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• (1100)

[*English*]

The Chair (Hon. John McKay (Scarborough—Guildwood, Lib.)): We'll open the 37th meeting of the defence committee.

We welcome some familiar faces to the committee.

Welcome to the committee, General Pelletier, General Huddleston and Mr. Quinn. All of you are experienced members before this committee. With that, I'm going to ask General Pelletier for his five-minute opening statement, and then we'll go to our rounds of questions.

General Pelletier, please go ahead.

Lieutenant-General Alain Pelletier (Deputy Commander, North American Aerospace Defense Command, Department of National Defence): Good morning, Mr. Chair and members of the committee.

Thank you for the opportunity to speak with you today. My name is Lieutenant-General Alain Pelletier. I'm the deputy commander of the North American Aerospace Defense Command, known as NORAD, and we are headquartered at Peterson Space Force Base in Colorado Springs, Colorado.

[*Translation*]

Joining me today are Major-General Iain Huddleston, commander of 1 Canadian Air Division and of the Canadian NORAD Region, and Jonathan Quinn, director general, continental defence policy, Department of National Defence.

[*English*]

As deputy commander of NORAD, I am the second in command and support the commander of NORAD, U.S. General VanHerck, in the execution of our missions, responsibilities and functions outlined in the NORAD agreement and the NORAD terms of reference.

[*Translation*]

Formalized in 1958, the NORAD agreement established three primary missions for NORAD in North America: aerospace warning, aerospace control and maritime warning.

[*English*]

In the context of NORAD's mission, "North America" means Alaska, Canada, the continental United States, Puerto Rico and the U.S. Virgin Islands, including air defence identification zones, the air approaches, the maritime areas and the maritime approaches.

It is also worth mentioning that NORAD also delivers integrated threat warning and attack assessment for missiles, a mission that spans the entire globe.

The commander of NORAD, or I as the deputy commander in his absence, is responsible to the Government of Canada and to the Government of the United States of America for the execution of our mission.

Subordinate NORAD organizations include the Canadian NORAD region, known as CANR, the continental U.S. NORAD region, known as CONR, and the Alaska NORAD region, known as ANR, all led by their respective region commanders with embedded U.S. and Canadian Forces members alike.

NORAD has a history of evolution that has ensured the command is positioned to effectively respond to changes in the security environment and technological advances. Over its history, the threat to North America has evolved from a northern approach long-range aviation to now a 360-degree threat, and from all domains.

[*Translation*]

For the first time in our collective history of binational defence, we now have two strategic competitors, Russia and China, both with nuclear weapons, and a third actor in North Korea.

With ongoing climate change, Russia, China and other states are increasingly interested in the Arctic. As time goes on, the Arctic is becoming an interconnected and increasingly globalized region, as well as a source of contention.

• (1105)

[*English*]

From a NORAD perspective, the concern is that the Arctic is the closest path to attack North America. Our adversaries have already modernized their Arctic infrastructure, deployed new coastal and maritime defence missile systems, upgraded their maritime forces and increased military exercise and training operations, with new command organizations dedicated to the Arctic.

To effectively execute our assigned NORAD mission, we must outpace our global competitors, deter our adversaries, deny and defeat threats through all-domain awareness, information dominance and decision superiority, and be globally integrated with our allies.

[*Translation*]

In June, the Minister of National Defence announced funding for Canada's continental defence capabilities, namely for the modernization of NORAD.

[English]

NORAD modernization will contribute to the defence of North America and help address evolving missile threats and maritime warning challenges, consistent with the NORAD agreement, helping to ensure our continent is a secure base to project power and be engaged abroad.

[Translation]

NORAD headquarters is working closely with National Defence headquarters and the Pentagon to synchronize and coordinate NORAD modernization from a project/acquisition perspective.

[English]

As threats continue to rapidly evolve and the Arctic becomes increasingly accessible, it is important for both countries to field critical capabilities, as soon as possible, that will enhance our domain awareness, enable persistent operations and provide national decision-makers adequate time to make key decisions.

[Translation]

Thank you, Mr. Chair, for the opportunity to address this committee.

We look forward to your questions.

[English]

The Chair: Thank you, General Pelletier.

With that, we'll commence our six-minute round.

Mrs. Gallant, you have six minutes, please.

Mrs. Cheryl Gallant (Renfrew—Nipissing—Pembroke, CPC): Thank you.

To the generals, since February 2022, what number of times has NORAD had to scramble jets due to Russian or Chinese incursions in the Arctic?

LGen Alain Pelletier: We don't talk about a specific number of activities, given the fact that some of them are reactions or actions against.... The activities vary, but I can say that the number has increased. In 2022, we've seen one of the largest numbers since the reduction in Russian activities in the north. That's probably since 2014, as I mentioned.

Mrs. Cheryl Gallant: The U.S. does report on their incursions. You're saying the tempo has increased, then.

Do countries check in with Canada, the U.S. or NORAD in advance of their intention to be in Canadian Arctic waters, be it air or below the water surface?

LGen Alain Pelletier: The country would not report their activities if they're intending to actually operate in the Arctic, either below the surface or above the surface. Quite often we depend on our threat warning and attack assessments, our detection systems and capabilities in the air and the maritime environment, to be able to actually detect any encroachment of our air defence identification zone or below the water surface.

Mrs. Cheryl Gallant: Does that include traversing through the Northwest Passage?

LGen Alain Pelletier: I'm not an expert with regard to the Northwest Passage. I believe that countries are expected to actually report transiting through the Northwest Passage proper, but that's a system I'm not familiar with.

Maybe Mr. Quinn would be able to answer that.

Mr. Jonathan Quinn (Director General, Continental Defence Policy, Department of National Defence): Just very quickly, if the question is specific to underwater incursions, then I would say no. The idea there is specifically for stealth. We wouldn't necessarily expect to receive a request if it's coming from a non-allied country or competitor.

Thank you.

• (1110)

Mrs. Cheryl Gallant: Thank you.

Have foreign drones been detected in the air or subsurface waters in the Canadian Arctic?

LGen Alain Pelletier: Major-General Huddleston, would you like to answer the question for the Canadian NORAD region?

Major-General Iain Huddleston (Commander, Canadian NORAD Region, Canadian Armed Forces, Department of National Defence): Certainly, sir.

To my understanding, no foreign drones have been detected in the Arctic airspace. We haven't detected any undersurface drones, either. I believe that was the second part of the question.

Mrs. Cheryl Gallant: In the absence of hangarage in Inuvik, Canada's air-to-air refuelling response is non-existent. If the U.S. air-to-air refuellers are needed to refuel U.S. aircraft, to what extent will Canada be able to add to the response equation?

LGen Alain Pelletier: First of all, we do have a limited air-to-air refuelling capability that we've employed over the years. Canada and the Royal Canadian Air Force have been providing both our tactical tankers, the C-130H tanker as well as the Airbus, which has a multi-role platform as well, to support our operations on a non-persistent basis. For the regular response, we actually rely on tankers provided by the U.S. Air Force.

However, I can tell you that, as part of the NORAD modernization package approved in June of this year, there will be an enhancement to the strategic air-to-air refuelling capabilities of the Royal Canadian Air Force that will enable greater participation and support of our activity. It's going to increase not only our response posture but also our reach in the very wide area of the Canadian Arctic.

Mrs. Cheryl Gallant: When do you anticipate our North Warning System will be adequate to detect threats we see emanating from Russia, China, or North Korea?

LGen Alain Pelletier: First of all, the North Warning System, as is, is very limited in its ability to actually detect the current threat represented by Russia right now, and China in the future—especially given that the threat from China may be coming from the west coast, and the North Warning System is geared towards a threat coming from the Arctic, which is what it was designed for back in the early 1980s.

We're talking about modernization of the layered sensor systems, and that includes the arrival of over-the-horizon radar, which are not going to be co-located with the current North Warning System, but will be optimized in order to actually provide North America, i.e., Canada and the U.S. specifically, with a long-range detection of air and space threats. That is expected to be available in the later part of this decade.

The Chair: Thank you.

[*Translation*]

Go ahead, Mr. Robillard. You have six minutes.

Mr. Yves Robillard (Marc-Aurèle-Fortin, Lib.): Thank you, Mr. Chair.

How will the recently announced investments in NORAD improve the Canadian Armed Forces' operating capability in the north?

As well, can you tell us more about the types of infrastructure investments that are planned, including for forward operating locations?

LGen Alain Pelletier: Thank you for your question.

I'm going to ask Mr. Quinn to answer first, and then I'll take over.

Mr. Jonathan Quinn: I'd like to thank the honourable member for his question.

[*English*]

As the member indicated, infrastructure investments will be a big part of the NORAD modernization effort. The intention is to upgrade northern Canadian Armed Forces installations in Yellowknife, Inuvik, Iqaluit, and Goose Bay by modernizing the infrastructure to accommodate the arrival of the future fighter aircraft and also different types of aircraft to expand the types of operations that can be conducted out of those important locations.

As well, further south the NORAD modernization plan also includes new investments to enhance fighter aircraft infrastructure across the country, and also quick reaction and alert infrastructure and fighter training infrastructure as well. Lots of investments are funded and under way, but it will be a long-term, multi-year effort to get all of those infrastructure investments implemented and improvements on the ground.

