the MEKO (multi-purpose combination) concept developed by the German shipbuilder Blohm & Voss. The aim was to ease maintenance of equipment and reduce cost through removing a defective piece of equipment and replacing it rapidly with a repaired or modified version. This can be extended to having different types of equipment which can be exchanged – for example a surface-to-air missile launcher to replace an anti-submarine rocket launcher – and thus improve capability to respond to an air threat if the submarine threat has been reduced or eliminated in some manner.

Another means of achieving flexibility is the provision of extra accommodation space in a ship – or submarine – and filling previously empty space with team(s) to accomplish specific tasks. This could include a medical team being transported to a disaster area, a Special Forces team embarked to achieve some strategic objective, specialist boarding teams to conduct ship inspections, or junior sailors under training. The Royal Navy's Type 45 *Daring*-class guided-missile destroyers, which can accommodate 60 people in addition to their ships' company, are a good example.



Royal Navy destroyer HMS *Daring* (D 32) transits the Arabian Gulf as part of Combined Task Force 152, 16 April 2012.

Credit: USN Mass Communication Specialist  
3<sup>rd</sup> Class Nick C. Scott



The Littoral Combat Ship USS **Freedom** (LCS 1) underway conducting sea trials off the coast of southern California, 22 February 2013.

The US Navy's Littoral Combat Ship (LCS) is an example of both flexibility and modularity. The LCS is a fast, lightly-manned ship with 'packages' of equipment and people to operate them, in order to re-role the ship from an existing configuration to anti-surface, anti-submarine, or mine counter-measure roles. However, there have been problems with implementing the concept, including not purchasing an adequate number of mission modules (packages) to implement changing roles. As the LCS will probably be deployed abroad, support ships or bases will be needed to house the additional packages and their operators, further inflating costs. The utility and cost-effectiveness of the LCS over a modern frigate, or an offshore patrol vessel performing the same projected missions, is being questioned.

I suggest that a good example of flexibility is the Danish Navy's three *Iver Huitfeldt*-class area-air-defence frigates. These are large, lightly-manned but heavily-armed vessels with a great deal of flexibility built into their designs, including changing modular weapons to suit changing missions. They are fitted with the Mk 41 Vertical Launch System currently in Canada's *Iroquois*-class destroyer, and are capable of firing the point-defence Evolved Sea Sparrow Missile and the area-air-defence SM-III A. This mix of the two missiles would provide an excellent anti-air umbrella over a task group with one or more of these frigates in company. Among the features of this design is a bow thruster which is unusual in frigates but certainly a boon to ship-handling. The cost of this big seaworthy ship appears to be similar to that of the much smaller LCS, including combat system and mission packages. HDMS *Iver Huitfeldt* was recently in Halifax and impressed local observers with her capabilities. Perhaps this would make a good design for the new Canadian Surface Combatant project, planned to replace the *Iroquois*-class destroyers?

There is a lot to be said for space and volume in a ship's design. As I have indicated in previous columns about

aircraft carriers and large-deck amphibious ships, it is very desirable from a planning perspective to change out the embarked air group with helicopters and fixed-wing aircraft designed for a very different role. For example, combat aircraft could be replaced with large helicopters to evacuate casualties and resupply food and water to a disaster zone. The sheer space available to set up a hospital on the hangar deck of a large aircraft carrier or amphibious ship would be an invaluable asset in some scenarios. One of the USN *Nimitz*-class carriers was sent to Port au Prince at high speed after the Haitian earthquake in 2010, and was invaluable in many ways in the initial relief effort.



Royal Danish Navy frigate **Iver Huitfeldt** (F 361) during a port visit in Århus, Denmark, 20 January 2012.

