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Chair: Mr. Robert Kitchen



## Standing Committee on Government Operations and Estimates

Friday, April 8, 2022

• (1305)

[English]

**The Chair (Mr. Robert Kitchen (Souris—Moose Mountain, CPC)):** Welcome to meeting number 14 of the House of Commons Standing Committee on Government Operations and Estimates.

Today we will continue our study on the national shipbuilding strategy. We will also discuss committee business during the last 60 minutes of the meeting.

The committee has the expectation that all witnesses will be open about any potential conflict of interest they may have. This is to ensure that the committee can fully understand the context of the testimony it is about to receive. If they feel their testimony may be coloured by a previous or current interest, I invite the witnesses to disclose this during their opening statements.

Today's meeting is taking place in a hybrid format, pursuant to the House order of November 25, 2021. Members are attending in person in the room and remotely using the Zoom application. Regarding a speaking list, the committee clerk and I will do the best we can to maintain a consolidated order of speaking for all members, whether participating virtually or in person.

I'd like to take this opportunity to remind all participants to this meeting that screenshots or taking photos of your screen is not permitted.

Given the ongoing pandemic situation and in light of recommendations from public health authorities, as well as the directive of the Board of Internal Economy on October 19, 2021, to remain healthy and safe the following is recommended for all those attending the meeting in person. Anyone with symptoms should participate by Zoom and not attend the meeting in person. Everyone must maintain two metres of physical distancing, whether seated or standing. Everyone must wear a non-medical mask while circulating in the room. It is recommended in the strongest possible terms that members wear their masks at all times, including when seated. Non-medical masks, which provide better clarity over cloth masks, are available in the room. Everyone present must maintain proper hand hygiene by using the hand sanitizer at the room entrance. Committee rooms are cleaned before and after each meeting. To maintain this, everyone is encouraged to clean surfaces, such as their desk, their chair or their microphone, with the provided disinfectant wipes when vacating or taking a seat.

As the chair, I'll be enforcing these measures for the duration of the meeting, and I thank members in advance for their co-operation.

With that said, I would like to welcome our witnesses. We'll hear from Mr. Choi and from Vice-Admiral Norman.

I invite Mr. Choi to make his opening statement.

**Mr. Timothy Hiu-Tung Choi (Consultant, Research Fellow, Doctoral Candidate, University of Calgary, As an Individual):** Thank you, Mr. Chair.

Dear Mr. Chair and honourable members, thank you for inviting me to provide my insights to this august committee.

Many other witnesses have already spoken to you about the complexities and challenges of the processes behind the NSS, so I will focus my remarks on three major issues.

The first is Canadian naval ambitions as a driver of CSC design. The RCN essentially operates as two smaller navies, with one on each coast. In standard practice, the so-called rule of three means that for every ship deployed overseas, you need at least two more to maintain fleet maintenance and training requirements. For Canada this means essentially every combat vessel that it aims to deploy overseas must have the ability to defend itself against modern air, surface and underwater threats because it will often be operating on its own. This has driven the decision to ensure that all 15 ships are built to the same standard that incorporates modern air defence systems into the anti-submarine Type 26 hull. Even so, modern submarines are equipped with anti-ship missiles, so even an ASW-centric vessel needs a very robust anti-air capability.

Are CSCs able to perform air defence in addition to their ASW focus? My assessment is yes. The bottom line up front is that the ships can carry air defence missiles that are an order of magnitude greater than current frigates, if they are using the same types of missiles, so even if the exact number of missiles gets reduced during the remaining design work on ships, they will still be much more capable than in our existing Halifax class. The new decision to acquire F-35s also further enhances the CSC's combat ranges.

Second is the geostrategic need to develop Canadian shipbuilding. Other speakers have noted the Chinese navy's rise as the world's largest in the number of ships. What I haven't seen discussed is the limited capacity in western naval shipyards to help maintain our collective lead. By mid-decade, the U.S. will have only three shipyards dedicated to building complex warships like the CSC, all of which will be at their maximum capacity. In this context, Canada's Halifax yard, thus, has the potential to provide North America with basically 25% of its advanced warship construction capacity. This is on its own a very important thing, but also it can be leveraged in our discussions with the Americans when the topic concerns Canada's willingness to pull our weight in defence spending.

More importantly, the alternative of buying ships from abroad would bind our foreign policy to the country building our ships. The decades-long period required to build all 15 CSCs means that the country building our ships would have a multi-billion dollar hostage that it could leverage in any negotiation or crisis. Warships should serve as a tool of Canadian foreign policy, not hold it hostage.

Third is the limitations of current cost estimation methods. "Steel is cheap and air is free" is the common rule of thumb for naval architects. This means that the cost of a ship does not scale linearly with its size. Unfortunately, size is precisely the metric being employed by the PBO to arrive at their cost estimates for the CSC. In fact, combat engineering systems contribute approximately 60% to 70% of a ship's overall cost, whereas the hull contributes the relatively small remainder. Thus, the size of a CSC should not be the metric for determining its cost increases. Rather the combat systems should be the point of focus.

However, unlike the growing size of the ship's hull, the scope of the CSC's combat engineering systems are unlikely to increase between now and construction. In short, if the CSC's actual costs do increase, inflation will likely play the dominant role as the ships await their turn to be built over the next two decades, rather than the design.

Finally, some witnesses have used a theory-based rule of thumb to determine that the CSC's operational costs will be three times that of its acquisition costs, and that this will be unaffordable. However, recent empirical evidence suggests that reducing acquisition costs do not guarantee a linear reduction in operational costs. Much of this is attributed to the fact that a ship's crew comprises approximately 50% of its operational costs, so we cannot expect the CSC to have significantly reduced operational costs unless we were to also purchase a design that has a significantly smaller crew, which comes with its own significant downsides.