Thank you.

• (1115)

[*Translation*]

LGen Alain Pelletier: I'd like to add to what Mr. Quinn said, if I may.

Once the over-the-horizon radar mentioned earlier is in place, it will provide defence in depth for the Arctic area, namely thanks to the approaches at 1000 hours and 1400 hours, that is, towards Alaska and Greenland. This will provide a better understanding of what enters our area of interest.

Enhancements will also be made to the command, control and communications system to make our operations more resilient, so

we can not just operate aircraft but also retrieve the information they can pick up.

Mr. Yves Robillard: Tens of billions of dollars have been allocated to NORAD modernization, including major infrastructure investments in the north. How, then, will the government work with northern and indigenous communities to make sure they benefit from those investments and have an adequate role in the decision-making process?

Mr. Jonathan Quinn: Thank you for your question.

I'll start, and then, Lieutenant-General Pelletier may have something to add.

[*English*]

We have conducted some initial consultations with indigenous and northern communities to get a better handle on community needs and to identify areas where National Defence investments can assist and provide dual-use benefits for those communities.

I mentioned some of the specific infrastructure projects. As those projects move into the implementation phase and we start doing site assessments and that sort of thing, we'll continue those consultations and move into much more in-depth targeted interactions with local communities, again, to maximize opportunities for our mutual benefit. As we all know, northern communities have many of the same challenges that the Canadian Armed Forces have in operating and existing in those high latitudes. There are certainly lots of opportunities from an infrastructure perspective, technology perspective and so on.

I would mention as well that as we look at fielding capability, much in the same way as with the recently signed contract for the sustaining maintenance of the current North Warning System, there will be lots of opportunities for indigenous companies and communities to benefit economically as well. That maintenance contract was given to an Inuit-owned organization, and certainly we envision more opportunities along those lines as we move forward with the NORAD modernization plan.

I'm not sure if General Pelletier may have something more to add.

Thank you.

[*Translation*]

LGen Alain Pelletier: I have just two things to add to what Mr. Quinn said.

Clearly, consultations are important in the process to modernize NORAD. We need to make sure that our current and future activities support each of those communities in a complementary way. That's something that's important to us, because as the work advances and since the facilities will more than likely be used on a more frequent basis, we want to make sure we don't infringe on the resources local communities need to survive the severe Arctic winters.

I should also mention that that isn't unique to the Canadian NORAD region. Alaska, which has its own nations—

• (1120)

[English]

The Chair: We're going to have to leave it there.

The interpreters are having extreme difficulties with your system, General Pelletier. I know generals hate to delegate, but insofar as you are able, could you delegate to General Huddleston or Mr. Quinn, and then I will not receive the wrathful interpretation on the other line? It's unfortunate, but the interpreters are having difficulties.

Next up we have Madame Normandin for six minutes.

[Translation]

Ms. Christine Normandin (Saint-Jean, BQ): Thank you, gentlemen, for being here. We always appreciate it.

My first question doesn't have to do with operations, but I'm going to try my luck. If you don't know the answer, just say so.

For comparison purposes, do you have an idea of Canada's financial and infrastructure contribution as a share of GDP in relation to the U.S.'s?

[English]

LGen Alain Pelletier: Can you answer?

[Translation]

Mr. Jonathan Quinn: Thank you to the honourable member for her question.

Unfortunately, I don't have those figures right now.

[English]

We can perhaps take that question on notice, if that works for the member.

[Translation]

Ms. Christine Normandin: Yes, please. I would appreciate that.

My next question is the same one I asked the Canadian Armed Forces' leadership two weeks ago. If a missile were heading for Canadian territory, in the very near future, would the U.S. have to intercept and destroy the missile?

I don't mean a response under article 5 of the Washington treaty after the fact.

LGen Alain Pelletier: The U.S. does not have to intercept and destroy the missile because Canada chose not to sign the anti-ballistic missile treaty—

[English]

The Chair: I apologize, General Pelletier, but the interpreters have just informed us that the sound that is coming is not intelligible to them. I'm not quite sure how you're going to continue to participate if in fact the sound is not intelligible.

Is either of the other two witnesses able to answer the question?

[Translation]

MGen Iain Huddleston: I can try, Mr. Chair, but it's really a question for Lieutenant-General Pelletier.

As he mentioned, the U.S. does not have to defend Canada in that way. Nevertheless, we always work together on surveillance and detection for attacks of that nature, and, jointly, we do our best to defend against such attacks.

Ms. Christine Normandin: Thank you.

It's very appreciated.

[English]

The Chair: Excuse me, Madame Normandin. I have stopped the clock, by the way.

General Pelletier is an extremely important witness to us, and it is just a darn shame that we're losing him for this meeting. I wonder whether there's a workaround.

Is there a possibility that you could dial in on a cellphone and we could hear you that way? Before I suggest that, I just want to make sure that it's doable. Is it doable?

[Translation]

Ms. Christine Normandin: My understanding, Mr. Chair, is that it's a health risk for the interpreters. In fact, there was an incident recently in the Senate: an interpreter had to be taken away in an ambulance because someone wasn't wearing an appropriate headset.

[English]

The Chair: If he came in on a cellphone as opposed to—

The Clerk of the Committee (Mr. Andrew Wilson): It's worse.

The Chair: Is it not going to work?

The Clerk: A wired connection is the only way. If he has an Ethernet cable, that's the only solution.

The Chair: Okay.

I'm sorry about this, General Pelletier. It is what it is.

I will continue on with our time.

You have about three minutes, Madame Normandin.

• (1125)

[Translation]

Ms. Christine Normandin: Thank you very much.

Tell us, if you would, about expanding NORAD's coverage. Currently, NORAD provides aerospace warning, aerospace control and maritime warning.

Some experts say that NORAD should expand its reach to include land and cyberspace coverage. Should those environments be part of NORAD's mandate, or should they be overseen by other authorities?

Mr. Jonathan Quinn: Thank you for your question.

[English]

It is a very good question. It was in fact one of the first questions that we tackled in collaboration with the U.S. as we got the NORAD modernization effort up and running—that is, how to define exactly what we meant by NORAD modernization. Based on mutual agreement between Canada and the U.S., we agreed that there was sufficient work to do to enhance NORAD's capabilities to fulfill its current mandate of aerospace warning and control and maritime warning, and not to even look at expanding the mandate of NORAD at this time. We finished this round of NORAD modernization, and in fact no commitment was made to look at it in the future.

I would just add that there are other mechanisms of bilateral collaboration between Canada and the U.S. We have what's called the “tri command” arrangement between the Canadian joint operations command, NORAD, and the U.S. where there's a venue to collaborate on land operations, and also through other mechanisms on cyber-defence as well. Above and beyond NORAD, there are lots of opportunities for collaboration.

Thank you, Mr. Chair.

[Translation]

Ms. Christine Normandin: Thank you.

Originally, NORAD's mission focused on surveillance of long-range aircraft. Now we live in a world of hypersonic missiles and the response time is limited to a few minutes.

Do you think things will evolve to a point where efforts to detect and destroy hypersonic missiles will be futile because the necessary response time will be so minimal? Is that something to be concerned about in the future? Will we have to change our strategy completely in response to outside threats?

[English]

MGen Iain Huddleston: I can potentially replace General Pelletier on this question, Mr. Chair.

Our focus is on integrated deterrence. General VanHerck has described that as getting left of launch. So before the competitor chooses to fire a modern hypersonic missile at Canada, or at North America, we will have proven or demonstrated to them that the cost of doing so will be too high. The way we can achieve that is by improving our domain awareness, information dominance and decision superiority, and also engaging our other government departments, those here in Canada and in the U.S., to show a united front in terms of integrated deterrence.

You're correct that hypersonic missiles provide us with a significant challenge, but many of the capabilities that we're investing in with NORAD modernization will work away at that problem, and we're dedicated to doing so.

The Chair: We're going to have to leave it there, Madame Normandin.

It's been suggested to me, General Pelletier, that if you turn your camera off we might get a better reception. It's not that we don't want to see you, but whatever works works.

We now have Ms. Mathysen for six minutes, and hopefully it will work.

Ms. Lindsay Mathysen (London—Fanshawe, NDP): Thank you, Mr. Chair.

The witnesses mentioned before—and I believe it was General Pelletier, so we'll see how this goes—in response to a question on infrastructure and the investments in the north, that there's a bit of concern—and I understand the difficulty in terms of Defence coming in and needing to put in what they need—that the needs of people on the ground will be an afterthought. We heard last week testimony from Dr. Lackenbauer talking about smart defence investments and expanding on that in terms of how we've done things in the past and doing things very differently.

Could you expand on those ideas, on how we're specifically dealing with the lack of infrastructure in terms of roads, the Internet, access to clean drinking water and housing, and how we're ensuring that we're doing things differently so that it's not so top-down?

• (1130)

LGen Alain Pelletier: I'm not sure if you can hear me better.

[Translation]

I'm not sure whether the interpreters can hear me clearly.

