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• (1100)

[English]

The Chair (Hon. John McKay (Scarborough—Guildwood, Lib.)): I call this meeting to order.

We have our witnesses here for the first hour.

You'll notice, colleagues, that our real clerk is virtual and our virtual clerk is real. Apparently, our clerk's teeth don't always agree with him. He is in recovery mode as we speak.

With that, I will ask our two witnesses—Ms. Madeleine Redfern, chief operating officer of CanArctic Inuit Networks, and Dr. Jessica Shadian, president and chief executive officer of Arctic360—to speak for five minutes each. After that, we will open it up to questions.

Maybe I'll ask Madeleine Redfern to go for the first five minutes, and after that we'll go to Ms. Shadian, if that's all right with both of you.

With that, Ms. Redfern, you have five minutes, please, for your opening statement.

Ms. Madeleine Redfern (Chief Operating Officer, CanArctic Inuit Networks Inc., As an Individual): Thank you so much.

I'm coming to you from Iqaluit, Nunavut. I'm sorry I wasn't able to attend in person. We had a blizzard yesterday.

CanArctic Inuit Networks is an Inuit-owned and Inuit-led company based here in Iqaluit. The goal of our company is to build 4,500 kilometres of subsea fibre optic cable through Canada's Arctic, from Labrador to Inuvik. Basically, the route is up along the coast of Labrador, Baffin Island, through the high Arctic and into the Northwest Passage. The plan is to build out networks that will connect Inuit communities in all four regions of Inuit Nunangat, including industrial/military installations.

The cable will have multi-purpose infrastructure. It will allow for strategic parts of the route to be SMART cable, which stands for "science monitoring and reliable telecommunications". There is currently a serious lack of Arctic marine environmental data, a lack of seabed mapping, and effectively very little to no marine baseline information on everything from temperatures to salinity and currents. Of course, the change in climate is significant.

The SMART cable can help develop that baseline data and begin to monitor climate change in real time. Both the U.S. and Canadian military want and need the same infrastructure as our northern communities: telecommunications, energy and transportation, every-

thing from good connectivity—that is reliable, stable, high-throughput, fast and affordable—to ports and runways. We need infrastructure solutions.

Satellite can provide aerial and surface data, but it is limited in being able to provide data on what's happening in the marine environment. DISA, the Defense Information Systems Agency, is relying more and more on fibre. Fibre and satellite are integrated technologies, but fibre is needed to move large continuous data, especially for all-domain awareness. We know we're going to need to be able to analyze large datasets primarily through artificial intelligence.

Recently, Canada awarded a NORAD contract to Nasittuq, a majority Inuit-owned company, and both the United States and Canada have committed to NORAD modernization, especially since Russia's invasion of Ukraine. However, there is a growing risk and threat from China, especially as China has its sights on the Arctic and has begun serious plans for ice class ships, submarines and underwater drones.

Our allies, including other Arctic nations plus NATO, recognize that continental defence must include all-domain awareness. The marine environment is where we have the least capabilities and the necessity for under-ice persistence.

SednaLink has the support of the Inuit organizations, Inuit development corporations, chambers of commerce and northern and Inuit businesses.

CanArctic can save the Government of Nunavut \$209 million by having the Inuit private sector build, own and manage the fibre optic cable, \$209 million the Nunavut communities desperately need for other infrastructure, including schools, health centres, municipal water systems and municipal garages for water and sewage trucks and plows.

Despite the fact that SednaLink is the perfect project to be funded under the Canada Infrastructure Bank's indigenous funding program and ISED's universal broadband fund, the UBF does not support telecommunications redundancy or even favour the Inuit private sector.

The cheapest Internet can be provided by SednaLink because we plan to use the utility-based model. Customer rates are based on covering the base O and M. Any additional profits can lower the cost to customers, and money can be set aside to expand the subsea fibre networks in phases 2 to 4.

SednaLink has been independently reviewed by two international companies specializing in subsea fibre projects, which have deemed SednaLink viable and have recommended to Inuit organizations and Inuit development corporations to invest in it.

SednaLink, with the SMART cable, also has the opportunity to develop real Inuit capacity in telecommunications, develop a blue economy and monitor climate change, and we can do this better, faster and cheaper than the government can.

When we say northerners must be part of the solution, that includes Inuit businesses.

Thank you.

The Chair: Dr. Shadian, go ahead, please.

Dr. Jessica M. Shadian (President and Chief Executive Officer, Arctic360): Thank you, everyone, for having me here today.