## Conclusions

It does not cost a huge amount of money to design ships a little bigger than the minimum necessary to meet today's tasks. That space will certainly come in very handy over the long service lives expected from today's ships. It will help achieve flexibility to fit new equipment, train additional people, evacuate refugees and many other eventualities. Sometimes a longer ship (with more internal volume) also provides benefits such as a more hydro-dynamic hull which can provide efficiencies in fuel consumption and perhaps higher speeds with the same propulsion plant and fuel expenditure of a shorter vessel. Sometimes you do get something for (almost) nothing! 🍪

## Notes

1. A high-readiness vessel is a naval vessel with all of its equipment serviceable, ammunition embarked, and whose crew is trained to conduct all operations for which the vessel is designed.



# Human Capital and the National Shipbuilding Procurement Strategy

**Commander Ian Wood**

After a very successful National Shipbuilding Procurement Strategy (NSPS) workshop entitled “Charting the Course” held in June 2014, the Centre for Foreign Policy Studies (CFPS) at Dalhousie University undertook a second workshop. This workshop, “Human Capital and the NSPS,” was held on 14 November and looked at the personnel considerations behind the NSPS.

Unlike other workshops that have examined NSPS from the policy, process and industrial perspectives, this workshop examined the human elements. It focused in particular on the need by government and industry to develop the human capital necessary to build the ships and to address future warship crewing concepts. This workshop brought together representatives from industry, academia, the navy and government to discuss and share their perspectives on the potential challenges and issues concerning the human capital dimension of the NSPS.



*Commander Ian Wood (RCN) addresses workshop participants, 14 November 2014.*

There were two major elements under examination at the workshop. First was the human element necessary to build the ships. In addition to recapitalizing the navy, the NSPS is designed to eliminate the boom and bust cycles of shipbuilding that have been characteristic in Canada. And because we are coming out of a bust cycle, both the shipbuilding infrastructure and the personnel need to be rebuilt. Irving and Seaspan are well along the process of updating their facilities, but what about the human dimension? The workshop examined how to ensure that there is a trained workforce ready to go when steel is cut. Research on this issue suggests that there is significant risk associated with the personnel aspects of the NSPS, particularly given the planned shift to a long-term and virtually continuous building approach to national shipbuilding.

The second human capital element is the crewing of the new ships. Given that over 50% of the budgets of many navies and coast guards is consumed by personnel costs, it is vital that we take a comprehensive look at the people issues of the NSPS before we begin to cut steel on the new fleets. It is important to get the crew size right and to learn the lessons from the experience of others before the plans are finalized.

This one-day workshop tackled the issues in three panels. The panels were: Building: skills and labour regeneration in the shipbuilding sector in Canada; Crewing: new trends in the crewing of modern warships; and Sustaining: retaining the 30+ year shipbuilding workforce. The key takeaways from each of the panels are summarized below along with concluding observations.

In the first panel government officials, academics and defence/security training experts discussed how they could contribute to the development of the labour force necessary to build the ships listed in the NSPS. It was refreshing to see that there has been inter-stakeholder discussion on both the East and West Coasts about the human resources necessary to build the ships. However, it was also clear that there needs to be greater national dialogue in Canada about broader labour issues beyond the nascent regional collaboration. Key NSPS human capital issues that arose that require further investigation include enhancing labour mobility of skilled trades personnel within Canada, using temporary foreign workers to close the gap while developing a Canadian labour force, and revitalizing and expanding the worker base in the shipbuilding sector from its traditional demographic.

Given the fact that shipbuilding in Nova Scotia is also a core component of future economic development and prosperity for the province, there is a need for greater co-development of shipbuilding training initiatives among the various private, public and government stakeholders. Labour-focused governance structures will need to be defined in order to institutionalize these early examples of collaboration.

Clearly one of the main challenges will be to transform Canada's marine workforce from a ship-repair to a shipbuilding capacity by comparing Canadian industry best practices against those of global leaders in the shipbuilding industry. This will involve updating and/or expanding the training and design courses for the trades and professions

necessary to build ships. Some participants observed that many of Canada's training methods and systems are out of date, and industry must incorporate the advances in web-based training, distance learning and simulation.