[English]

I will let Mr. Quinn answer the first part, and then I'll add what's specific to NORAD reform.

Mr. Jonathan Quinn: Some of the challenges the member just outlined—in terms of the Internet, clean drinking water, and housing—obviously go well above and beyond the defence mandate. There's lots of very good work going on in other government departments to get at those challenges. At the same time, we recognize that this is going to be a big investment and that there certainly will be opportunities to look for dual-use benefits across the board. We work very closely on a number of files with Dr. Lackenbauer, and I know he has lots of great ideas on this front as well.

I would say that at this point, as we're shifting into implementation for these kinds of defined, at least by location, infrastructure enhancements, we will be working very closely with northern communities again to assess their needs, let them know what our needs are, and specifically identify where those align and where we can maximize mutual benefit for these initiatives.

I would also add that the investments outlined in the NORAD modernization effort have been very specifically focused on aerospace threats to the continent, in keeping with NORAD's mandate. In budget 2022, the government also announced a plan to review our current policy. That will be an opportunity to look more broadly, beyond just the aerospace warning and control and maritime warning mission of NORAD, to other threats and opportunities that come in the Arctic, and make recommendations to government on potentially looking at other investments in the north where there would be additional benefits potentially for northern and urban communities.

The Chair: I'm told that General Pelletier's sound has somewhat improved. Maybe we'll carry on the last 20 minutes with some participation on the part of General Pelletier.

Ms. Mathysen, go ahead.

Ms. Lindsay Mathysen: I believe General Pelletier was going to respond after. I'm glad to know that his sound is all right.

LGen Alain Pelletier: Mr. Chair, I truly apologize for the current state of the technology.

All I'm going to add to what Mr. Quinn said is that at NORAD, in a number of symposiums, we have looked at how we're going to do business better in the future, in terms of not only the use of infrastructure, but also the use of other technology in the north. We're very focused on how we're going to get after such capability, and we're working to actually get after multi-use capability, so that whether it's a hangar or the elongation or improvement of runways, it's going to benefit not only the military community but hopefully the local communities as well.

The Chair: You have one minute.

Ms. Lindsay Mathysen: In the same meeting last week, Dr. Byers focused a great deal on the RADARSAT improvement. Could we receive an update on where that is in terms of his focus on that?

• (1135)

Mr. Jonathan Quinn: I think I'll start. I'm not sure if General Pelletier or General Huddleston will have anything to add.

If I understand the question correctly, part of the NORAD modernization plan is to enhance the amount of funding that has been allocated for the replacement system for the RADARSAT Constellation Mission, which was actually just launched fairly recently. This is an effort to look ahead and make sure that we're doing everything we can to minimize gaps in capability for the Canadian Armed Forces to start thinking about and planning out those replacement capabilities for when the RADARSAT Constellation Mission reaches the end of its useful life.

For the replacement, we're looking to do something a little bit different, which is for the successor to the RADARSAT Constellation Mission, a government-owned capability for which the Department of National Defence and the Canadian Armed Forces are principal clients or beneficiaries. The replacement would be a DND/CAF-owned asset, and this is to make up for the increased demand that we have for earth-based observation, not only for the Arctic but also for other missions around the world, and also to account for security requirements as well and the necessity for DND/CAF to have the ability to share information at higher classification levels than is necessary for other government departments.

Thanks, Mr. Chair.

The Chair: We're going to have to leave Ms. Mathysen's question there.

Colleagues, we have 20 minutes left and 25 minutes' worth of questions. The math doesn't work, so I will take a minute off everybody.

With that, we go to Ms. Kramp-Neuman.

Mrs. Shelby Kramp-Neuman (Hastings—Lennox and Addington, CPC): Good morning. Thank you, Mr. Chair, and thank you, gentlemen, for being here today.

There's a concern that a personnel crisis is contributing to our inability to ensure our national security. That's the paramount issue here. Second, a recruitment crisis is clearly causing chaos. Something has to give, and we need to have a plan. Retired general Rick Hillier has publicly stated that he has been given information that the personnel crisis is as critical as a 50% shortage. I realize operational security precludes you from commenting on just how bad things are in the military, but I think it's really important for us to understand what aspects of the CAF training must be scaled back due to the crisis. Just recently, General Eyre has publicly stated that we have to scale back.

What precisely, in your opinion, must be scaled back in the army, in the navy, and in the air force respectively? Second, is this draw-down an admission that we cannot meet our NORAD and NATO commitments?

The Chair: Insofar as you can, if you could tie that question to the study, it would be helpful.

LGen Alain Pelletier: Mr. Chair, I'll let General Huddleston, who's responsible for force generation in the RCAF, address the question to start off.

MGen Iain Huddleston: Thank you, sir.

My responsibilities include reconstitution and the retention effort for the RCAF. I'm not involved in recruitment, although my division is focused on supporting recruitment through improving RCAF attractions. What we mean by that is selling ourselves effectively at events around the country and at colleges.

I acknowledge that the CDS has presented our personnel situation as a crisis, and I agree with that. My role as the commander of 1 CAD, with my commander of 1 CAD hat on as opposed to the CANR hat on, is to streamline operational training by training individuals from the basic point to where they are operators. We are looking at ways to fast-track and to acknowledge the past experience of the individuals to accelerate those paths.

Another part of my job is very much on the retention side, where I need to make the RCAF a better place to work and a more attractive place to stay, moving forward. Effectively, that's where I'm focused. In terms of the RCAF as a whole, the focus points are similar, but they extend now to basic training and to working with the chief of military personnel to improve recruitment.

To describe it as a crisis is accurate. There are a number of numbers out there in the public sphere, as you've said. I won't speak to those, but it is very much a near-term, key focal point for the RCAF.

• (1140)

Mrs. Shelby Kramp-Neuman: Do any of the other gentlemen wish to comment on that?

LGen Alain Pelletier: I'll just add on to General Huddleston's answer that obviously NORAD will continue to do its mission as part of the CAF reconstitution priority. The vice-CDS has acknowledged the requirements for our personnel to be dedicated to the mission, given the no-fail nature of our mission in terms of threat warning and attack assessment.

Mrs. Shelby Kramp-Neuman: Thank you.

The Chair: You have about 20 seconds.

Mrs. Shelby Kramp-Neuman: How can we best attract our brightest and best Canadians to work within the military? What's the carrot that we can dangle to these individuals to get them involved?

The Chair: I bet all of you have opinions about what that carrot might be. If you could work your answer into some other part of the proceedings, that would be helpful.

Ms. Lambropoulos, you have four minutes, please.

Ms. Emmanuella Lambropoulos (Saint-Laurent, Lib.): Thank you, Mr. Chair.

Thank you to our witnesses for being here to answer some of our questions.

I'm going to piggyback a bit on what my colleague said previously. I know that it might not be necessarily within your role, but I was wondering if you could answer to the fact that recruitment efforts are happening even in the north.

Last week we heard from Stéphane Roussel, who told us that the indigenous communities are pretty much maxed out through their work with the rangers, and I was wondering if you could comment on whether there is still room in the north and in indigenous communities to go and recruit. Especially if we're talking about protecting the Arctic, I feel that this is a community that can probably do that best. Do you have any comments on this?

LGen Alain Pelletier: I agree that northern communities have a lot to contribute to the defence of our country and to the protection of our sovereignty; however, I believe that the issue of capacity would be best addressed by our chief of military personnel, who keeps statistics and has a very good understanding of the recruiting pool across Canada.

Unfortunately, I don't have the statistics or the data to answer the question.

Ms. Emmanuella Lambropoulos: Thank you.

Another colleague of mine, Madame Normandin, previously mentioned our ability to detect and destroy a missile that is headed towards Canada. You were starting to answer the question, but I don't think you finished the answer to that question. I'm quite curious to hear what this anti-missile agreement was and why Canada is not part of it.

Can you comment as to whether or not being part of such an agreement would make us safer from these threats?

LGen Alain Pelletier: I'm not going to elaborate on why Canada is not part of the Anti-Ballistic Missile Treaty. That's a policy question that I'll leave to our national decision-makers; however, I'll address our capability of detecting, tracking and—

The Chair: I'm sorry, General Pelletier; apparently we are not getting translation.

I don't know what to do, other than to simply limit the responses to General Huddleston and Mr. Quinn. It's really quite unfortunate,

because I know General Pelletier well. I think the world of him and I think he has tremendous things to add to this conversation.

Should I be arbitrary here, colleagues, and just simply say that we'll have to invite General Pelletier back at another time?

Mrs. Cheryl Gallant: Is he retiring or anything?

The Chair: No, not as far as I know.

Are you retiring, General Pelletier?

• (1145)

LGen Alain Pelletier: No, I am still in the system.

The Chair: Yes, as far as you know, you haven't been invited to retire. Well, that's good; we're ahead of the game here.

I am, unfortunately, going to ask the other two to respond to the questions. Again, I feel bad that we're not going to have the benefit of General Pelletier's thoughts and wisdom here.

Let me turn to either Mr. Quinn or General Huddleston to respond to Ms. Lambropoulos.