I will conclude there.

**The Chair:** We will now go into questions.

We will start with Mr. Bezan for six minutes.

**Mr. James Bezan (Selkirk—Interlake—Eastman, CPC):** Thank you, Mr. Chair.

I want to thank Professor Choi for his comments and his skill and understanding of what we need to do with our surface combatants.

You talked about the PBO report. Everything is done on a wait basis. Based upon that report, there have been some people who have described our CSC as just a fat frigate.

Can you talk more about what weapon systems we need on there. You mentioned the F-35s, and how the reach and capabilities of our surface combatants and the air systems that we will have in place with F-35s are going to be enhanced. More importantly, a lot of people are getting very concerned about the overall costing and where we're at as everything continues to escalate. We still haven't cut steel for even the first surface combatant.

How do we get ships in the water quicker and maintain that Canadian capability for shipbuilding, while we're dealing at the same time with a changed world with the Russian invasion of Ukraine? Everybody always forgets that Canada is an Arctic neighbour of Russia.

• (1310)

**Mr. Timothy Hiu-Tung Choi:** Thank you, Mr. Bezan.

For the air defence section, around seven years ago—probably eight now—we decommissioned our Iroquois class air defence destroyers and they provided that long range air defence capability that can attack aircraft well out to the horizon and beyond it.

Right now our Halifax-class frigates have been upgraded and do a very good job of defending themselves, but not so much the larger area around them. With the new CSCs, we are planning to equip them with a new phased-array radar, which essentially means that you can take them down for maintenance without actually turning them off. So in case they received any damage, you can repair them without becoming blind, unlike certain other ships like the French and Italian vessels that were offered to us earlier.

With this new radar technology, you can see further and more precisely what we're looking at, and then aim and direct the necessary missiles out through that long range distance. In co-operation with the F-35, with the plan to equip our ships with the so-called cooperative engagement capability, CEC, an F-35 can essentially become a forward sensor for the ship. So an F-35 can fly well out to the horizon and beyond and then relay what it sees back to the ship, telling the ship where to send its missiles. Even if a ship can't see over the horizon, it can shoot where the F-35 tells it to shoot.

**Mr. James Bezan:** Does the FREMM have that capability to work with an F-35?

**Mr. Timothy Hiu-Tung Choi:** As far as I know, no. Neither of those FREMMs, that I'm aware of, have that capability, though I imagine it could be installed with a lot of additional hardware, software and firmware additions.

With regard to your second question on bringing these ships into water quicker, one of the things I like to say is that the best time to maintain a constant, ready shipbuilding capability was 20 or 30 years ago, and the second best time is now. We are in a state where we have a process set up, albeit it's not ideal and could be better. The other witnesses have gone into way more detail about this than I will, but essentially one of the quicker or more obvious solutions to me is to split the build between two yards.

There are drawbacks and benefits to that. The benefit is that you would get the ships in the water more quickly—at least all of them more quickly—and then the cost incurred from inflation due to the quicker build will be reduced. The downside is that you're repeating the learning curve across two shipyards, so each shipyard ends up actually charging more per ship on average, and this may or may not cancel the benefits of reduced inflation costs.

**Mr. James Bezan:** Thank you.

I'll turn to Admiral Norman now.

Thank you for being here, Admiral. I know you weren't making any opening comments. I just want to thank you in particular for all of the work you've done on advancing Canada's shipbuilding strategy and making sure that we're getting ships ordered.

Can you talk a little bit about the *Asterix* and how we need to have more AOR capabilities in the ocean and how that serves to extend our reach as the Royal Canadian Navy.

**Vadm (Ret'd) Mark Norman (Vice-Admiral (Retired), As an Individual):** I won't speak to the *Asterix* specifically, but I will more broadly address the issue of resupply and how important it is for a navy with any aspiration for going beyond your own coastline.

In the simplest terms possible, the joint support ships that are under construction in Vancouver at the moment are a variation of what is called, generically, “underway replenishment” capability. In essence, it allows a group of ships to operate farther afield because they carry with them, in that group, their own logistic support, which includes fuel, ammunition, potentially food, and other supplies.

As it relates to the numbers and how significant this is, in essence it's a force multiplier. If you have a group of ships of whatever size—two, three, four—and you can keep them at sea longer or you can extend their reach in terms of being able to go farther afield, that's where this joint support ship capability comes into play.

• (1315)

**Mr. James Bezan:** Admiral Norman, if we have two joint supply ships that will get delivered some time in the near future, as well as the *Asterix*, does that provide us with enough capabilities to support the fleet that we're going to have in the future, or do we actually need one more on top of that?

**Vadm (Ret'd) Mark Norman:** To go back to Mr. Choi's earlier comment about the rule of three—which isn't so much a rule as it is

a practice and a guideline for developing force structure—the minimum you need to have one of anything available to you permanently is three. With two plus one, you're at the bare minimum, and if you want any more flexibility over the long term to accommodate things such as maintenance or any unplanned problems you might have with a ship, then any greater number than three gives you the flexibility of having at least two available to you on a nearly permanent basis.

**The Chair:** Thank you, Admiral Norman.

We now go to Mrs. Thompson for six minutes.

**Ms. Joanne Thompson (St. John's East, Lib.):** Thank you, Mr. Chair.

Thank you to both witnesses for coming today.