The second panel brought together defence researchers from Canada, France and Germany to investigate how novel approaches to crewing might allow navies to generate their fleet capabilities more flexibly, leading to higher readiness at potentially lower cost. All presentations in this panel highlighted that in future warships crew size and skills composition must be looked at as key contributors to the operational effectiveness of naval platforms. Early research on optimized crewing focused too much on minimum manning and the effectiveness of this strategy is now being questioned. In the French and German cases the reduced manning levels were mandated by the government early in the design phase, but it has since been discovered that the reduced crews may have led to reduced effectiveness and endurance of the ships. After a period of trial, these navies had to increase the crews to achieve the mission capabilities for which the ships had been built.

The RCN has begun to take delivery of the ships coming out of the *Halifax*-class Modernization (HCM) program. This program will enhance and extend the viability of the *Halifax*-class frigates for decades. While the RCN waits for the next classes of ships to be delivered, it has a good opportunity to study the effects that the advanced automation and enhanced weapons systems in the HCM ships may offer in terms of future crewing strategies. In this panel RCN staff and defence research scientists explained how they have collaborated to ensure that modern research techniques have been incorporated into the crewing studies for the *Harry DeWolf*-class Arctic Offshore Patrol Ships.

The third panel looked at some of the long-term human capital issues that will affect the ability of industry and the government to meet the demands of the NSPS. Panelists described the challenges that they have faced while trying to bring the experienced workforce back into the shipbuilding sector from other parts of the country at the same time as they try to train the next generation of apprentices to fill in behind the experienced labour force as it ages. Some initiatives that are being considered include establishing shipbuilding apprenticeship agencies to support individuals as they proceed through their training, and more effective alignment of personnel training programs with labour market information to ensure that the correct type and number of apprentices are being generated. There was also discussion of the need

for Centres of Excellence in Shipbuilding and the importance of having qualified Canadians to fill all the jobs. It is clear that there will be many challenges ahead to build and retain the 30+ year workforce necessary to complete the shipbuilding envisaged in the NSPS.

Beyond the individual panel discussions some larger themes emerged during the day's activities. Many voiced the concern that they have not seen a clear indication of what is being done under the NSPS to avoid the traditional boom and bust cycle of Canadian naval procurement. Some of the participants observed that the NSPS has put in place a system that is more transparent and thus expectations may actually be higher now but much risk still lies in the fundamental uncertainty of political commitment and budgetary stability over the long term. Given the froth that has been seen in the media, there will need to be better management of expectations of all parties, including those of the public as the NSPS slowly proceeds.

Concerns also arose about the potential time gaps that might appear between the various project start-ups and the transition from one project to the next (AOPS to CSC in Nova Scotia and JSS to Canadian Coast Guard icebreaker in British Columbia). Getting these points of transition wrong will create a gap between projects and the kind of doubt that will prevent skilled people from leaving one employment situation for another in shipbuilding. As a result, it is critically important both for the success of the NSPS and for the employment prospects of people hoping for quality job opportunities in this industrial sector that the program be managed skillfully to avoid gaps and a return to the past situation of boom and bust. In the event of unforeseen political, economic or other negative developments, it is essential that 'bridging' plans be developed that mitigate the detrimental effects and continue the progress toward the strategic goal of developing the national industrial base.

Federal government announcements to date have claimed that an estimated 15,000 jobs and \$2 billion of economic activity are expected to be generated annually through the NSPS. The new Defence Procurement Strategy lists three important objectives: (1) ensuring Canadians in uniform get the equipment they need at the right price for taxpayers; (2) streamlining defence procurement processes; and (3) leveraging the purchase of defence equipment to create domestic jobs and growth. These goals are lofty so we will need to continue to monitor carefully the progress of the programs to see them through to fruition. The Centre for Foreign Policy Studies looks forward to playing a leading role in the continued analysis of the NSPS. 🍷



# Book Reviews

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*One Day in August: The Untold Story Behind Canada's Tragedy at Dieppe*, by David O'Keefe, Toronto: Random House Canada, 2013, 457 pages, \$35.00 (hardcover)

Reviewed by Colonel (Ret'd) Brian K. Wentzell

David O'Keefe has written an eye-opening book about the 19 August 1942 raid on Dieppe, France. The reasons for the raid have never been clear. The disastrous results, however, are well known to the Canadian and British sailors, soldiers and air force personnel who took part in the operation and the relatives of those who were wounded, taken prisoner or died.