MGen Iain Huddleston: I can attempt to follow up on what General Pelletier was saying. We are challenged in our ability to detect and track the most modern missile systems or weapon systems that both the Russians and the Chinese possess, but part of NORAD modernization is to get after some of that problem in both the detect and the defeat areas of our business.

The Chair: With that, you have one minute, Madame Normandin.

[*Translation*]

Ms. Christine Normandin: Thank you.

I'd like to follow up on Mrs. Kramp-Neuman's line of questioning.

Which sectors of NORAD are the hardest hit by the personnel shortage? Is it infrastructure maintenance, surveillance or aerospace capacity? Which sectors are the most vulnerable?

MGen Iain Huddleston: Thank you for your question.

I would say we don't have enough personnel to perform infrastructure maintenance, but we also need personnel to maintain our aerospace capacity. Aviation technicians, in particular, come to mind.

Our surveillance teams are also affected, but as I said, we are working on reinforcing them through technology and training enhancements.

[*English*]

It's primarily in those two areas where we are focused in order to support NORAD modernization moving forward.

The Chair: Thank you.

Ms. Mathysen, you have one minute.

Ms. Lindsay Mathysen: Thank you.

I think in our first meeting on this study, we heard from Admiral Topsy about the dangers, of course, of climate change, and how that's changing how our armed forces up in the north, up in the Arctic, deal with that.

Could you quickly expand on that for us today?

MGen Iain Huddleston: Mr. Chair, I believe that question is for the military side of the house.

We are very focused on the government's commitment to net zero, and we're doing our best to ensure that our aircraft are moving forward in that direction. Primarily, our efforts that are going to be successful in the near term involve improvements to infrastructure, reductions in the use of flying hours through simulation, and certainly consultation with indigenous and northern communities in order to ensure that our impacts are minimized when our forces are deployed to the north.

The Chair: Thank you, Ms. Mathysen.

Mr. Bezan, you have four minutes.

Mr. James Bezan (Selkirk—Interlake—Eastman, CPC): Thank you, Mr. Chair. I'll be quick.

I want to thank our witnesses.

We were looking at the U.S. ballistic missile defence program. Could General Pelletier explain the mechanisms of how the hand-off happens between NORAD and the American BMD program if they were going to intercept a warhead coming towards North America and how that hand-off comes back again, just so people understand the efficacy of the program and the overall involvement that Canada has directly and indirectly in the decision-making process?

The Chair: I know you directed that question to General Pelletier. Unfortunately, his communication is not working.

• (1150)

Mr. James Bezan: I'll put it to Major-General Huddleston as commander of the Canadian NORAD region.

MGen Iain Huddleston: I don't, unfortunately, have knowledge of the Canadian involvement in the missile defence aspect of NORAD headquarters. That would have to be a question that we would take on notice to be answered more fulsomely at a later time.

Mr. James Bezan: We'd appreciate that. You can get back to us on that.

When we are looking at upgrading our current NORAD North Warning System, when we start talking about over-the-horizon radar systems as well as low-earth orbit satellites, would that give us complete coverage of our Arctic archipelagos versus where we're at today, which is strictly on the continent?

Mr. Jonathan Quinn: I will start, and General Huddleston might have more to add.

Yes. The idea is that the Canadian contribution to the new layered surveillance system would be an Arctic over-the-horizon radar site near the Canada-U.S. border that would look to the outer reaches of Canadian territory. A second site would be in the High Arctic in Canada that would see up and over the pole. A little bit of residual research and development are required for that High Arctic sys-

tem, but the plan would be for that to be fielded approximately two years after the lower-latitude system.

Thank you.

Mr. James Bezan: When were you looking at a timeline, then? You're saying two years after the fact. Is a Canadian industry involved as the developer, or is it American? What is the timeline here to get this whole system up and running?

Mr. Jonathan Quinn: We are in the early stages of implementation at this point, but, as I think General Pelletier said in an earlier answer, for that initial Arctic over-the-horizon radar system, we're looking to have that up and running towards the end of the 2020s.

Mr. James Bezan: Is NORAD also looking more into the space domain of making use of satellites and expanding their RADARSAT constellation in particular?

Mr. Jonathan Quinn: From a Canadian perspective, part of the package that was announced in June for NORAD modernization included additional investment in both earth observation satellite—that was the follow-on to the RADARSAT constellation mission I mentioned previously—and additional funding to get the secure satellite communications above 65° north up and running.

Both of those will be important Canadian contributions, not specifically to NORAD space capabilities, but they will certainly be used, and NORAD will benefit from those investments.

The Chair: Thank you, Mr. Bezan.

Mr. Fisher, you have the final four minutes.

Mr. Darren Fisher (Dartmouth—Cole Harbour, Lib.): Thank you very much, Mr. Chair.

Thank you, gentlemen, for being here.

I'm going to direct my question to Mr. Quinn. I'm looking for some more discussion in layman's terms.

We talked about the future fighter capability project. With other questioners, most notably Mr. Robillard, we talked about NORAD modernization. I'm interested in how the two, NORAD modernization and the future fighter capability project, will work together to improve our ability to patrol Canada's aerospace.

Mr. Quinn, I thought you said some things about this before that seemed at a level I could easily understand, and I would appreciate that.

Mr. Jonathan Quinn: Thanks very much, Mr. Chair.

I'll start, and I'll invite General Huddleston to chip in as well.

In terms of the interaction between the future fighter and some of the investments as part of the NORAD modernization package, I mentioned new investments in infrastructure. That will make sure that both in southern Canada but also in the NORAD forward operating locations the infrastructure is appropriate and well set up for those really advanced capabilities of the future fighter aircraft.

As well, a big part of the NORAD modernization effort is to enhance command and control systems. We have a huge amount of data already coming in from various sensors. As we modernize those surveillance systems, there will be even more data. We will use new technology, like artificial intelligence, secure cloud computing and machine learning, to ingest all of that information coming from those sensors, analyze it and spit it out in easily understandable, decision-quality information for operators. We'll have the ability to communicate that not only to operators in headquarters, but also pilots who are flying the future fighter, to make sure that they have that decision-quality information at the ready.

As well—and this is the last thing I'll mention—one of the other initiatives of the NORAD modernization effort is to procure new air-to-air missiles, both short- and long-range, essentially acquiring more of those so we have sufficient stocks, but also a new, longer-range variant of air-to-air missiles that will be used in the future fighter aircraft. This will help account for the fact that our adversaries can launch missiles that can threaten Canada from further away.

Between that enhanced northern infrastructure, so that you can pre-position fighters further to the Canadian outer reaches, and those longer-range missiles, the package will make us much more capable.

General Huddleston, I'm not sure whether there's time to add anything else to that.

Thank you, Mr. Chair.

• (1155)

The Chair: You have about a minute.

MGen Iain Huddleston: Thank you, Mr. Quinn. You've covered it all very well.

The fighters and the supporting structure for the fighters are our defeat mechanism. They're meant to engage the threats that we see, but they will also contribute significantly to domain awareness, the surveillance of the space when they're airborne.

NORAD defence, defence of this continent, is very much a layered effort. We've talked about satellites, about communication and surveillance, about radars, and now we're talking about the fighters. The way they mesh together is important, in order to bring all of those capabilities together to achieve the priorities of General VanHerck and to give us the detect and defeat capabilities, particularly, that we're short on currently.

The Chair: Thank you, Mr. Fisher.

Mr. Darren Fisher: That was really helpful. Thank you, gentlemen.

Thank you, Mr. Chair.

The Chair: Thank you, Mr. Quinn, for making the answers easily understandable to Mr. Fisher.

With that, I have to suspend.

Gentlemen, I hope that the technology we are purchasing for multiple billions of dollars works a bit better than the technology that poor General Pelletier was subject to for the past hour.

It was good to see both Mr. Quinn and General Pelletier again.

We wish you well, and we thank you for your appearance here and look forward to your future appearances. You aid this study mightily. Safe travels to all of you.

I will suspend while we re-empanel.

• (1155)

(Pause)

• (1200)

The Chair: Okay, we're back on.

It's good to see Professor Fergusson again. Welcome back to the committee. You are a familiar face.

Mr. Fetterly as well, welcome back to the committee.

We're going to interrupt at about 12:30 for Professor Charron to join us for the final half-hour.

Congratulations, Professor Fergusson, on the publication of your book. I look forward to it.

Dr. James Fergusson (Professor, Centre for Defence and Security Studies, Department of Political Studies, University of Manitoba, As an Individual): Thank you very much. It's Andrea's book and my book—both of us.

The Chair: It's both of you, yes.

I'm sure you'll have so many royalties coming out of this book that you'll be able to retire.

With that, Professor Fergusson, you have five minutes, please.

Dr. James Fergusson: Thank you.

Thank you for the invitation to testify before the committee. I have three points to raise, which, hopefully, we can get into in some detail in the question period.

The first concerns NORAD modernization and its impact on the Arctic, and other general issues about North American defence and security. The second concerns relations with Russia in the Arctic. The third relates to the impact of the commitment to defence investment in the Arctic—although we don't know, from the announcement by the Minister of National Defence in June, the specific amount of the \$40 billion devoted that will actually go into the Arctic—and its implications for the indigenous and local communities.