Mr. Choi, I'd like to zero in on a couple of your comments in your opening statement. One was on the complexities and the challenges around the national shipbuilding strategy and on that, the very real need to support Canadian shipbuilding and to move beyond this file and this season of procurement.

With that in mind, in March 2022, you presented a paper that highlighted the drawbacks of off-the-shelf procurement, where pre-designed equipment is purchased from existing suppliers.

Would you mind explaining some of the costs that are associated with adapting defence systems purchased from other countries for use in Canada? Is buying more defence systems off the shelf a viable option for the Canadian Armed Forces?

This is considering that the Coast Guard has a role here, because we're replacing the *Louis S. St-Laurent*, which is critical for of Arctic travel, research and support for the capacity to move within very heavy ice conditions.

**Mr. Timothy Hiu-Tung Choi:** Thank you, Ms. Thompson. It's a great question.

“Off the shelf” gets thrown around a lot as a general solution to all of Canada's procurement woes, but in reality, it covers up a lot of minute details that dictate the timetable, time frames and costs of buying “off the shelf”. Essentially, when you say buying off the shelf, you can mean, literally, a ship that's already in service or just about to enter service and it's just sitting there. That's something that the Egyptians do very well, so they end up with a fleet of very different classes of ships and they can't really train or maintain them really well.

In most cases, off the shelf means you're buying a design that's already in existence. It seems simple enough on its own, but even for a ship, there are multiple design stages. Which stage of that design are we talking about when we're saying off the shelf? Is it the very beginning, where you say, “This is what it looks like this, what can it do?”, or is it the second stage, where you know what it's supposed to look like and what it's supposed to do, but not how you are going to get there? What are the literal nuts and bolts, steel plates, equipment and the pumps that are going to make that drawing, that concept into a real, vessel?

Finally, you have to give the shipyard instructions to put it all together.

When you say “off the shelf”, which stage of those three are you really looking at? The further back you go, the longer it's going to take and the more it's going to cost.

Even for a ship like the JSS, the joint support ship that's being built in Vancouver, that was technically an off the shelf solution. It was based off of a ship that the Germans had already built and already had in service. You think, “Oh well, that's super easy and it should be super basic to convert it into something we can build here”. In actuality, there are all sorts of design considerations when you're building in a different country, versus your own, that are incorporated into the design itself that you then have to go back and readapt into our own industries and our own capabilities. That's one thing.

The second thing is, of course, the time period. It's been roughly 15 or 20 years since that original design was created. A lot of things have changed in regulations and proper survivability and habitability requirements for our navy. All these things have to be worked back into that original design.

I would argue that in some cases, working from a clean sheet design is easier than modifying an existing one, just because you have much more room to say right from the outset where you want things to be and how they should be.

• (1320)

**Ms. Joanne Thompson:** Thank you.

I'll go back to another article that you released recently. In 2020, in an Arctic Yearbook article, you argued that the Arctic population in Canada is dependent on military and civil naval activity in that region.

How do military and civil vessels sustain civilian populations in Canada's Arctic?

**Mr. Timothy Hiu-Tung Choi:** This is mostly visible in the Coast Guard. For now, the Canadian Coast Guard is the dominant federal maritime presence in the Arctic.

They provide vital icebreaking services to ensure that northern resupply vessels and commercial shipping can actually get to those northern communities and supply them with the necessary food, fuel and *matériel* that's required to sustain them for the rest of the year before the next summer's shipping season. That's the first and most commonly appreciated role of the Coast Guard icebreakers.

Secondly, and this is the one that doesn't happen too often anymore, sometimes the Coast Guard itself carries supplies on its own ships and delivers these supplies to certain communities like the Eureka science and weather station where the sea ice is too heavy for commercial shipping. They take that stuff right along to the shore and ensure these communities get those very vital supplies.

Those are the two major things. Then, of course, there are fundamental basic services that you expect to see in southern Canada, like search and rescue services, aids to navigation and the maintenance of those things, so mariners can use the water safely around them.

Of course, in the coming years as more and more of the Navy's Arctic and offshore patrol ships come online, there is going to be a much greater naval militarized presence up in the North. In some cases, as far as I know, there isn't a really solidified plan for how we plan on using them, but I imagine there will be some way to make use of these Navy vessels to help the Coast Guard with some of the missions they have up there that are not pure icebreaking. I think there will be a gradual convergence of the civilian missions that the Coast Guard carries out and the general naval sovereignty presence that is up there. The two will combine together very well.

This is something we see over in Greenland. The Danes don't have a coast guard; they have a navy. They use their patrol ships, which are smaller and a little bit less capable than ours, for a lot of the same missions to support and enable civilian uses of the seas.

This includes breaking open ports to allow fishermen to go out into the ocean and assess their resources there.

**The Chair:** Thank you, Mr. Choi.

We will now go to Mrs. Vignola for six minutes.

[*Translation*]

**Mrs. Julie Vignola (Beauport—Limoilou, BQ):** Thank you very much, Mr. Chair.

Mr. Norman, thank you for being with us. The fact that you would agree to appear before this committee today only makes you seem more noble-minded, and I readily acknowledge that. Although you have dedicated your life to defending this country, you were dragged through the mud on a mission to provide this country with a type of vessel that was sorely lacking, and made a success of the project a success despite the fact that defence procurement was a real mess. Your agreeing to be here to allow this committee to further reflect on defence procurement demonstrates indisputably that you are fundamentally upright man and true to your deepest convictions. Thank you for agreeing to answer our questions.

