

Canada-US Defence Relations and the CSC: A Ship Too Far?

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Credit: BAE Systems Maritime

The forward and aft halves of HMS Glasgow, the first UK Type 26 frigate which forms the basis of the Canadian Surface Combatant, come together on 1 May 2021.

The selection of Lockheed Martin Canada's (LMC) variant of the BAE Type 26 frigate as the winner in the lengthy competition governing the construction of the Canadian Surface Combatant (CSC) marked the culmination of a long process aimed at bringing the Royal Canadian Navy (RCN) into the forefront of cutting-edge naval technologies. Official statements have claimed that the CSC will be much more than a traditional warship. It has been described both as a 'digital ship' and as a 'node in a system of systems.' Its capabilities are expected to ensure that it will be a 'future-proofed' platform composed of systems that are software-enabled and readily upgradable to include the latest technologies as these are developed and become available.

This conception flows naturally enough from Canada's extensive experience of working with US naval forces (and frequently others, too) on an interoperable basis. But it goes beyond simple interoperability with key allies and coalition partners to include full 'integration' with

Canada's chief naval ally, the United States. Hence, the CSC was also designed to incorporate the US-developed Cooperative Engagement Capability (CEC) with its elaborately integrated sensors, radar systems, data sharing and distribution equipment, and associated weapons systems.

Proceeding with the current CSC design, however, could pose unpalatable, albeit not yet clearly identified, problems for the leaders of either or both countries. The principal purpose of the discussion that follows is to draw attention to what some of these problems might look like. Space limitations have prevented us from offering as fully elaborated an account as we would like. Unavoidably, therefore, our treatment is incomplete and is not intended to provide a detailed review of the long history of Canada-US naval interoperability. We have been compelled instead to be very selective in choosing the issues we have addressed.¹

It should be observed in any case that we are dealing with an uncertain and highly fluid set of circumstances.

It follows that many of our observations are unavoidably speculative. Ottawa, for example, has not yet approved a final ship design, and even the first of the ships to be launched may not be ready for operational service until well into the 2030s. Between now and then governments may change, priorities may be altered, and the geo-strategic environment may be transformed. The overall result could include fundamental changes in Canada's relations with its most important allies, the United States included.

The significance of this broad caveat is compounded by exogenous factors. The challenges posed on both sides of the border by the Covid-19 pandemic and the drain on public financial resources that has ensued are prominent among them.

With these caveats in mind, we begin with a brief summary of the current thinking behind the CSC (and CEC) proposals, along with the practical difficulties they could trigger. We will then consider some of the more general, and perhaps more obviously 'political,' manifestations of the problems at issue.

In the technical context, Canadian naval planners have for some time envisaged linking CEC equipment to the CSC's digital capabilities as a means of taking "interoperability to the next level," thereby "enabling systems integration both with other Canadian Armed Forces capabilities and our closest allies."² Their ambition reflects the American conception of the CEC as "a sensor network with integrated fire control capability that is intended to significantly improve battle force air and missile defence capabilities by combining data from multiple battle force search sensors on CEC-equipped units into a single, real-time, composite track picture."³

Even if they were to function as intended, the systems at issue could have a major impact on battlefield reaction times as well as on substantive rules of engagement (ROE). These in turn could have significant implications for the combatants, although they might vary with each of the naval forces involved. The procurement of the requisite technical gadgetry, moreover, could raise intricate issues related to 'burden-sharing,' American supply chain regulations, ballistic missile defence, and the like. While we do not have the space to treat such complicated technical matters in detail here, we will nonetheless return briefly to some of them below. In the meantime, we will consider some of the wide-ranging political issues that could also arise.