First, concerning NORAD modernization, if you look at the documents, including the joint statement between the Secretary of Defense of the United States and the Minister of National Defence in August of last year, the parameters of NORAD modernization remain locked into a Cold War structure and mentality. Even though the threat environment has changed, by and large dictated both by geopolitical changes that have occurred roughly since 2014 and by technological changes that have changed the nature of the threat environment, it doesn't seem that either the Canadian government or National Defence, at least publicly—and again, I won't speak to the United States and their views on this—has really thought about the implications of NORAD modernization for the Arctic.

In specific terms for Arctic security, when the government is committed to funding a new surveillance system consisting of two new radar lines and additional upgrades, modernizations and perhaps some new forward operating locations, they don't seem to realize that this of course creates a direct threat to the Arctic. In this context, we rely upon the defeat mechanism or defence mechanism, basically, with our new generation of fighters—when we get them—and long-range to medium-range air-to-air missile systems.

What's important is to recognize that in the case of conflict, these will become a first target for Russia, and I'll put China sort of in the background of all this. This raises issues about the need to develop point defences. These will be ground-based defences to provide a layer of defence, and this extends further south.

That's the immediate issue that emerges from the modernization program, but of course it existed in the past, so there's nothing new there. More importantly, when you think about the new threat environment, the main threat environment, two things pop up immediately.

First, NORAD is now in the business of missile defence. By the nature of the long-range cruise missile hypersonics, as well as the ballistic missile capabilities of Russia—and, in the future, China as well—these have become missiles.... We need to have the capacity to intercept missiles in flight. This of course raises major issues for the government and the department, as well as the United States, about being able to keep NORAD in its traditional box of air defence or air control, or “aerospace control”, as they call it. It's just air defence, because we have not been in the missile defence business in the past. Hence, what capabilities will we need to be able to deal with this problem?

That's the first thing that emerges. This raises major issues that the government and the department need to start thinking about. I'm sure they're thinking about it, but of course this has implications for long-standing Canadian policy on ballistic missile defence.

The second element of this is that it's an all-domain environment. It's an all-domain defence environment, so we of course talk about surveillance being in all domains, with land, air, space and maritime being integrated together on the surveillance side of the equation, but this also needs to be integrated in terms of the defeat or defence side of the equation for an effective deterrence by denial. In that regard, this raises questions about the current structure or the mission suite of NORAD, which is largely aerospace—air defence—and whether this needs to expand the NORAD mission

suite and in fact move towards the development of a true integrated North American defence command.

The second reason related to this is of course the command and control issues. That's an essential part of NORAD modernization. In so doing, you have an issue about the current command structure, which is NORAD headquarters and the regional commands, and whether that's an efficient and effective way to undertake this. These are all changes that are going to fall out, or what I like to call the elephant in the room.

• (1205)

The third thing raises the issue of the eastern approaches to North America. This raises questions about NORAD as a binational arrangement and the issues of Greenland, which means Denmark—of course, on the sideline of this is Iceland—and how they may essentially need to be brought into the NORAD arrangement. In so doing, this raises questions about NATO and NATO's involvement in the Arctic; traditionally, the Canadian policy has been to keep NATO out of the Arctic.

Those are the first set, on NORAD modernization.

The second is relations with Russia. We have treated, as a function of the Russian aggression in Ukraine, our relationship with Russia, as well as China, as black and white. That is, they are our enemies, as the chief of the defence staff said about a week ago in testimony to another committee—I think it was the committee on public safety.

We live in a world of great power politics, great power relations. It's important to remember that in great power politics, the United States leading the west, Russia and China, and I would add—

The Chair: Professor Fergusson, unfortunately, you're a bit over your time.

Dr. James Fergusson: Already?

The Chair: Already, yes. I know it comes as a great shock to a professor.

Dr. James Fergusson: Yes, I know.

That's okay. I can talk about these things later on.

The Chair: Okay.

Dr. Fetterly, you have five minutes, please.

Dr. Ross Fetterly (Academic, As an Individual): Thank you for the opportunity to speak on the subject of Arctic security. My perspective is that of a former military practitioner and an academic with three decades of study and publishing on defence resource management issues. To give you context of my background, I retired from the military in 2017 as the RCAF comptroller and business planner.

My focus today is on climate change and the impact on defence infrastructure in northern Canada. The 2021 NATO climate change and security plan defined climate change as a “threat multiplier” to NATO members. In the time allocated, I am going to initially discuss the effect of increasing temperatures in the north and the impact on defence, and then conclude by outlining the climate change risks to defence infrastructure.

The availability of infrastructure in the north is the first and most important factor that is necessary to enable the Canadian Armed Forces and the Department of National Defence to operate effectively in the north throughout the year. In recent years, climate change has been a lived reality for citizens living in northern Canada.

The recently released Canadian Climate Institute report, entitled “Facing the Costs of Climate Change for Northern Infrastructure”, stated up front that “Northern Canada faces a double threat of already inadequate infrastructure in a rapidly warming climate.” Canada has a long-standing infrastructure deficit, and this is particularly acute in the north. Physical infrastructure is defined as roads, bridges, sidewalks, potable water systems, airfields, ports and storm and waste-water systems. Governments from the municipal to the federal level have been slow to adapt their infrastructure to climate change.

The United States, in a recent report, has defined that “Climate change is increasing the demand and scope for military operations at home and [abroad].” In Canada, in the 2020-23 “Defence Energy and Environment Strategy”, DND is “the largest user of energy and the single largest emitter of [greenhouse gases] in the federal government”.

As global temperatures continue to climb, broad shifts in weather systems are occurring, making events like droughts, hurricanes and floods more intense and unpredictable. Extreme weather events that may have hit just once in our parents’ lifetimes are becoming more common.

The cost of infrastructure in northern remote locations is significantly higher than in southern Canada.

There are four distinct risks to DND on climate change. The first is budget risk, repairing facilities damaged by climate change events and the need to update both buildings and infrastructure to adapt to climate change. Two is operational risk, reducing training activities due to meteorological or other climate-related risks. Three is the increased frequency of aid to civil power, that being provincial governments, increased deployments of military personnel across the country to support provincial governments and communities that have been impacted by floods, forest fires and hurricanes. We’ve seen a lot of that recently. The final one is outdated regulations. All levels of government in the north need to update in-

frastructure policies, regulations, standards and building codes to explicitly account for the complex and severe impacts of northern climate change.

Thank you.

• (1210)

The Chair: Thank you, Dr. Fetterly.

With that, we’ll start our six-minute round with Mrs. Gallant. I anticipate that somewhere in the six-minute round we’ll have Dr. Charron come in. I’ll just interrupt at that point, and then we’ll carry on after she makes her opening five-minute statement.

Mrs. Gallant, go ahead for six minutes.

Mrs. Cheryl Gallant: Professor Fergusson, Canada is increasingly viewed as being a laggard in Arctic defence. We have Sweden and Finland entering NATO. How do we compare in terms of GDP spent on Arctic defence? Is there an argument to be made that Canada has not been pulling its collective weight in the last number of years?

Dr. James Fergusson: Certainly there’s an argument that we haven’t pulled our weight; that’s without doubt. If you look at the Europeans, Sweden and Finland are about to be new members of NATO. Don’t bring those into the equation, because they have a different strategic situation and threat situation than Canada does.

The investments proposed or planned by the government are important. They’re vital. But they are a little late, and the time frame for committing \$4.9 billion—I think this is the number—over six years and \$40 billion over 20 years implies that we are going to lag far behind relative to the threat environment we have to deal with to ensure that we have a credible posture of defence by deterrence. We’re late and we will remain vulnerable for a long time.

Mrs. Cheryl Gallant: Russia has demonstrated its ability to operate in the high north. It has more capability than we do, and we know that the regime under Putin is expansionist. What does Canada need to do to ensure we don’t fall victim to encroachment in our north? What are our “must haves”?

• (1215)

Dr. James Fergusson: I don't think it's an issue of encroachment by the Russians in the far north. As I was trying to point out—but I talk too much and go on too long—we have common interests with the Russians in the Arctic, and we need to look at developing positive relations, what used to be called confidence and security-building measures, in the Arctic with the Russians. Great power relations are a mix of competition, adversarial relations and co-operation.

I'm not overly concerned about the threat to the Arctic. What Canada needs to do is to be much clearer about where we're going to invest in the Arctic, and we have to start moving more quickly. I understand the delays, because the threat environment actually goes back to 2011, and it took a lot of political changes in the world before we started to move. That, of course, also affects the United States' thinking in this.

In terms of investments, the two radar lines are important. Do we need a third radar line further south? That may be important. Do we need additional defence mechanisms to ensure a credible “deterrence by denial” posture? My view is that, yes, we do. The government is not committed to any ground-based missile defence systems, and those need to be taken into close account.

Mrs. Cheryl Gallant: Something this committee has heard about in this study is the myth that a Russian force could invade our far north and ask for our assistance to rescue them if that was ever attempted. With the advent of hypersonic glide vehicles capable of reaching Canada or the United States in minutes, in what we understand would be a war with advanced technologies and not traditional expeditionary forces, could Canada ever hope to neutralize these threats with our own technology, or would we have to be fully integrated with the United States, where the American all-domain threat sensors are integrated with multi-level missile defence systems at their core?