Vice Admiral, I read a great deal about the saga surrounding the *Asterix* and the horrible things this country has put you through. One thing in particular caught my eye. Just as you were given the green light to move forward with the agreements on the *Asterix*, the newly elected government received a letter from a shipyard with only one slipway and many contracts already in place. As a result of this letter, you experienced the events we are aware of.

It was possible that a second supply ship, the *Obelix*, would be made by the builder of the *Asterix*, that is, Chantier Davie.

Given that sailors love the *Asterix* and it was built on time and on budget, why did the *Obelix* never see the light of day when at least three such vessels are needed?

• (1325)

[*English*]

**VAdm (Ret'd) Mark Norman:** Thank you, Mr. Chair.

[Translation]

Thank you for your question and your comments, Madam.

Unfortunately, I can't comment on the *Asterix* or a possible second ship. I can only repeat what I said to Mr. Bezan earlier, that there is a demand for more ships for the Royal Canadian Navy, but it's not my place to determine how best to deliver them.

**Mrs. Julie Vignola:** Thank you very much, Mr. Norman.

I'm going to approach this from another angle.

What should defence procurement be based on to avoid interference and influence from individuals with no knowledge of defence or large shipbuilding, and ensure that tax dollars are used wisely and not to line the pockets of influential lobbies?

In other words, how can we make it so that politics isn't involved in any way with defence procurement?

**VAdm (Ret'd) Mark Norman:** I will respond in English.

[English]

I think you raise one of the fundamental issues associated with procurement. It's not just a problem in Canada; it's a problem amongst all of our allies. The issue is how we separate the political processes associated with the expenditure of large amounts of taxpayers' money from the more mechanical aspects of determining the legitimate requirements for military capability and the ultimate delivery of those requirements in whatever form they take.

Canada is not any better or any worse, in my opinion, in this regard. We have our own issues. They are fundamentally Canadian. I think your committee and others who are discussing these issues need to look at where political intervention is legitimate and where it is not. My sense, from observing this over the past few years, is that we're starting to see a separation in terms of the actual mechanics of the procurement process itself once the key decisions are made and they're left to officials to manage. The bigger issues related to whether a procurement program is in the national interest, what the strategic considerations may be, what type of capability Canada should or shouldn't have, and what the rough budget should be are legitimate government decisions at the political and cabinet level.

I think the long answer to your question, if I may, is that finding that balance is really important. I think it's one of the key areas we need to continue to work on in order to ensure that the women and men of the armed forces are getting the equipment they need and that ultimately the taxpayers of Canada have confidence in the system that's delivering those capabilities.

[Translation]

Thank you.

[English]

**The Chair:** Thank you.

Ms. Vignola, you have five seconds.

[Translation]

**Mrs. Julie Vignola:** In that case, thank you very much, Mr. Norman.

[English]

**The Chair:** Thank you.

We will now go to Mr. Johns for six minutes.

**Mr. Gord Johns (Courtenay—Alberni, NDP):** Thank you.

I'd like to thank you both for being here.

Thank you, Vice-Admiral Norman, for your service.

I do want to ask about procurement, I guess following the thread from Ms. Vignola about how to do things better. Right now we have four ministers responsible for procurement. It's hard to pinpoint who's responsible when ships are late, for example, for purposes of accountability and efficiency. We can look to Britain and Australia, where they have a single defence procurement minister.

Vice-Admiral Norman, given your experience, would you be able to comment on that and provide your thoughts?

● (1330)

**VAdm (Ret'd) Mark Norman:** Yes. Thank you, Mr. Johns.

I think this is one of the key areas where there are some best practices amongst our allies and our friends that we could learn from. Your question goes right to the heart of the distribution and, ultimately, I would suggest, the dilution of authority and accountability as it relates to procurement in general, especially when we're talking about these larger complex programs.

In my experience, and certainly from my observation since I've retired, despite the statements and attempts to tighten things up, at the end of the day the results are not necessarily any better despite the rhetoric. I think this is an area where Canada could learn. I think there is a real opportunity for a more unified and simplified approach to procurement.

Ultimately, if we did it right, if we really put our minds to it, we could make a big difference. As I said earlier, that would both help the end-users get the equipment they need quickly and ultimately also address the issue of accountability to the taxpayer.

**Mr. Gord Johns:** Can you expand on that? You talked about our allies and other countries. I know that both Australia and Britain have a single minister for defence procurement. We're really grateful that you're here, because I think the committee really needs to hear from you about best practices and what we need to do to fix the way we're doing business right now when it comes to procurement.

**VAdm (Ret'd) Mark Norman:** Those are two really good examples. Another could be the French. The French have a slightly different model. Their defence industry is completely integrated in to their economic strategy. They consider defence spending as an element of economic and industrial development. They also have a very integrated relationship and a single point of accountability as it relates to procurement.

I think that's really a direction that we need to move in. I don't know exactly how it should be set up. I'm not going to offer a silver bullet, because I don't think there is one, but I do believe that we need to move away from this highly distributed approach where nobody, really, is ultimately accountable. They're accountable for certain aspects of it, but where they intersect and overlap is actually where we're putting rubber on the road, so to speak.

**Mr. Gord Johns:** You touched on the political involvement. Can you provide some thoughts on how we can improve the transparency and oversight while also ensuring that we're fulfilling our roles in the political lens versus the government officials lens?

**VAdm (Ret'd) Mark Norman:** The government officials, I believe, should be there to manage the machinery of the process. Notwithstanding a lot of challenges, which is a whole other discussion, I believe they're doing the best they can in the circumstances. Where we start to see the interface with the political, and where it is unhelpful, is when it starts to affect, ultimately, some of the larger decisions that then affect the timeliness and potentially the budget or the broad capabilities that go into these major programs.