It may be useful to begin by reminding ourselves that the international distribution of power has profoundly changed, and is continuing to change, in the modern world. The relative capacities and degrees of influence at



The AN/USG-2 antenna used to transmit data as part of the Cooperative Engagement Capability can be seen in this 9 March 2021 photo of HMAS Hobart's mast, taken during Exercise Tasman Shield 21 off Australia's east coast. The antennas are the two rectangular planar arrays in the centre (two more arrays face aft to ensure 360 degree coverage).

the disposal of many countries have been altered as a result. Most notably, although by no means uniquely, the period of American dominance has been showing signs of decline, while the corresponding implications of the rise of China are everywhere becoming more evident. Not surprisingly, Americans are among those who are most worried by these developments, although some observers, even in the United States, think the case for this is overstated, and that the evolutionary process may take considerably longer than the pessimists expect. As opposed to those governed by more parochial preoccupations, the desire of 'establishment' Americans to restore and preserve their ability to influence the course of world affairs irrespective of the growing strengths of their rivals is a substantial driver of their position.⁴

The potential difficulty for Canada here is that it lacks the resources it would need in order to catch up with the force levels the Americans can mobilize. Even the two countries (Australia and Japan) that so far have decided to follow the American example are likely to discover that the security imperatives of their own areas will lead them in practice to focus most of their attention on fronts close to home. Their security aspirations could be constrained in response to other pressures as well.⁵ In some situations Canada could have a little freedom of manoeuvre, but its capacity to contribute meaningfully to American-led undertakings might not be nearly sufficient to impress decision-makers in Washington. The marginal contributions of marginal players, after all, are commonly regarded by greater powers as no more than marginally (or, at best, symbolically) useful. They can sometimes help a little, but in themselves they almost never determine outcomes.

In these circumstances, American forces may see little advantage in ‘integrating’ Canadian naval operations too completely with their own, especially if such arrangements entailed the sharing of military technologies, intelligence information, digitally controlled weaponry, and the rest of the naval apparatus the United States envisages as central components of the very elaborately constructed CSCs the Canadian Navy has in mind. To the extent that the US Navy was willing in principle to operate in fully integrated style, it seems likely even then that it would be reluctant to share command functions and responsibilities with lesser players. The USN might be more inclined instead to see this as requiring ‘too much give’ for ‘too little return.’ It would almost certainly prefer to be in charge itself while leaving less militarily capable elements, Canadian ones included, to support American missions by doing no more than automatically following American orders. Certainly it would seem unlikely that following orders divined independently by Canadians is what the USN would find appealing.

Canadian and American purposes, in short, might not always mesh very well together in the changed international environment. The two countries have frequently been divided in the past, as over Cuba or the war in Vietnam, for example, or even over strategy in Korea. They have recently disagreed with the United States over policy on Iran, with Canada supporting the Europeans, and there seem to be major differences, on a variety of dimensions, over how best to respond to the challenges posed by China. This may turn out to be as true under the Joe Biden administration as it was under his diplomatically uncultivated predecessor, since the Americans are determined

to keep Chinese ambitions firmly in check while Canada and other allies are more wedded to compromise policies reflected in postures of give-and-take. In these circumstances the United States would almost certainly want to act on its own rather than adapting to the inconvenient preferences of marginal players in pursuit of more modest objectives.

Differences of this sort, moreover, could easily arise much more frequently than the well-intentioned might expect, as the initiatives being conceived by the newly assembled White House even at this time of writing (early March 2021) might suggest. President Biden’s refreshing support for multilateral institutionalism is certainly welcome, not least of all by Canadians strongly attached to multilateral approaches. But a close reading of the President’s comments indicates that he expects his policies will actually have the effect of increasing American influence by drawing allies more fully under the American wing. This tendency may be perfectly understandable in the US context, but it may not seem to be entirely free of potentially irritating hazards when viewed from the allied vantage point.⁶

Canadian attitudes on international affairs more generally could also be a recurring source of policy disagreements between the two capitals. For a variety of reasons rooted in past practice and long experience, as well as in the modesty of the aspirations Canada can reasonably pursue with its limited capabilities, Canada is attracted to multilateral agencies as vehicles for diplomatic initiatives and to negotiation as the best approach in most cases for



Credit: Lockheed Martin

A screenshot taken from a promotional video for the Canadian Surface Combatant shows it sailing ahead of an American carrier strike group. The Cooperative Engagement Capability would allow raw radar data to be shared across all units equipped with CEC.