Dr. James Fergusson: The answer is simple. We have to be integrated with the United States. We do not have the capacity or the will to invest the dollars needed to develop our own, based on our research and development capabilities, to deal with, particularly, hypersonic threats.

It's unclear, at least for the moment—because details are sparse, and I understand why, for security reasons—whether the over-the-horizon systems will be able to deal with the hypersonic problem. We need to integrate. The United States is integrating air and missile defences. We need to follow suit. The issue becomes what aspects, in terms of economic benefits and involvement with Canadian companies and relative to the Canadian economy, can be integrated in this, given that we are already integrated in the defence industrial sector.

Mrs. Cheryl Gallant: In terms of government investment in the basics of upgrading NORAD, how far behind are we and how far forward would we be today had we begun to make these investments—these very serious investments—in 2016?

Dr. James Fergusson: It's very difficult to know.

One of the major issues with regard to the over-the-pole or over-the-horizon polar radar system they're talking about is dealing with atmospheric interference: the aurora borealis, to be blunt. The government did invest and did give a contract to Raytheon Canada to

look at the over-the-horizon system, but I don't know the results of that development and test procedure.

It's certainly something that needs to be moved forward. As I said, if you go back to 2011, that really was the date when this should have started to move forward, but we've been delayed and delayed and delayed. NORAD modernization was identified in 2017. No funding was provided. There are a lot of reasons behind that, but yes, we lag behind, and we will stay behind for a long period of time.

The Chair: Thank you, Mrs. Gallant.

Mr. May, you have six minutes.

Mr. Bryan May (Cambridge, Lib.): Thank you, Mr. Chair.

Thank you to both of you for being here today.

For my first question, I'd like to get a response from both of you, if possible, starting with Professor Fergusson. How can the federal government work with our northern and indigenous communities to advance Arctic security?

Dr. James Fergusson: The answer, in my view, is more than consultation. In my view, the answer—as I was going to say in my opening remarks but I went too long—is that the defence investment in NORAD modernization relative to the Arctic will have significant impacts, and we don't know which specific portion that is, because it will be a lot of things. It will be transformative in the Arctic.

What does this mean for the indigenous communities? That's an important issue, because when we think about security, we think about the defence security of the nation and North America in co-operation with the United States, but those very developments can undermine security in the indigenous and local communities. You're going to invest a lot of money in jobs and training. Is it sustainable over a long period of time? How will it impact indigenous culture?

Also, the government is structured on a functional basis, so Defence will do defence, Transport will do transport and Health will do health, all related to the Arctic. You have a lot of departments and agencies, but there is no central structure in the Government of Canada to integrate it and to recognize that when we invest in defence in the Arctic, these are dual-use capabilities. Better communications will enhance communications—Internet access, virtual health—and a variety of benefits for the indigenous community, so those investments have to be integrated, and that requires, to use the government term, a whole-of-government approach, but there is no whole-of-government structure to do this.

• (1220)

Mr. Bryan May: Thank you.

Go ahead, sir.

Dr. Ross Fetterly: Also, I think about consultation and capacity building to increase the rate of infrastructure construction in the north. The northern population is growing. There are a lot of young people of working age who want to work. I think that the training provided—increased training and development—particularly in the trades, is a good start.

Mr. Bryan May: That's excellent.

This question is for Professor Fergusson. In light of growing tensions between NATO and Russia, is Canada doing enough in terms of allied military exercises in the Canadian Arctic? What are the pros and cons of potentially expanding allied exercises in the Arctic?

Dr. James Fergusson: The pro side is that it enables us to integrate, to be interoperable and to have a centralized command and control system to deal with threats to the Arctic.

The con side specifically is that NATO's interest in the Arctic is not Canada's interest in the Arctic. To put it in blunt terms, NATO's interest in the Arctic is that the Arctic and the Arctic approaches down the North Atlantic are the back door to NATO. They're interested in one set of problems emerging for NATO security or European security. We have other interests and other problems related to North America. That's the difficulty.

The second element of the downside of this is that it now creates an image. If you think about the meeting of the Arctic 7, the NATO allies chiefs of staff meeting, this implies that North America and NATO are integrating together and that as a result of this we will use this as an avenue to threaten Russia. It is politically and diplomatically problematic, in my view.

Mr. Bryan May: Thank you.

In terms of international co-operation on the Arctic, what are the most important steps Canada can take to advance its interests, enhance its Arctic security more broadly and co-operate productively with its allies?

Hopefully, I can get a quick answer from both of you.

Dr. James Fergusson: The simple answer, in my mind, is to restore the Arctic Council to deal with the non-military side of it and to begin lower-level discussions with Russian military officials, because that is a key issue here, to avoid the miscommunication or misunderstanding that can lead to accidental warfare in the Arctic. Canada and Russia have a common interest to keep the Arctic isolated. If we can do that through what was known in the past as confidence- and security-building measures at the military-to-military level, that will facilitate a more secure Arctic, in my view.

It doesn't mean that we're justifying the Russian invasion of Ukraine at all. That's a different set of issues.

The Chair: You have 30 seconds.

Mr. Bryan May: Professor, you're left with about 30 seconds, sorry.

Dr. Ross Fetterly: I would look at China. China is building ice-breakers. China is looking at the north for resource extraction, from fishing to minerals in the seabed. I think that's more of a long-term threat to Canada and North America than the Russians are at the present.

• (1225)

The Chair: Thank you, Mr. May.

Madame Normandin, you have six minutes, please.

[*Translation*]

Ms. Christine Normandin: Thank you very much.

Thank you to the two witnesses.

Professor Fergusson, Major-General Huddleston, in the previous panel, said that deterrence capability would be important in the future, because the expectation is that—

[*English*]

Dr. James Fergusson: My apologies. I'm not getting the English translation.

The Chair: You probably need to change your settings to get the English translation.

Dr. James Fergusson: Okay. I think I have it.

The Chair: Go ahead, Madame Normandin.

[*Translation*]

Ms. Christine Normandin: I'll repeat the question.

Major-General Huddleston was in the previous panel of witnesses, and he said that deterrence capability would be important for NORAD in the future, because missiles were becoming faster and faster and our ability to intercept and destroy them was becoming more and more limited.

As we speak, how do our potential adversaries view NORAD's capability? Does NORAD come across as being strong? Can NORAD flex its muscle and scare or deter them, or do our current adversaries not really take NORAD seriously?

[*English*]

Dr. James Fergusson: I think NORAD is taken seriously. I can't speak to the perceptions of the Russians, but if I look at the world, the answer is that we're not very persuasive at all. We don't have the capacity with the current North Warning System to track cruise missiles. We have a limited capacity with our F-18s, and our future F-35s when we buy them, with look-down radar capabilities to be able to track them and intercept them. That's a limited capability. We don't have the capacity to track hypersonic vehicles.

The answer is that we are vulnerable. The Russians, in terms of thinking about these vulnerabilities, have one big calculation in the back of their minds, which goes back to the Cold War stance of deterrence in North America relative to the Soviet threat, etc. That is, can the Russians be sure that any sort of military use using conventional weapons will not be met with nuclear retaliation? At the backbone of North American defence and security is the nuclear retaliatory capability of the United States. That is the ace in the hand that partially mitigates the concerns of the conventional threat of the missile world, hypersonics and cruise missiles. How credible that is is another important question, and for NORAD, the thinking right now is that it's not very credible.

[*Translation*]

Ms. Christine Normandin: Thank you for such a detailed answer.

I'd like your take on the missile defence shield, ballistic missile defence. In 2005, Canada said that it would not join the system, but we're hearing that Canada may have changed its tune.

If Canada decided to join the system, might the U.S. say it doesn't want the dead weight? Do we have the wherewithal to be a credible partner if we decided to join the ballistic missile defence system?

[*English*]

Dr. James Fergusson: That's the million-dollar question, and it refers to understanding the Canadian policy in terms of what participating means for Canada and what we have to do.

Generally in the threat environment today, which is technologically based—in which the United States is integrating air and missile defence, which includes defence against air-breathing bombers and fighter bombers, cruise missiles and hypersonics all integrated with ballistic missile defence into one—Canadian territory starts to become very important. If the United States, for example, proceeds with their third missile defence site in upstate New York, which hasn't proceeded yet, the value of Canadian territory in terms of tracking battle damage assessment radars goes up significantly.

You can imagine that in the future, if this goes ahead, relative to integration, Canada's participation will be welcomed by the United States because we're going to provide a very valuable piece of territory to them for an effective defence of North America.

It also raises the question of whether we're defended right now anyway. We don't know, and that then raises questions about command and control. If you go back to 2003 or 2004, when we discussed this with the United States, the United States said that Canada could not have a role—nor would NORAD have a role—in command and control, but that may all change.

There are a lot of emerging issues in this. My hunch is that down the road, we will have to be engaged one way or another, but how that co-operation with the United States will work out is the million-dollar question.