When the political processes delay decision-making, that costs taxpayers money. Even just for inflationary reasons, they cost money, but a number of other drivers result in the fact that with these programs, the later they are, the more they ultimately cost. Even if it's not just about costs, it's the capability that's supposed to be delivered in a timely fashion and that's not getting to the women and men who need it.

**Mr. Gord Johns:** Are there really good examples from our allies where they have an efficient system of understanding roles and responsibilities and have strong transparency, accountability and timely decision-making?

• (1335)

**VAdm (Ret'd) Mark Norman:** There is no perfect system. Every one of those allies, if you were to ask them, would offer you lessons learned from their own experiences.

I think the two examples that you provided in your opening question are very good places to start. As we look at Australia specifically, this is a country that has fundamentally revolutionized the way they do business over the last 20 years or so. They still have major challenges, and they would be the first to admit it. Not every one of their programs is perfect. But I think that is a really good place to look for some best practices.

**Mr. Gord Johns:** Super. Thank you so much.

**The Chair:** Thank you, Admiral Norman.

We will now go to Mr. McCauley for five minutes.

**Mr. Kelly McCauley (Edmonton West, CPC):** Thanks, Mr. Chair.

Admiral Norman, it's great to see you. I want to start by thanking you for your many decades of service to our country.

I want to touch quickly on the fact that the government and all of us have been talking about the need for new submarines. How would you see that roll out for Canada? It's obvious that we cannot make them here. Hopefully, we're not going to get in a process of delaying for decades while we try to figure out how to make them here. Which country should we be looking at—Japan, France...?

**VAdm (Ret'd) Mark Norman:** Let me respond initially by somewhat challenging the premise of your question. We could build them here. I am not advocating that we should, however. I think this goes back to—

**Mr. Kelly McCauley:** How could we build them? I'm sorry. I'm not doubting you. I just want to learn, because from everything I've heard, we do not have the capacity to build them here.

**VAdm (Ret'd) Mark Norman:** We would need to dedicate the capacity and would need to develop some very specific skills associated with the manufacture of the pressure hulls, but there are similar technologies used in the offshore oil industry and elsewhere that could be migrated to that.

What I'm trying to say is that it's not a categorical statement that we could or could not do it. We could do it if we chose to do it. The question really is whether it makes sense for us to do it. That's where I believe the answer is probably no, just because of the level of effort required to develop those capabilities for what would be a relatively small production run of submarines.

With that said, now we get into the conversation about what the potential options are. The good news is that there is a variety of viable options out there that could potentially address Canada's requirements, which are still evolving. It will be important to know exactly what type of capability we're looking for but, fundamentally, a number of our allies are capable of delivering these capabilities—the French, the Germans, the Japanese—who have not yet exported a submarine, but are starting to show interest in the possibility of doing so. There are also the Swedes, among others, but those to me would be the key players in that discussion.

**Mr. Kelly McCauley:** On the T26, the Canadian surface combatant, how do you see that playing out? Obviously, it has been delayed, delayed, delayed. Do you think we should continue with the program as it is proceeding right now, which we all know is massively over budget and massively delayed? Do we see it to its end? Do you think we should, perhaps, stop at three and re-evaluate?

What are your thoughts on that, please? I don't want to paint you into a corner. I would look for general thoughts based on your experience.

**VAdm (Ret'd) Mark Norman:** I appreciate the question. It's legitimate in the context of your work as a committee and where we find ourselves.



The global combat ship, as it is generically referred to, was intended to be exactly that. It was intended to be a ship that could be modified for multiple users, and those users would benefit from the advantages of common design, global supply chain, etc.

In theory, that was the idea. What we now have are three customers—Canada is potentially going to be the bulk of the combined fleet user—and most of the capabilities are now separating in terms of individual users' requirements. Those advantages are not necessarily playing out the way they had been initially imagined.

As it relates to the program and whether it should or shouldn't proceed, here's the problem. The first of the Halifax-class frigates was commissioned in 1992. I was a member of the crew. According to the Ontario vehicle registration requirements, a vehicle 30 years old or older is eligible for historic or vintage plates. The Halifax is 30 years old this year, with a projected life of another 10 years or so until we have these ships up and running. I would say it would only make sense to change plans if you could actually deliver a similar capability in less time.

We find ourselves now in a place where, despite a lot of noise and a lot of rhetoric, the most viable path to the future is the path we're currently on. That presents a number of challenges, which are well documented and openly discussed. Throwing the baby out with the bath water, so to speak, at this stage would be a mistake.

• (1340)

**Mr. Kelly McCauley:** Thank you.

**The Chair:** Thank you, Admiral.

We'll now go to Mr. Jowhari for five minutes.

**Mr. Majid Jowhari (Richmond Hill, Lib.):** Thank you, Mr. Chair.

I'll be splitting my time with MP Bains. Mr. Chair, if you could flag us at two and a half minutes, we can switch.

Thank you to both witnesses for joining us today. We appreciate your testimony.

I'm going to start with Mr. Choi.

To quickly clarify, in your opening remarks you talked about how the cost of the CSC program should be included in our defence spending. Can I get a quick clarification from you? Don't you consider that already part of the defence spending?

**Mr. Timothy Hiu-Tung Choi:** I'm not sure which part of my opening remarks you mean. I think it was more about different ways of calculating the costs of these ships. Of course, it's already calculated in the defence spending over time. It's included in the "Strong, Secure, Engaged" budget plan for the next 20 years, so it's all in there.