A graphic illustrating a 2016 test of Naval Integrated Fire Control - Counter Air (NIFC-CA), whereby an F-35B Joint Strike Fighter sent targeting data to a land-based SM-6 Standard Missile launcher to maximize the missile's range. CEC is an enabler of NIFC-CA

resolving or containing international differences. Washington, by contrast, is quicker to respond to conflicts by relying on the use of military instruments of persuasion. The United States usually has bigger fish to fry and feels it has wider interests to maintain, and it can pursue its objectives with massive resources at its disposal should it decide such deployments are warranted by the importance of the mission.⁷

The Canadian orientation has other origins, too, and not all of them would be universally regarded with favour. The most obvious of them, and in recent decades the most persistent of them, is a deeply rooted scepticism about the value of assigning significant financial resources to the military enterprise, whether at sea, in the air, or on the ground. Major conflicts sometimes generate a more positive response, but in the short term token responses are more common. Prolonged procurement delays, as in the case of the CSCs and in the lengthy stumbling over the replacement of fighter aircraft, have been the most frequent result.

The reluctance of the Canadian government to invest promptly and heavily in expensive new equipment is buttressed by the view that such expenditures would have no more than a modest impact on Canada's real military capabilities, while at the same time depriving the country of important assets that voters and politicians alike value more. Canadian economizing on military expenditures is not, of course, a welcome spectacle for American

policy-makers to encounter any more than are similar displays by other allies. One of the common consequences has been a recurring American complaint to the effect that allies have not been willing to carry their full share of the defence burden. The greatly increased cost of the digitalized CSCs and their CEC equipment relative to that of earlier Canadian naval vessels will further aggravate this problem and add to the disappointment of naval officers who have been hoping to be supplied in the end with the best that money can buy. A certain irony thus lurks in the possibility that the enthusiastic support of Canadian naval planners for acquiring the most advanced gear that even the Americans can hope to contemplate will in the end prove so costly by Canadian standards that it forces them to lower their procurement aspirations. The effect could be to deprive them of precisely what they need to make their participation in US-led maritime operations acceptable south of the border. Seeking to earn diplomatic credit from a superpower that asks over and over again "What have you done for us lately?" becomes a perpetually futile endeavour.

There have been suggestions, nonetheless, that the CSC-CEC equipment combination, and especially the highly sophisticated and very expensive radar units it is intended to include, might make it possible for Canada to join with the Americans in fielding a ballistic missile defence (BMD) capability. But even if the United States were to favour this kind of cooperative initiative, it seems probable from past experience that Canadian defence decision-makers, along



Credit: Mass Communication Specialist 3rd Class Terrence Deleon Guerrero

The *Nimitz*-class aircraft carrier USS *Theodore Roosevelt* and amphibious assault ship USS *Makin Island* lead their escorts through the South China Sea on 9 April 2021.

with most politicians and the public, would vigorously oppose Canada's participation on the ground that the missiles could have destabilizing effects.⁸ Moreover, from a strictly naval standpoint, both Japan and the United States may have cause to question whether using scarce and expensive warships for continuous BMD picket duty is the most practical or cost-effective use of these assets.⁹

From the operational point of view, moreover, we have already indicated that some analysts are concerned that working too closely with the Americans in exploiting a thoroughly integrated CSC-CEC set of systems could greatly complicate the process of agreeing on the substance and enforcement of ROE. A key purpose of the CEC is to leverage the combined sensor capabilities of a battle fleet in order to improve the pace of decision-reaction responses. Having more time to react certainly makes eminent sense for a US naval battle group. Happily for the Americans, the realities of complex littoral operations, when combined with improved weapons systems such as hypersonic missiles, make reaction times nearly instantaneous using CEC capabilities.