O'Keefe, a historian and one-time Canadian Army reservist, has dedicated much of his working life to researching the wartime files of the United Kingdom and Canada as they were declassified. His painstaking work has proven fruitful and we are all the better for it. The stories that the Dieppe raid was a trial run for *Operation Overlord* in 1944 or intended to placate Soviet leader Josef Stalin's complaints about the lack of a western front in Europe have now been cast to the rubbish bin.

The justification for mounting the Dieppe raid is based on the desperate British need to gather useful intelligence about German military intentions and operations. The British had enjoyed good success at intercepting and decrypting German military communications until February 1942. Through the skillful 'pinching' of German Enigma machines, cipher codebooks and other material from captured ships, U-boats and German facilities on Norwegian islands, the British intelligence staff at Bletchley Park was able to keep Prime Minister Winston Churchill and military leaders apprised of German intentions and movements until the Germans changed the game. Admiral Karl Donitz, suspecting the British had cracked German ciphers, mandated the implementation of the new four wheel Enigma machine throughout his U-boat fleet from 1 February 1942. Immediately, the British, Canadians and Americans lost track of the U-boats and this continued to be the case throughout 1942 with disastrous losses of merchant ships in the Atlantic Ocean. Once again Great Britain was in peril.

The story of British attempts to rectify the situation is worthy of a James Bond thriller – and in fact Commander Ian Fleming, RNVR, was a key player. He was the right-hand man of Rear Admiral John Godfrey, the Director of Naval Intelligence. Both participated in the development

of plans by the Combined Operations Headquarters under the command of Lord Louis Mountbatten. These plans included raiding German coastal facilities in Norway, along the western coast of Europe and more particularly France.

To keep the Germans in the dark about the real purpose of the raids – the German communications equipment and cipher books – the raids were embellished to accomplish some other purpose. Thus, Dieppe was designed to capture the latest Enigma machine along with relevant codebooks while appearing to be an effort to test the German defences of a strongly fortified port.

The landing force of the Second Canadian Division, under command of Major-General John Hamilton ('Ham') Roberts, was augmented by Royal Marine Commandos, which included a snatch group known as the Intelligence Assault Unit. The division went ashore that morning without the assaulting units fully understanding their real mission. The results of the battle are well known but the controversies surrounding its futile results and heavy casualties have remained unresolved until now.

For many participants, such as Private Ron Beal of the Royal Regiment of Canada, the real reason for the conduct of the raid has finally provided some relief from the life-long agonizing over the question of why the raid was undertaken. He told the author in 2012, "[n]ow I can die in peace. Now I know what my friends died for." And now we all know what our soldiers died for. This book is a must read for all Canadians who have pondered the purpose of the Dieppe raid. 🍷

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*Congo: The Miserable Expeditions and Dreadful Death of Lt. Emory Taunt, USN*, by Andrew C.A. Jampoler, Annapolis, Maryland: US Naval Institute Press, 2013, 256 pages, index, references, ISBN 978-1-61251-270-9

Reviewed by Ann Griffiths

This book examines the US attempt to create a presence in Africa in the late 1800s. By the time the United States became interested in the continent, it had already been more or less carved up into colonies by the European powers. The Americans, ever eager to spread capitalism and make money, sought to find possibilities for trade with the area.