I think there must be a misunderstanding.

**Mr. Majid Jowhari:** No worries. It could be me.

In one of your previous articles, you stated that competition between the liberal and authoritarian world order is taking place on the oceans. You mentioned that Canada needs to prepare for that world [*Technical difficulty—Editor*] in your point of view?

**Mr. Timothy Hiu-Tung Choi:** Sorry, the audio lagged for a moment there. Can you repeat that?

**Mr. Majid Jowhari:** How is our national shipbuilding strategy facilitating the preparation of what you suggest we should be preparing for because the next war will be fought on the oceans?

**Mr. Timothy Hiu-Tung Choi:** Yes, that's right.

As I mentioned, western shipbuilding capacity is fairly limited. The Americans—the biggest of them all—are already stretched to their limits, in terms of both shipbuilding and maintenance capacity. Literally anything that any of us can do to help contribute to those numbers is absolutely vital to ensure that China's massive shipbuilding rate is kept in some degree of parity to our collective coalition and allied partners, whether that's in Europe, East Asia, Australia and the rest.

When I say that we need to do our part in contributing to the liberal world order's naval capacity, it's not about us doing it on our own, but in conjunction with everyone else with whom we have very strong foreign policy interests and ties. Everything we do here with naval shipbuilding has a diplomatic component and a foreign policy component. That is something we should leverage and point out more in our diplomatic discussions with our allies.

This goes back to the question of whether we can build these ships faster without risking boom and bust. One reason we're taking so long to build these ships and why they cost so much is that we want to prevent the shipyards from going bankrupt at the end. One way to solve that is to build more ships of different kinds, not necessarily CSCs. There are many other types of vessels that the western powers can use, even if they are cargo ships that can help carry troops and supplies back and forth. It could be more replenishment ships, supply vessels and repair vessels.

No one says that NSS has to begin and end with the ships that were begun back in 2010. We can expand the order, much as Elinor Sloan noted in the last meeting. The Brits have their new shipbuilding strategy, which takes a more comprehensive, nationwide look at what is needed across all sectors, from the federal level, provincial, municipal, private and commercial.

• (1345)

**Mr. Majid Jowhari:** Thank you, Mr. Choi.

**The Chair:** Mr. Jowhari, you have a minute and a half left.

**Mr. Majid Jowhari:** I yield that time to MP Bains.

**Mr. Parm Bains (Steveston—Richmond East, Lib.):** Thank you, MP Jowhari.

Thank you to the chair and our witnesses who are joining us today.

My question is coming from Richmond, British Columbia. The shipbuilding strategy is extremely important to our marine sector here on the west coast.

My question is for Mr. Choi.

Between 2012 and 2021, we heard from the PSPC that the national shipbuilding strategy has contributed an estimated \$21.2 billion to Canada's gross domestic product and created or maintained over 18,000 jobs a year.

What has been the national shipbuilding strategy's contribution to the Canadian economy in recent years in your opinion?

**Mr. Timothy Hiu-Tung Choi:** To be honest, I don't have a good answer for you on that.

I look at it more in terms of our doing our part in building a capacity and capability in this country to provide this very important strategic capability for this country and our allies.

In terms of this contribution to our economy, every single dollar spent in Canada to pay these shipbuilders goes back to Canadian workers. It comes back to the question of...if we bought ships from abroad, obviously, they have an 100% ITB obligation, but that's not going to go to the same places that it would if we build ships here.

When we build ships here within our own country, the entire supply chain within this country benefits. That ranges from the blue collar workers on the ground up to the engineers sitting in front of their computers. Everybody along the supply chain gets some part of that shipbuilding money, whereas if you're building these abroad, they have no obligation to fulfill their ITB requirements anywhere near as fairly or equitably across all of society, so—

**The Chair:** Thank you, Professor Choi. If you have anything further that you'd like to add to that, you could put it in writing and submit it to the clerk. We will distribute it to the members.

Thank you very much.

I will now go to Mrs. Vignola for two and a half minutes.

[*Translation*]

**Mrs. Julie Vignola:** Thank you, Mr. Chair.

Mr. Choi, earlier you mentioned the Arctic. I feel the need to work with the Arctic and have vessels for the region is a no-brainer. That said, the offshore and Arctic patrol vessels to be built will not be able to operate in the low Arctic from September to April, because the ice is too thick for those vessels' capacity. However, only two polar icebreakers are potentially being built.

Will two polar icebreakers be enough to supply the materials needed by communities in the Canadian Far North?

If there were a break in service, what would the impact be on these communities' safety and economies?

Also, for over two years now, we've been waiting for a third shipyard to officially qualify to be part of Canada's national shipbuilding strategy. At the end of the day, will this delayed decision cost all Canadians more?

[*English*]

**Mr. Timothy Hiu-Tung Choi:** Thank you, Madame Vignola. Those are great questions.

Are two polar icebreakers enough for our capacity in the north? Well, it would be a fairly straightforward replacement of our current capacity. It wouldn't be a real expansion of the capacity. Right now we have two heavy icebreakers, or at least that's how the Coast Guard rates them. One of them, the *St-Laurent*, is more powerful than the other, but they're both rated as heavy icebreakers.

Right now, to the extent that our Coast Guard is able to meet the requirements of the north, replacing them one for one would suggest that it's also enough, but of course we'll have increased traffic in the north and an increased need to have more capacity. If I had it my way, definitely three heavy polar icebreakers would at least be a good start.

It's worth noting that a lot of this depends on the quality of the medium icebreakers that are also going to be built. Will they have an increased icebreaking capability compared with the current medium icebreakers? More importantly, will they be more available because they'll be newer? In essence, that will provide greater capacity to carry out important operations up in the north.