Security takes several forms. There's hard security, achieved with missiles, ships, words of aggression, etc. Then there's security that's achieved through soft power diplomacy, or the power of persuasion. Soft power diplomacy turns into hard power via multilateral institutions, joint agreements, etc.

I'm here today to represent Arctic360, Canada's premier Arctic think tank. While we say that Arctic sovereignty and security begins at home, because it does, it is also interdependent of regional Arctic security, and within this Canada's role and influence in the region.

What is the role, then, of think tanks in all of this? According to the European Policy Centre, think tanks impact policy-making through public events, publications and media presence, as well as through such informal levers as closed-door working groups, round tables and convening spaces for backroom diplomacy. They therefore are important for promoting and even safeguarding values and interests in the global arena. They connect different policy areas, thus breaking down silos and group thinking. In effect, think tanks are a crucial component of the soft power landscape.

Arctic360 is a non-partisan, non-profit organization with a majority indigenous-led leadership team. Our mission is to elevate the national conversation about Canada's north and the Arctic region at home and to provide an inclusive and coordinated platform for Canada to engage in Arctic discussions around the world.

Our six themes all consider the intersection between Arctic security at home in the north and on the world stage. I'm just going to touch on several of them.

The first is infrastructure, as we just heard. The national security risks of Canada's Arctic infrastructure deficit are well known. I personally have testified on this topic numerous times. Canada's Arctic security relies on keeping unwanted investments at bay and having the mechanisms to attract the kinds of investments it would like to have. We've learned that investors need the strategic big picture, in-

cluding an inventory of existing infrastructure, the range of proposed projects, their business cases, etc.

I and Madeleine Redfern, who happens to be the executive director of our northern branch, and our partners at the Wilson Center have spent four years, to no avail, trying to convince Canada to support our efforts to deliver the information that investors want and need. Today the Wilson Center's Polar Institute is actually going at it alone. They are building an inventory of the infrastructure investment potential for Canada's north. Subsequently, the United States is projecting on the global stage the state of critical infrastructure in Canada's north, what should be built and the security risks posed by the existing deficit. Their security message is being heard, from USAID to the Pentagon. Canada needs to do its own policy-facing research to accurately convey to the world its interest and its plans to build infrastructure in the region.

Another theme is diplomacy and geopolitics. Beyond convening conference sessions around the world, we also bring this discussion home through our annual conference to discuss the most pressing Arctic issues with our circumpolar allies. The conference is an invaluable platform for Canada to speak to the world from its own stage. Last year's conference took place less than two weeks after Russia's invasion. The session of Arctic nation ambassadors to Canada was set to basically share the stage with Russia. Arctic360 became a means for Arctic states to communicate at that time unofficially, to ask questions and to find a consensus on how to proceed with an international conversation about Arctic co-operation 10 days into Russia's invasion. Seamlessly, Arctic360 became an important venue for track two diplomacy and consensus building here at home in Canada.

The next theme is critical minerals. The world is looking forward to Canada's coming critical minerals strategy. The north will play a vital role. The national security risk in Canada's Arctic should not be underestimated, yet neither should the opportunity it creates for Canada's soft power diplomacy.

The next theme is Greenland-Canada relations and the North American Arctic. Through our activities, we focus on the importance of a proactive Canada in strengthening Canada-Greenland and North American Arctic co-operation. Without assertive soft power diplomacy, Canada undermines its position and power in the region and its ability to act in its own national interest. A lack of formal diplomacy also undermines Canada's position in the region. We see this happening in Greenland. Soft power diplomacy and formal diplomacy are both necessary for regional leadership and fostering co-operation in Canada's national interest.

In sum, it's not a coincidence that from the inception of the Wilson Center's Polar Institute six years ago, the U.S. has gone from being, I would say, a disengaged Arctic state to directly impacting circumpolar Arctic issues towards its own national interests. Canada takes pride in its active role in multilateral institution building and as a convenor. Soft power diplomacy enabled by think tanks is a crucial step towards formal diplomacy and thus national security.

• (1105)

We are the only Arctic nation with an Arctic think tank that does not have dedicated government support to carry out activities that are in Canada's national interests in the Arctic. A secure Canadian Arctic is helped by the soft diplomacy mechanisms that think tanks provide to ensure that we do not have to use missiles or fighter jets to defend our north.

• (1110)

The Chair: Thank you, Dr. Shadian.

We'll now move to our six-minute round.

We have Mrs. Gallant for six minutes, please.

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

With respect to the Chinese Communist Party, their investments in technology complement their defence capabilities. Which technological investments would help the north with our surveillance and intelligence strategy in the north?

The Chair: Whom are you directing that question to?