• (1230)

[*Translation*]

Ms. Christine Normandin: You talked about the fact that NORAD is a bilateral agreement. Where do you stand on the possibility

of bringing other countries into NORAD, while keeping NATO independent? Is that something worth considering or not?

[*English*]

Dr. James Fergusson: I think it's a really important thing. Remember, it is a binational arrangement, but you have Greenland and Iceland, and, as I mentioned in my opening comments, part of the track now—which didn't exist in the Cold War—because of technology, brings the direct threat down the eastern approaches of the North Atlantic between Greenland and Iceland. Those need to be integrated into our defence system.

Historically, that part of the North American defence component was NATO, but, by and large, it was bilateral between the United States and Greenland and Denmark, with the Thule radar, for example. There were also American relations with Iceland on the defence side, so it was sort of pushed to the side. Because of the integrated nature of this threat environment, I think it's vitally important that Canada and the United States engage Greenland, Denmark and Iceland and begin to integrate a system of systems—we talk about that for the Arctic—for surveillance to make sure they're integrated into North America. As I said, those approaches are the front door to North America but they're the back door to Europe.

The Chair: Thank you, Madame Normandin, for those two million-dollar questions. With military inflation, they're more like two billion-dollar questions.

Welcome, Dr. Charron, to the panel. We have a little over 20 minutes left. I'm thinking that we will stay with the questions, unless you have maybe a one- or two-minute statement, and then we can keep on going through our questions.

What would you prefer?

Mr. Pat Kelly (Calgary Rocky Ridge, CPC): The statement can be provided to the committee and then it will get onto the record that way. That will save time.

The Chair: I think they want to carry on with the questions, and I'm sure that between Dr. Fetterly and you and Dr. Fergusson, you'll sort out something.

Let me just turn it over to Ms. Mathysen for six minutes, and you'll jump in as you're able. Congratulations on the book.

Ms. Mathysen, go ahead.

Ms. Lindsay Mathysen: Thank you, Mr. Chair.

Last week, we heard from Dr. Michael Byers. He said specific things, such as that we need to preserve that assured mutual sense of destruction to hold some of our opponents at bay. Certainly, Dr. Fergusson, you touched on that. He also said, though, that Russia will not invade the North American Arctic.

You touched on that a bit today and talked about the confidence and security agreement and working on those relationships. There was certainly a discussion in terms of the fact that, through that resource extraction or additional number of people going through the Arctic, that can be done through policing and through the international agreements and laws we already have in place, and that the idea of Arctic security takes a different role.

Can you talk about that? Can you expand on your opinion on that?

I will open that to Dr. Charron as well.

• (1235)

Dr. Andrea Charron (Associate Professor, Department of Political Studies, and Director, Centre for Defence and Security Studies, University of Manitoba, As an Individual): Thanks very much.

I think what you're trying to get at is whether we have the right laws to entice Russia to continue to respect the rules-based international order. Notwithstanding the egregious behaviour in Ukraine, when it comes to the Arctic, they've actually been a very helpful Arctic partner. NORAD, for example, is very quick to note that even when Russia is buzzing our air identification zones, they are remaining in international airspace. We still have the search and rescue agreements. We still have the moratorium on Arctic fishing in the central Arctic Ocean.

What we really want to do is encourage the Arctic states and especially Russia, and by extension observers in the rest of the world, to respect the rules-based international order, to get back to the business of scientific, indigenous, knowledge-based projects that work to mitigate the effects of climate change, to respect the UN Commission on the Limits of the Continental Shelf, which to date has been respected, and to return to that more co-operative tone we had pre-2014.

Dr. James Fergusson: I would only add that if you look at the projections about transportation in the Arctic, in the United States, for example, their Coast Guard, the policing arm, is also under title 10 and can be transferred to the Department of Defense—they are military vessels.

I think it's similar in the case of Russia. Along with increased transportation up there, assuming that this all plays itself out as projected, you will have a more military naval presence there. That means you're going to, in the international waters side of the Arctic, depending on how it all opens up, have more likelihood that you're going to have not confrontations but connections or meetings of Russian naval vessels, military vessels, Canadian, American, etc., and Chinese potentially, in the future.

In that context, it's important that when we talk about the rules-based order, the notion to extend this in the ideal...we need to develop common rules that go beyond simply the law of the sea and the way it's been done elsewhere. These were problems during the Cold War. We need to start talking about how to manage this co-operatively because of common interests. That's an issue that has to emerge as one of the confidence-building and security measures that I think are important in the Arctic.

Ms. Lindsay Mathysen: One of the conversations we led to last week, as well, was that idea of, through whatever will happen in the world with Russia, not pushing it towards China in terms of our activities, certainly not isolating it permanently, and going forward in a far more diplomatic way.

Could you comment on that as well?

Dr. Andrea Charron: I certainly can. As I was saying in my opening remarks, I don't think this Arctic 7 versus Russia is helpful. I was actually very surprised that Canada would host the first Arctic chief of defence staff meeting this summer, having already met with Arctic allies without Russia, and including the Netherlands, France, Germany, and the U.K. in the Arctic security forces round table in Alaska. We don't want to entrench this A7 and others versus Russia. What we really want to do is encourage Russia.

I think the Arctic is going to be the issue area that is how we normalize, eventually, relations with Russia after it returns all annexed territory to Ukraine. So it's quite far off, but traditionally, coming out of the Cold War, the Arctic has been very special for Russia. It accounts for 20% of their GDP. They have the largest amount of land and maritime space there, and population. There are all sorts of reasons they want the Arctic to work for them.

We have to find other avenues for the Arctic 7 to discuss Arctic issues without making it into an Arctic 7 club, and work with the permanent participants. Let's not forget that we promised them that we would consult them, and time and time again we make decisions without them. It will be the scientists and the permanent participants who will be the leads in normalizing relations and encouraging Russia to return to what has been a more co-operative space.

• (1240)

The Chair: Thank you.

The math doesn't work, folks, so we're down to three minutes, then three, one, one, three, three and one.

Go ahead, Mrs. Kramp-Neuman.

Mrs. Shelby Kramp-Neuman: Thank you, Mr. Chair.

We've heard today and throughout the entire study so far that we're vulnerable and that we have limited capabilities in the north. Without a strong plan for recruitment and retention, Canada will not have the troop numbers we need to achieve our current objectives. What's the plan to improve the military lifestyle, and how do we attract the best and brightest to our Canadian Armed Forces?

Dr. Ross Fetterly: I can answer that question.

I teach regularly at the Royal Military College of Canada distance learning program, which is an excellent program, particularly at the undergraduate level. My students tell me—they are often married couples, and they have kids—that their priority is that when one of them is posted, they both be posted to the same location. That's extremely important to them, to the extent that they could both leave the military if they were separated. That's important to them.

To the extent that career managers and the system can move people from one place to another, that makes a big difference. I think it will really be a significant issue if that can be put in force.

Dr. James Fergusson: I would add only a few things.

First, and I don't mean to be flippant, hope that the economy goes down and the labour market shrinks dramatically. That's always a correlation to increasing recruitment in the forces. As I said, I'm not trying to be flippant. There are things that National Defence, in a more focused and sophisticated recruitment and retention program, can do, but you have to remember that today, and this is the real elephant in the room on this side, the shift from a labour-intensive armed force to a technology-intensive armed force means that the forces are competing with high-tech, highly educated private companies and the public service as well. What will entice them to go into the forces, when they're going to make a lot more money and life is a lot better—let's be honest—in the private sector? That's an Achilles heel, and sometimes there's not.... It's what in public administration they call a “wicked problem”.

One thing that the forces have to start to realize...and this is not new to me. I would refer back to Doug Bland's words long ago, that the forces have the mentality that you enter when you're 18 or 19, you get trained and educated, and that's your life career. In the world we live in now, life careers are no longer attractive: In five or 10 years, I can get these skills and do this, and then I'll transition into the private sector—

The Chair: I'm going to have to—

Dr. James Fergusson: Shut me up.

Voices: Oh, oh!

The Chair: Yes.

I doubt that any political party is going to take on your suggestion of contracting the economy.

Mr. Robillard, you have three minutes, please.

[*Translation*]

Mr. Yves Robillard: Thank you, Mr. Chair.

When it comes to international co-operation in the Arctic, what are the most important things Canada can do to advance its interests, improve Arctic security overall and work productively with its allies?

[*English*]

Dr. Andrea Charron: I can answer that one.

One of the things we are lacking is a code of conduct for military and security vessels operating in the Arctic. We have one for the South China Sea and the East China Sea.

One of the things that all the Arctic states were trying to work toward was this code of conduct, keeping it outside of the Arctic Council, because we don't want to mix the really good environmental protection and sustainable development work of the Arctic Council. It was to have a code outside of that, to have that red phone, and to make sure that, as James Fergusson mentioned, we have those confidence-building measures: that we continue to inform each other of exercises and continue to call out bad behaviour—such as, for example, when Russia is buzzing vessels during Arctic exercises—and that we have no snap large exercises, because that often erodes trust—but all of that will happen after a solution to Ukraine is found.

• (1245)

[*Translation*]

Mr. Yves Robillard: Tell us, if you would, how NORAD has evolved since it was created, particularly in terms of bilateral challenges Canada and the U.S. have had to face.