• (1350)

**The Chair:** I apologize for interrupting you, Professor Choi. Unfortunately, we have time commitments. If you would like to provide to the clerk a written answer to the other questions, it would be appreciated. We will distribute it at that point in time.

Mr. Johns, you have two and a half minutes.

**Mr. Gord Johns:** Professor Choi, I'm going to go right back to you about the Arctic. You spoke earlier, in answer to a couple of questions, about ensuring that the military and civilian vessels help support Inuit and the communities in the north. Can you speak about the importance of consulting the Arctic communities on ship procurement? What considerations do you think should be raised?

**Mr. Timothy Hiu-Tung Choi:** One of the most straightforward aspects is, well, should they break the ice at all? A lot of Inuit use iced-over water as their transportation routes as they go from point A to point B. Of course, that also feeds into how they hunt and how they gather local resources.

Consulting them on how we use these icebreakers is absolutely vitally important, but as for consulting them on exactly how the ships will be built or on particular characteristics, I'm not so certain of that myself, unfortunately. That's about all I can tell you.

**Mr. Gord Johns:** Do you feel that Canada is doing a good job of consulting them?

**Mr. Timothy Hiu-Tung Choi:** I don't think they feel that it's a need, but I think it's something we should absolutely go and consider, just to see if perhaps they have some additional insights or opinions on how the icebreakers should be operated and which particular technical aspects may or may not be helpful in their own livelihoods.

**Mr. Gord Johns:** Vice-Admiral Norman, I have a quick question. You've probably heard me speak a lot about pushing for more shipbuilding capacity, given dry dock space and the premium of it and demand on the west coast. Do you feel there's a disconnect between Transport Canada and investments from Canada to create more capacity to take on projects and be able to deliver?

I mean, you had great comments about the subs, but do you think there are opportunities for Canada to do more?

**VAdm (Ret'd) Mark Norman:** I can't speak to what's going on inside Transport Canada, but I can speak at a general level. I do believe we have an opportunity and a responsibility to both build and leverage the capacity. Mr. Choi has made a couple of good comments with respect to broader capacity amongst the allies and how it's shrinking.

So it is in the national interest. I think we need to take a broader look at what we can use the shipyards for. A number of fleets are managed provincially, for example, and most of them are built offshore. They're built offshore because of cost. There's a real opportunity to potentially incentivize a "build in Canada" strategy, which in and of itself will help build and sustain capacity over the long term.

**The Chair:** Thank you, Admiral, and thank you, Mr. Johns.

We will now go to Mr. Bezan for five minutes.

**Mr. James Bezan:** Thank you, Mr. Chair.

Admiral Norman, I want to just drill down a little bit more on the whole issue of submarines, given your experience as commander of the navy. The biggest proliferation of weapons systems in this world, of course, is missiles. The second-largest proliferation of weapons systems is submarines. What's the best way to fix the submarines?

**VAdm (Ret'd) Mark Norman:** With a submarine, the...

Go ahead.

**Mr. James Bezan:** With the challenges that we're now looking at in the Arctic, especially with Russia and of course a bigger interest by the People's Liberation Army Navy of China—they are definitely transiting through the Arctic more and more—what do we need to defend our Arctic territory with from a submarine standpoint?

**VAdm (Ret'd) Mark Norman:** Well, the first thing we need is a far more robust underwater surveillance capability than we currently have. That'll give us a better sense of what's going on and who's

where, and therefore what reactions we may or may not need to take.

We then need to increase the ability to respond and to be present. That means more submarines, and it means more submarines that are capable of operating in, or certainly on the edge of, the ice. That will drive us into a debate as to how much under-ice capability we may actually need for a next generation of submarine.

• (1355)

**Mr. James Bezan:** In your opinion, how many submarines do we need to defend all three coasts?

**VAdm (Ret'd) Mark Norman:** I'm on the record in a publication a couple of months ago as saying that when you do the math, and going back to the rule of three or four, I believe we need at least three submarines available to us at any point in time. That could be geographically logical, with one on each coast. In order to maintain that, we're going to need roughly three times that number, so we're looking at nine. That probably means that we're looking at, I would suggest, 10 as probably not a bad number.

That is an unsophisticated rough calculation. I look forward to hearing what the navy thinks.

**Mr. James Bezan:** During your time as vice-chief of the defence staff, you got to see defence procurement up close. You saw the good, the bad and the ugly.

How do we streamline this? As you already said, the longer it takes, time is money, and there are inflationary impacts. The longer our mariners, our navy officers, our soldiers and our aircrews go without new kit, the more dangerous it gets for them. How do we speed things up? Where are the low-hanging fruit that we can actually go after and get stuff done?

**VAdm (Ret'd) Mark Norman:** There are several problems intersecting simultaneously. There's a significant lack of capacity to actually move program, which is getting worse. There is a problem related to the sheer weight of process. When you combine those two, obviously that's a bad outcome. There's also a problem as it relates to the actual decision-making, typically at the front end, in order to get these things moving, so to speak.

There are other problems as well, but I think before we start throwing solutions around, we need to figure out which problem in what order we want to tackle, and recognize that the impact in one area could adversely affect another.

To me, those are the three key areas—capacity, process and decision-making. There are others, but those are the big ones that are hampering their ability to move forward.