For Ottawa, by contrast, the overriding issue is usually less about technical efficiencies of this sort and more about satisfying the pertinent politics. States like Canada handle the need for speed in operational settings by carefully formulating in advance of deployment the ROE that are to govern the actions of Canadian commanders in various circumstances. One obvious ROE example covers situations in which ship captains are granted permission to fire their weapons in self-defence if attacked by an adversary. But Department of National Defence (DND) Headquarters and politicians in Ottawa cannot foresee

every situation that is likely to occur in the heat of a confrontation halfway around the world. Advance intelligence and related tactical information are thus crucial to the formulation of appropriate ROE.¹⁰

The history of US-led naval coalitions, however, has demonstrated that a Catch-22 principle is often at work. Coalition naval partners, Canada included, will not commit in advance to full-range ROE when US restrictions on the distribution of vital information and intelligence deny them access to the intent, and possibly the full scope, of an American-led mission. In return, the United States itself is likely to be reluctant to accept, trust and cooperate with maritime coalition partners that are not wholly committed to the enterprise it has in mind.

Put simply, the advanced capabilities of the CSC pose the question of whose 'net,' 'node' or other decision-making 'system' will be calling the shots under the integrated future envisaged for the CSC ships by Canadian planners. Such capabilities also raise the issue of whether the new CEC systems in practice would be too automated to permit timely overrides by Canadian commanders. As Paul Mitchell observed in 2003, "if the Canadian experience indicates that coalition network-centric operations are possible, it also indicates that the price of admission will remain very high. In a dynamic coalition environment, professional trust will be critical, and the height of the bar will be set by both technology and policy. Because of the crippling effect of slower networks or nonnetworked ships in such a setting, information releasability issues may be a stimulus to American unilateralism."¹¹

In the case, moreover, of low-intensity 'gray zone' maritime operations, like those undertaken by Russia in Crimea



HMCS *Toronto* (front) and vessels from other NATO partners sail in formation during Exercise *Sea Breeze 19* in the Black Sea on 11 July 2019.

and China in the South China Sea, we suspect that Ottawa will prefer its traditional recourse to non-military international and multilateral diplomacy to the more dynamic ‘escalation dominance’ and ‘coercive gradualism’ tactics currently advocated in US naval circles. The latest US strategic roadmap for tri-service maritime operations abroad features a much more confrontational approach to maintaining the rule of law at sea than we believe Ottawa would endorse.¹²

In all these cases, and in others certain to emerge, Canadians politicians are likely to face political conflicts that the Americans (absent Donald Trump) can more easily contain. The Liberal Party will have some reservations about a sophisticated CSC-CEC arrangement that would fully integrate Canadian and American operations. The New Democratic Party would hold similar views even more strongly, as would the Bloc Québécois. The Conservatives are harder to predict. They might not object to the policy as a security-promoting arrangement or even as an American-dominated enterprise but they might strongly resist paying so hefty a bill as the one that would accrue to the 15-ship array of CEC-equipped CSCs upon which a fully integrated system would depend.¹³

Some observers might regard the foregoing discussion as overly negative, and it may be just that. But it is also possible that the concerns we have expressed are sufficiently worrying to warrant careful second thought by Canadian politicians and naval planners alike.

In effect, the ships and hardware Canada’s planners currently want could turn out to be ‘ships too far.’ 🇨🇦

Notes

1. For those seeking a useful overview of naval interoperability as informed by past practices, see Joel J. Sokolsky, “Sailing in Concert: The Politics and Strategy of Canada-US Naval Interoperability,” *Choices*, Vol. 8, No. 2, Institute for Research on Public Policy, April 2002.
2. For an interesting overview of what the RCN is planning for the Canadian Surface Combatant (CSC), see, “Designing the Navy’s Future Ships,” featuring Rear-Admiral Casper Donovan, Director General Future Ship Capability, explaining the many ideas and factors currently shaping the design of the CSC. Canadian Global Affairs Institute, “Defence Deconstructed” series, podcast interview by Dave Perry with Rear-Admiral C.P. Donovan, 16 October 2020.