The author uses Lieutenant Emory Taunt, USN – a real person, not a fictional one – to tell the larger story of American interests in Africa. Taunt was sent to the area three times between 1885-1891, two while he was with the navy and the final time as a representative of the US

government (before he was fired). On his first trip he was left alone (with local porters, of course) to explore up the Congo River. This was not an easy assignment, the climate was difficult, the locals were (unsurprisingly) not friendly and casualties from tropical diseases were very high – more than 50% of Europeans who visited the area got sick and/or died.

Lieutenant Taunt seems not to have been the most promising member of the USN. He apparently had a problem with ‘the drink.’ At the time, it was thought that the best defence against tropical disease was good French wine (apparently *bad* French wine was not effective!), and Taunt embraced this. His job in Africa ended when he disappeared from his post, saying he was sick, and showed up weeks later in Europe, probably reeking of alcohol. This was not a one-time occurrence as he disappeared on a drinking binge when he was back in the United States and assigned to a new ship.

In the late 1800s, there was a lot of interest in the Congo. Henry Morgan Stanley had recently completed his explorations and Joseph Conrad, who had spent time as captain of a boat on the Congo River, wrote *Heart of Darkness* based on his experiences there. There was a fascination with Africa. The vast Congo River was seen as an entry to the innards of the continent. But it was a difficult entrance. The final stages of the river before it enters the Atlantic Ocean are dangerous – steep and protracted falls and fast rapids – and no easy way to access the river beyond this. At the time of Taunt’s expeditions, it was a matter of hiring locals to carry all the material around the obstacles, a tortuous process that led to the death of many porters who were worked hard, badly paid and badly fed.

This book is both educational and enjoyable. It will be a delight to anyone interested in the history of US interaction in Africa, or Africa in general at this time. It is full of historical details. The author is a master of finding documents such as diaries, cables and letters, and adding in interesting facts and figures such as the price of ivory at the time, the cost of a ship, the other owners of a ship, other officers present at a meeting, etc. Indeed, there may be a few too many details. The reader could spend a lifetime exploring all the interesting avenues that are noted in passing by the author.

Perhaps the most interesting part of the book for me was the Epilogue in which the author describes how he and his son went to Africa to experience the travels of Lieutenant Taunt on the Congo River in what is now the Republic of Congo (Brazzaville) and the Democratic Republic of Congo (Kinshasa). As the author points out, time has passed but the boats are similar and the area is still

dangerous as conflict and sickness continue to plague the region as they did when Taunt traveled the route.

Although I liked the book immensely, I have two small complaints. First, it would have been nice to have a detailed map. There are two historic maps on the inside covers of the book and some other small-scale maps of settlements and the river, but only one half-page map that puts the areas discussed in the book in context of the continent. Second, I think the title of the book is misleading. I picked this book to review because I liked the title – who could resist finding out about miserable expeditions and dreadful deaths? But Taunt’s death at age 39 of a fever contracted while in Africa gets barely a page of discussion – not the ‘dreadful death’ I expected to hear about. Indeed, the story of Taunt’s life seems somewhat marginal to the story of Africa and US and Belgian interests in the Congo. Jampoler spends almost as much time, for example, talking about King Leopold of Belgium and the creation of the Congo Free State, a terrible story of which the Belgians are justifiably not proud, as he does about Taunt. This is not a major problem – it’s a problem not of content but of labeling – and otherwise this is a very enjoyable book. 🍷

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*Perseverance: The Canadian Sea King Story*, by John L. Orr, Halifax, 2013, \$20, available from the Shearwater Aviation Museum

Reviewed by Vice Admiral (Ret’d) Duncan Miller

This book is a must read for all those who have had anything to do with the Sea King helicopter – pilots, navigators, technicians, sensor operators, maintainers, politicians and seafarers. It is a fitting tribute to the men and women who operate, maintain and cherish the Canadian Sea King helicopter. John Orr has done a superb job in researching 50 years of Sea King operations in the Royal Canadian Navy, Canadian Armed Forces and the Royal Canadian Air Force. He interviewed over 70 members of the Sea King community and has amassed a 10-page bibliography. The Glossary really assists in the terminology and acronym definitions so the general public can also enjoy this tale.