**Mr. James Bezan:** One of the things that sometimes gets complaints is that with a lot of our big procurement that we do, often instead of just buying off the shelf, we always talk about how, even if we're going to build it in Canada, we can then Canadianize it. Is that a necessary part of the process, the Canadianization of especially the surface combatants as a case in point? It's a different ship from what the U.S. is building, which is a different ship from what the Brits are building, which is a different ship from what the Aussies were going to build, with all of them, of course, being Type 26.

Is it necessary? Is the cost-benefit ratio significant enough to make us a better navy?

**VAdm (Ret'd) Mark Norman:** Unfortunately, the answer is “it depends”. There's no one-size-fits-all answer to that question.

There are legitimately areas where rapid procurement of off-the-shelf, either commercialized or readily available, technologies at a faster rate of production make perfect sense. There are other areas where, given the significance of the asset, the period over which it's going to be owned and operated, and the degree of flexibility that we're trying to put into a single platform—other navies, for example, have multiple platforms to do the same job—Canadianization is a necessary evil. It doesn't mean it's bad.

It comes down to how we do it, and there are ways that we can be much smarter and much more agile in that approach.

**The Chair:** Thank you, Mr. Bezan.

We'll now go to our final questions from Mr. Bains for five minutes.

Is it Mr. Bains or is it Mr. Kusmierczyk?

**Mr. Parm Bains:** I believe it's Mr. Kusmierczyk.

**The Chair:** Okay.

Mr. Kusmierczyk, you have five minutes.

**Mr. Irek Kusmierczyk (Windsor—Tecumseh, Lib.):** Great. Thank you so much, Mr. Chair.

Mr. Choi, in your excellent submission to this committee, one of the statements you made is that warships should serve as a tool of Canadian foreign policy.

You talked about the fact that the Halifax shipyard could produce 25% of combatant capacity for North America. You looked at it in broader geostrategic considerations.

Can you weigh in on that or explain what you meant by that?

• (1400)

**Mr. Timothy Hiu-Tung Choi:** Within North America, the two main countries with a large ocean-going navy are the United States and Canada. The U.S., over the last several decades, due in part to their wars in Afghanistan and Iraq, have really let their navy become their red-headed stepchild. They're not giving it the attention that you would expect from a country that depends upon a free flow of global trade. Part of this means that their defence industrial base has been really challenged, especially the naval shipbuilding side, where they technically could build more ships that they currently,

but they haven't been able to do so. This leads to layoffs, lack of efficiency and higher costs on their end.

Right now, they're at a point where they're really stretched out in their ship capacity. They have two shipyards that are in service right now, building their heavy destroyers, and then they have one that built the much maligned combat ship, that's been converted to go into new frigates. They tried to add a fourth yard this year, but that got cancelled. It was not approved. By 2025, they're going to have only three shipyards building surface combatants. At roughly one ship per year at each yard, maybe if they're lucky, depending on how the budget goes, they may get two at two of those shipyards.

In certain situations, we might end up with the Halifax shipyard being one of four shipyards in North America that produces high-end surface combatants.

If you follow one of my policy proposals and you split the CSC bills across two shipyards, Canada ends up having two L5 North American shipyards that can build these heavy surface combatants. That's a major capacity for North America and for our allies, as well, if they decide to take us up on that excess capacity that will build up.

**Mr. Irek Kusmierczyk:** You mentioned in your submission that this can be leveraged in discussions with Americans when the topic concerns Canada's willingness and ability to pull our weight in NATO. Can you unpack for us how this strengthens Canada's position?

How does this capacity strengthen our geostrategic positioning vis-à-vis other partners? I thought that was interesting, and it's something that hasn't really been discussed in testimony at this committee thus far.

It strengthens our hand—

**Mr. Timothy Hiu-Tung Choi:** Absolutely. I think it does.

It comes down to the whole question of, is the 2% of GDP metric a good one for measuring a country's contribution to the alliance's security protocols. If we include the ability to actually build massive high-end warships, that is a major consideration that you wouldn't include as part of your 2% GDP that NATO considers because it's a shipbuilding that has an industrial capacity rather than technically military spending. It's about that manufacturing base that's not included but which you could bring up in negotiations.

We know the Americans have demonstrated over the previous administration a certain willingness to highlight a lack of contributions by other members. By highlighting these lesser known, lesser highlighted elements of how Canada actually contributes to the overall defence of the alliance, it's a very solid chip or card in our deck.

We also have to remember that even in a general context Canada is in a geographic situation very similar to the United States', but we operate with one-tenth of the population and one-fifteenth of the GDP. All of our security concerns are predominantly on the other side of two giant moats—the two oceans—so we need to be constantly abroad and present, much like the United States does, but we have much fewer resources for it. Our ability, nevertheless, to make use of what we have and to be constantly present with our presence abroad makes us a very unusual country and makes it very hard for us to compare ourselves with other countries that are otherwise similar in size in terms of GDP.

• (1405)

**The Chair:** Thank you, Mr. Kusmierczyk.

With that we've come to the end of our questions. I would like to thank the witnesses for your appearance and testimony today.

Professor Choi, thank you for your insight. It's greatly appreciated.

Admiral Norman, I would like to publicly thank you for your service to this country. Thank you for being with us today. On a personal note, Admiral, I would ask you if you wouldn't mind passing on my best wishes and hellos to your father, General Norman, and your mother.

Thank you, and I thank them for their service to this country.

With that, the public portion of our meeting is now complete.

We will now proceed to the in camera portion of the meeting.

I'm about to suspend the meeting.

As members of the committee know, you'll have to go offline if you're on Zoom and then come back on using the logo and identifications that were on the form that was sent to you.

That said, I will suspend the meeting temporarily.

*[Proceedings continue in camera]*

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