3. As defined by the US Department of Defense, the pertinent hardware includes “[a] Cooperative Engagement Processor, which collects and fuses radar data, and a Data Distribution System, which exchanges” this data. US Department of Defense, Director, Defense Operational Test and Evaluation, “Ship Self-Defense,” Fiscal Year 2011 Annual Report, pp. 171-173.
4. For one of President Biden’s many public disquisitions on this subject, see his White House Address, “America is Back,” 4 February 2021.
5. See the revealing discussion of the Australian case in Marcus Hellyer, “Does the Royal Australian Navy need Tomahawk Missiles?” *The Strategist*, Australian Strategic Policy Institute, 16 February 2021.
6. See, David Carment and Dani Belo, “The Next Chapter in ‘America First’ Doctrine: The Joe Biden Era,” Canadian Global Affairs Institute, March 2021; Lawrence L. Herman, “Government Procurement and Biden’s Buy American Policies: A Way Forward,” *Commentary*, Macdonald-Laurier Institute, February 2021; and Anthony Cordesman, “The Biden Transition and Reshaping U.S. Strategy: Replacing ‘Burden Sharing’ with Meaningful Force Planning,” Center for Strategic and International Studies, 11 January 2021.
7. Such missions, needless to say, often fail, not least because policy-makers can so easily (and naively) fall into the trap of thinking that their targets will stand down in response not only to military assaults, but also to the weight of Western democratic ideals.
8. In this context, we do not consider the maritime warning mission of the North American Aerospace Defense Command (NORAD) to be politically problematic for either the Canadian or American governments. For a thorough overview of NORAD and its relatively new maritime warning mission, see Andrea Charron and Jim Fergusson, *NORAD: Beyond Modernization* (Winnipeg, Manitoba: Centre for Defence and Security Studies, University of Manitoba, 31 January 2019), especially “Chapter 6: Political Considerations,” pp. 53-59. We note, however, that some of the issues involved more generally in the security field may prove to have different implications for policy-makers than they had in the days when the focus was on the defence of North America and when the deployed technologies were much simpler than the ones envisaged for the CSC/CEC era.
9. See, Loren Thompson, “Japan’s Rethink of Aegis Ashore Could Tie Up Navy, Increase Costs and Cause Big Delays,” *Forbes*, 11 August 2020; and David Larter, “The US Navy is Fed Up with Ballistic Missile Defense Patrols,” *defensenews.com*, 16 June 2018.
10. While supporters of the CSC point to its proposed advanced communications and cyber warfare capabilities to increase decision-making time, it is prudent to note that such advanced systems would be subject to electronic jamming and sophisticated cyber attacks as well as possible disruption of vital satellite links during a serious maritime conflict. In short, the familiar fog of war may place greater reliance on pre-established Rules of Engagement.
11. See, Paul Mitchell, “Small Navies and Network-centric Warfare: Is There a Role?” *Naval War College Review*, Vol. 56, No. 2 (Spring 2003), p. 96.
12. See, US Secretary of the Navy, “Advantage at Sea: Prevailing with Integrated All-Domain Naval Power,” December 2020. For an analysis which reinforces our view, see, Carment and Belo, “The Next Chapter in ‘America First’ Doctrine.”
13. Canada, Parliamentary Budget Office, “The Cost of Canada’s Surface Combatants: 2021 Update and Options Analysis,” 24 February 2021. The PBO estimates the total cost of the CSC program at \$77.3 billion or \$5.15 billion per ship.

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