A former Sea King guy, Lieutenant-General Angus Watt (Ret’d) has written a fabulous Foreword and a great tribute to Orr who, as Watt put it, has obviously done his homework. As Lieutenant-General Watt notes, “[t]hroughout John Orr enlivens the story with fascinating, little known anecdotes including the fact that the genesis of the famous ‘Beartrap’ device was based on a concept by Commander John Frank in Naval Headquarters who put



together a prototype using his son's Meccano set."

The book is organized into four main sections. Part One sets the scene with the selection process and conceptual development of the crazy Canadian idea for operating a rather large aircraft from a relatively small platform. Part Two discusses the early years of operational development from 1963 to 1970. It includes the Canadian aircraft carrier history and eventual demise following the farewell to HMCS *Bonaventure* – Canada's last carrier. Part Three traces the Cold War period from 1970-1990. This section also includes the details of the Sea King Improvement Program and the to and fro command aspects which went from navy to air force and vice versa.

Part Four provides a great account of the flexibility of the aircraft during challenging non-traditional roles from the Gulf War in 1990 to the humanitarian efforts in Haiti, East Timor and beyond. After all, the Sea King was developed as an anti-submarine warfare aircraft and there were no submarines in the Arabian Gulf!

Orr has intertwined some fascinating and hair-raising stories of the Sea King's operations under hellish circumstances. He recounts numerous search and rescue events involving the Sea King and its crews. He does them justice and aptly describes some incredibly heroic deeds – very few rescues are carried out in calm seas, no wind and sunny skies.

None of the operations would be possible without first-class maintenance crews, and they are quite rightly honoured in the book. Orr pulls no punches when it comes to the maintenance philosophies over the years – it is worth the read and chuckle for this aspect alone. If you have never been to sea before and find yourself aboard a ship as a flyer you will have to read Appendix F "Have you ever been to sea Zoomie?" It is a hilarious account of being in a different world and surviving.

Written to commemorate and celebrate the 50<sup>th</sup> Anniversary of Sea King operations in the Royal Canadian Navy John Orr has fittingly dedicated the book to the memory of 10 crew members who lost their lives in the performance of their duties with the Sea King. He has indeed produced a definitive history and lively discussion for the Sea King community. It is definitely not just another boring history. It is a masterpiece and a huge and fitting tribute to the aircraft and the Sea King community.

Now if we can only get every Member of Parliament to read it we might get a replacement aircraft before celebrating the Sea King's 60<sup>th</sup> anniversary. Well done John – a great book – and a true story of perseverance. 🍷

*Command Decisions: Langsdorff and the Battle of the River Plate*, by David Miller, Barnsley, South Yorkshire, UK: Pen and Sword Publishing, 2013, 189 pages, illustrations, maps, ISBN 978-1-84884-490-2

Reviewed by Major Chris Buckham

Images of the German Panzerschiff *Graf Spee* scuttled in the River Plate estuary outside the Uruguayan port of Montevideo are some of the most well-known photographs of the Second World War. Debate has raged ever since about the decision-making process that led the highly respected and competent Captain of the *Graf Spee*, Kapitän-zur-See Hans Wilhelm Langsdorff, to reach the conclusion that scuttling his ship was the only honourable course of action available to him. David Miller has undertaken to shed light on the ship, the man and the factors that influenced his decision and, in doing so, provide insight into Langsdorff's decision.

Starting out by providing historical context to the tradition of independent surface raiders as a doctrinal concept in the German Navy, Miller creates for the reader a sense of the degree of independence afforded to these Captains in the execution of their duties. Also, he provides a clear indication of the difficulty in strategic communications in the days before radar and adequate radio systems.