What does the future of NORAD look like, and what does Canada need to do to prepare?

[*English*]

Dr. Andrea Charron: Well, I think NORAD has evolved over time, especially since 9/11.

More important, I think, is integrating the efforts of NORAD, NATO and the hundreds of bilateral agreements that Canada and the U.S. have in the other domains, in the land, sea and space domains. That's where we need to see more momentum and more movement, so that we're not dealing just with domain-specific plans.

I'd also like to see us start exercising not just in a NORAD context, not just in a NATO context and not just in a land context, but really doing those strategic exercises that involve all domains and more than just one alliance at a time, and more than one event going on at a time, because realistically that's what we're going to have to prepare for. It's going to be a climate change event and an adversary will take advantage of that and the lack of resilience on the ground. It's going to be all of these factors that we need to exercise, but that's expensive and time-consuming.

The Chair: Thank you, Monsieur Robillard.

Madame Normandin, you have one minute.

[*Translation*]

Ms. Christine Normandin: Thank you, Mr. Chair.

Professor Charron, in the brief you sent in the spring, you talked about reviewing NORAD's command structure. What change would you like to see if that structure underwent a review?

[*English*]

Dr. Andrea Charron: Thank you very much.

I don't know that it's necessarily a change, because I don't want us to make precipitous decisions. I do think that this move towards all-domain command and control is going to mean that, first of all, our air operation centres will need to be larger to be able to physically receive the amounts of different data that we're going to have.

There was talk of a combined forces air component commander. We seem to have walked that back. The idea is that the NORAD commander can't be bogged down in the day-to-day workings of NORAD, that we leave that individual to think strategically about protecting North America, but I'd also like to see.... Between the three NORAD regions, we tend to operate only within that region. Our adversaries don't assume that we are going to stay in those boxes, so we need to integrate more within the NORAD regions themselves as well.

The Chair: Thank you, Madame Normandin. We're going to have to leave that there.

Ms. Mathysen, you have one minute.

Ms. Lindsay Mathysen: The Biden administration has recently changed a bit in terms of where it was going on the nuclear posture review, certainly in terms of what it's sending out in terms of bombers to Australia. How does that change Canada's positioning, considering that we are so integrated?

Dr. Andrea Charron: I think we don't want to try to be all things to all people. We have now made North American continental defence the priority. We cannot deviate from that, because quite frankly we can't manage very much more.

I'm also really concerned that we're having a NORAD moment and that we will start to turn our attention to other events and once again leave North America vulnerable. We have this one chance to get it done. We need to make sure we do that, and that it stays in perpetuity rather than becoming the "nice to have" or the "we'll try to do it every other weekend". The defence of Canada and North America is the number one priority.

The Chair: Thank you, Ms. Mathysen.

Mr. Bezan, you have three minutes.

Mr. James Bezan: Thank you, Chair.

I want to thank our panellists for being here.

My question is for Professor Fergusson and Professor Charron.

I want to challenge your assumptions that Russia is going to be a reliable partner in the Arctic, given not only how they have behaved in Ukraine but, leading up to the situation in Ukraine, how they continued opening up and expanding military bases in their Arctic. Because of Russia's behaviour, we now have an expansion of NATO, which they, of course, oppose. I hope Russia is defeated and all the territory in Ukraine is returned, including Crimea.

The question becomes how we will bridge that gap when essentially, I would think, they're going to be in quite a foul mood for a long time based upon a defeat in Ukraine, and they will blame Canada and all the rest of our NATO allies who have contributed assets and funding to enable Ukraine to be as effective as it is.

Wouldn't the Arctic become part of the neighbourhood in which they might see weakness? Shouldn't we be investing even more aggressively in our Arctic capabilities?

• (1250)

Dr. Andrea Charron: Well, yes and no. What we're seeing from Russia so far is that they are not being more aggressive in the Arctic. When Exercise Cold Response was held by NATO in May, Russia was very careful about its behaviour around that. The fact is that, from an economic perspective, the Arctic is very important to Russia.

We have examples in history of how we have taken aggressors out of the international community and they have risen up to be more of a problem. This was Germany after World War I. We also have the example of France after the Napoleonic War. They were encouraged to again be part of this thing we called the "Concert of Europe", and they rose to the occasion.

We always have to be vigilant. We have to watch Russia, but if we are not opening opportunities for them to become a good international community member, then we reap what we sow.

Dr. James Fergusson: I'll be very brief. Do I have time or not?

The Chair: You have 30 seconds, now 25.

Dr. James Fergusson: I basically agree with my colleague Andrea. The outcome of the Russian-Ukrainian war remains to be seen. We tend to forget. We have this very benign view of ourselves, and we discount Russian and Chinese views of us, but if you look at American military capability and American strategy in terms of a global strike, you cannot discount the likely perception in Moscow that they aren't the threat in the Arctic; we are the threat in the Arctic because of the capacity to strike at these vital assets and resources.

We need to think in interactive terms, and that of course can be a spiral up to true conflict, which the Arctic would be engaged in. So I think this is a problem. I'm not suggesting that I justify the Russian aggression against Ukraine—not at all. I'm deeply opposed to it. But there are other issues involved.

The Chair: Thank you, Professor Fergusson and Mr. Bezan.

You have three minutes, Madame Lambropoulos.

Ms. Emmanuella Lambropoulos: Thank you, Mr. Chair.

Thank you to all three of our witnesses.

My question will centre around the potential risk, in terms of Arctic security, of Finland and Sweden joining NATO. Do you think Russia may potentially shift its focus to those countries, as it has threatened to do in the past? Do you believe that NATO's more involved role in the north at that point would change security for Canada with respect to how NATO protects Canada in this area as well?

Dr. Andrea Charron: On the first one, I think that's a red herring. Russia will certainly make hay over the fact that Sweden and Finland may join NATO in the future. It's not a *fait accompli*. However, Finland and Sweden have always been a part of every NATO Arctic exercise.

When we had the Arctic Council, we had the Arctic Five, which was four NATO countries plus Russia. We would simply be expanding it to seven NATO countries plus Russia. Sweden and Finland have always been part of the Arctic and have worked well with the Arctic countries. They also have a very keen understanding of Russia as well, and they are not about to jeopardize that by being overly provocative.

Sorry, with regard to your next question, I've drawn a blank. Can you quickly remind me?

• (1255)

Ms. Emmanuella Lambropoulos: I think it was pretty much one question. It was about how involved NATO would be in Canada's Arctic if this addition were to be made to NATO.

Dr. Andrea Charron: I still think it's not going to be all NATO countries; not all of them can operate in the Arctic. It's going to be the same NATO countries that we have seen.

The primary deterrent to the North American Arctic has been via NORAD. I don't see that changing. What we are looking to do is exchange more information, and also link the various exercises, for example Arctic Edge by the U.S., Operation Nanook by Canada, and the NATO exercises, so that we send a strategic message to Russia that we are operating together, that we practise different things, and certainly to invite them to these exercises so we can build that trust and confidence.

Dr. James Fergusson: I would quickly add that Sweden and Finland are irrelevant to the Arctic question—entirely irrelevant. Sweden is about the Baltics. Finland is about neighbouring Russia on the land. Neither of them has territory on the Arctic Ocean. That's where their interests lie, not with the Arctic.

The Chair: On that note, I'm sure the ambassadors of Sweden and Norway will be quite interested to know they are irrelevant to the Arctic study.

Some hon. members: Oh, oh!

Dr. James Fergusson: I never said Norway.

The Chair: I want to thank each one of you for your participation in this panel, occasionally provocative participation. Again, I

apologize for the time. We always seem to be running out of time. I look forward to your continuing relationship with this committee. Thank you for making yourselves available.

Colleagues, I'll allow our guests to leave, but I want to leave you with a couple of questions.

Please inform the clerk and the chair, if you could, of what you want to do on Thursday. We've received a couple of turndowns from potential witnesses. DND are going to make themselves available, but I can't fill up two hours at this point.

Do you have any suggestions?

The Clerk: They will come for two hours.

The Chair: I know they'll come for two hours. I'm not sure that's a good use of committee time for two hours. If you have any suggestions along those lines, I'm interested.

Second of all—and this is for the people who are going to Washington—DND has asked to send someone with us. It's been a practice in the past. I want to get your thoughts before we say yes.

We distributed the Arctic security study last week. I don't know whether there is any discussion on that, but I'm going to ask for somebody to pass the budget on Thursday. I'm going to get your feedback, hopefully before Thursday, on what to do on Thursday.

To those of you who are going on the Washington trip, could you give me an idea of your reaction?

James, go ahead.

Mr. James Bezan: For the extra hour on Thursday, if you think one hour is enough with DND, then I would suggest that you put witnesses we have on our list for Arctic security in that second hour.

The Chair: Do you want to switch to Arctic security for the second hour? Can we do that?

The Clerk: Absolutely.

Mr. James Bezan: It might be the easiest thing to do.

The Chair: Is that all right with everybody?

Some hon. members: Agreed.

The Chair: Okay, that works. Excellent.

Thank you.

The meeting is adjourned.

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