Following this, Miller looks at the design features of the Panzerschiff (armoured ship) of the *Deutschland*-class warship. Much has been written about the capabilities of these ships and the ingenuity of the design falling within the 10,000 ton limit set by the Versailles Treaty. While much of this is true, this class of ship also had significant shortfalls including armour, hull design, galley location and command and control structures that made themselves readily apparent only after *Graf Spee* was well into her operational cruise to the south.

The central focus of the book is a detailed study of Langsdorff the officer and career navy man, and a very comprehensive synopsis of *Graf Spee*'s first operational cruise culminating in the Battle of the River Plate. This is critical as the author not only provides an excellent summary of the significant events of the cruise and battle but also an evaluation of Langsdorff's actions within the context of these activities. What information was he provided/have access to? What were the misinformation activities of the British and how successful were they? How did international law and the role of neutral countries affect his freedom of action? How effective was the support and direction given to him by the Reichsmarine? How did the damage to the ship and crew casualties affect decision making? What was his frame of mind and how was he

affected by injuries sustained during the battle? All of these questions are reviewed and answered in a balanced and even-handed manner utilizing an in-depth review of primary source material.

The author does not passively summarize information that he has gleaned from available source material. Each section is analysed with a view towards understanding why Langsdorff made the decisions that he did. This is the primary strength of the book and readers can easily follow the logic the author applies to reach his conclusions.

This is a fascinating study into this famous battle. Without doubt, the decision to scuttle one's ship has to be the loneliest and most difficult decision that a Captain may have to make. Why an officer, with the sterling reputation and obvious capability of Langsdorff, would take such a step is a question only he can answer with any degree of clarity. However, Miller has done a noteworthy job of shedding light upon the ship, crew, Captain, battle and environment that influenced the final fate of the *Graf Spee*. This is a book well worth reading. 🍷

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*Bismarck: The Final Days of Germany's Greatest Battleship*, by Niklas Zetterling and Michael Tاملندر, Philadelphia: Casemate, 2009, 320 pages, \$16.95 USD (softcover), ISBN 978-1-61200-075-6

#### Reviewed Colonel P.J. Williams

When it comes to military history, there are certain subjects about which a new book seemingly comes out regularly: Lawrence of Arabia, the Battle of Midway, the combined bomber offensive in the Second World War come to mind. Then there is Bismarck, and lest one think that studies of the 19<sup>th</sup> century German leader come out each year, here I am referring to the pride of the German Navy in World War 2, a battleship named for the 'Iron Chancellor.' This *Bismarck*, which on its first, only and ultimately fatal cruise wartime cruise, captured the world's attention. In particular the ship captured the attention of Britain's wartime Prime Minister Winston Churchill who, after a spate of bad news in spring 1941, particularly in the Mediterranean and in North Africa, directed that she<sup>1</sup> be pursued and sunk at all costs.

We all know the outcome of the chase of *Bismarck* in May 1941, and despite the passing of over seven decades, this single episode in the Battle of the Atlantic still manages to capture the imagination of readers worldwide. Indeed, one of the reviews on the back cover promises that this book is a "fresh look at the life and death of the most famous German warship of World War II." Having read

other available accounts<sup>2</sup> of this famous naval battle (indeed, this reviewer has not been immune to the strong pull which this action still exerts), I was intrigued by the potential to learn something new about these event, and so eagerly took up reading it.

As most readers of *Canadian Naval Review* are no doubt familiar with the events covered in this book, I won't repeat them here. Suffice it to say that the authors do a good job describing the events leading to the construction of *Bismarck*, and describing the events and decisions which led to her deployment as a commerce raider and how the Royal Navy in particular responded to this threat.

I am always interested on the background of the authors, but the book provides no details on this, though a Google search reveals that both Zetterling and Tاملندر together and separately have written several books on various aspects of Second World War German military history. The book is well illustrated with photos, charts and tables depicting silhouettes of the opposing German and British forces, the latter of which included HMCSs *Assiniboine* and *Saugenay*, though it appears they did not take direct part in the pursuit of *Bismarck*. There is no Bibliography, but the Notes section is detailed and includes, inter alia, the war diaries of many of the German combatants, although the authors rely heavily it seems to me on other works on the topic.

I would not claim that this book represents entirely new scholarship and doubtless many will take issue with the authors' contention that *Bismarck* was actually scuttled by her crew (and not by Allied action), as well as their claim that HMS *Hood*, which *Bismarck* sank, was not lost due to plunging fire which penetrated her poorly designed and therefore vulnerable decks as has been long claimed. Nevertheless, this work is a useful and somewhat thought-provoking account of one of maritime history's legendary actions. 🍷

#### Notes

1. Interestingly *Bismarck*'s Captain, Hans Lindemann, stated that such a warship could only be referred to as 'He.'
2. For example, *Pursuit: The Chase and the Sinking of Bismarck*, by Ludovic Kennedy (New York: Viking Press, 1974). Kennedy was a Royal Navy officer aboard HMS *Tartar* during the pursuit of *Bismarck* and witnessed the final stages of the battle; and *Battleship Bismarck: A Survivor's Story*, by Baron Burkhard von Müllenheim-Rechberg (Annapolis: Naval Institute Press, 1980). The baron was a gunnery officer aboard *Bismarck* during her final voyage and was the senior survivor at the time of her sinking.

#### *Have you joined the discussion yet?*

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# The Winner of the 2014 Essay Competition



Credit: Doug Thomas

Doug Thomas, Executive Director of the Canadian Naval Memorial Trust and Past-President of the Nova Scotia Naval Association, is shown presenting the first prize cheque for \$1,000 to Lt (N) Jonathan Douglas, RCN, at the NAC AGM Awards Ceremony on Friday, 3 October 2014 in Ottawa. Jonathan won the CNMT/Oland Essay Competition for his entry titled "Beyond Counter-Terrorism: The RCN and Canadian Interests in the Indian Ocean," which was published in Vol. 10, No. 2 of *CNR*.

## Announcing the 2015 Canadian Naval Memorial Trust Essay Competition

The *Canadian Naval Review* will be holding its annual essay competition, again in 2015. There will be a prize of \$1,000 for the best essay, provided by the **Canadian Naval Memorial Trust**. The winning essay will be published in *CNR*. (Other non-winning essays will also be considered for publication, subject to editorial review.)

Essays submitted to the contest should relate to the following topics:

- Canadian maritime security;
- Canadian naval policy;
- Canadian naval issues;
- Canadian naval operations;
- History/historical operations of the Canadian Navy;
- Global maritime issues (such as piracy, smuggling, fishing, environment);
- Canadian oceans policy and issues;
- Arctic maritime issues;
- Maritime transport and shipping.

If you have any questions about a particular topic, contact [naval.review@dal.ca](mailto:naval.review@dal.ca).

### Contest Guidelines and Judging

- Submissions for the 2015 *CNR* essay competition must be received at [naval.review@dal.ca](mailto:naval.review@dal.ca) by Monday, **22 June 2015**.
- Submissions are not to exceed 3,000 words. Longer submissions will be penalized in the adjudication process.
- Submissions cannot have been published elsewhere.
- All submissions must be in electronic format and any accompanying photographs, images, or other graphics and tables must also be included as a separate file.

The essays will be assessed by a panel of judges on the basis of a number of criteria including readability, breadth, importance, accessibility and relevance. The decision of the judges is final. All authors will be notified of the judges' decision within two months of the submission deadline.



US Army Vessel (USAV) Theater Support Vessel (TSV-1X) *Spearhead* is shown arriving at a port within the Central Command Area of Responsibility, 27 January 2003. The 98-metre wave-piercing catamaran had an average speed of 40+ knots and was used on missions which took advantage of its speed and flexibility when transporting troops and cargo. The *Spearhead* was forward-deployed in support of *Operation Enduring Freedom*. The vessel is now in civilian service.

Credit: USN Photographer's Mate 1<sup>st</sup> Class Shawn Eklund