Mrs. Cheryl Gallant: That would be to either one, probably Ms. Redfern.

Ms. Madeleine Redfern: We know that telecommunications are absolutely vital in being able to provide the necessary communications that the military and our communities require. The SMART cable component, which has sensors on the cable, would be able to, as I said earlier, collect the baseline data, as well as real-time data with respect to climate change but also, more in this context, any sort of incursions that are happening underwater, whether that is submarines or unmanned drones.

The other thing that's absolutely needed and necessary, and why fibre is good with data centres, is being able to process the sheer volume of data through artificial intelligence. We're seeing that type of infrastructure and support being provided in Alaska, as well as in the Nordic countries.

Mrs. Cheryl Gallant: Would you kindly share with the committee any instances you're aware of with respect to the interest in our north by the Chinese government?

That would be for all of the witnesses.

Ms. Madeleine Redfern: We've seen Shandong, which was a Chinese company, try to acquire TMAC Resources, which was a mine situated in the Kitikmeot region. They're definitely interested in any critical minerals.

Also, there was an attempt by Huawei to provide their technical solutions for connecting 70 of our northern communities. Most of the Five Eyes are now aware that Chinese telecommunication hard-

ware is also software, and it is very concerning and problematic to see Chinese telecommunications infrastructure being provided to Canada's north. It is a massive—not only personal but regional and national—security risk.

Dr. Jessica M. Shadian: To follow up with a few pieces, I will piggyback on Madeleine's comment.

I do believe that telecoms are one of the most pivotal concerns of interest for Canada in building our own telecommunication networks. We need to be able to collect and also control the data that a company has, and we are heading towards an era when all infrastructure has become smart infrastructure and, of course, all types of data are being accumulated that way and we need to be able to have control over that data.

I will say, in terms of Chinese interest, that the Shandong-TMAC mine was, of course, one clear example, but I think what's well known and what we can all agree on is that China is very interested in not just buying Canada's critical minerals but buying the mines themselves so they can produce and create supply chains back to Beijing.

Mrs. Cheryl Gallant: Thank you.

Ms. Redfern, what are the current gaps in infrastructure in the north that are directly due to energy? Please give us your thoughts. Most of all, I'm interested in a small modular reactor as a possible solution to the energy needs.

Ms. Madeleine Redfern: I happen to be the special adviser to the Canadian Nuclear Laboratories, as well as to the Ultra Safe Nuclear Corporation, which is working on the smaller, five-megawatt SMRs. I'm also a member of the national advisory council on SMRs.

Without a doubt, of the 177 indigenous communities that are currently diesel-dependent in this country, there are a number of those communities, like Iqaluit, for which an SMR could be a solution. Hydro, solar, wind and geothermal may be options, depending on the geography. Iqaluit is currently looking at hydro, but we're also doing an SMR feasibility study for Iqaluit, as well as for the Kivalliq region. It can provide the full base power solution, whereas solar and wind right now are only capable of offsetting a small amount.

It is also possible to integrate SMRs with other energy solutions like hydro and/or solar, especially since you want to have some backup when the SMRs have to go down for some maintenance. It's definitely something that both the NRC and the Canadian Nuclear Laboratories are absolutely reviewing as solutions for northern, indigenous and remote Canada.

• (1115)

Mrs. Cheryl Gallant: How receptive are the communities in the Arctic to SMRs, and what can we do to further promote this and enlighten them on SMRs and how beneficial they can be?

Ms. Madeleine Redfern: We had some consultations and information sessions done by NRC when I was mayor for the City of Iqaluit as well as president of the Nunavut Association of Municipalities. What I can tell you is that the mayors and the community members were at least open and receptive to learning more about this technology as a possible solution.

The recommendation coming from the community representatives was that this industry needs to engage with us early, frequently and honestly, and we're very interested in information for doing comparative analysis. That's why the indigenous advisory council for SMRs wants to ensure that we are able to provide all our indigenous communities really good information on all the energy solutions as well as the comparative analysis so that communities can have informed discussions and make informed decisions—

The Chair: Unfortunately, we'll have to leave the answer there. Thank you.

Ms. O'Connell, you have six minutes, please.

Ms. Jennifer O'Connell (Pickering—Uxbridge, Lib.): Thank you, Mr. Chair.

Thank you both for being here.

I'm going to start with Ms. Redfern.

Following up on your comment, I think you said that Inuit business must be part of the solution, or something like that. I tried to write it down. We've heard from CAF or Defence witnesses about the partnerships in the north, and they also find it incredibly helpful.

I'm curious if perhaps you could elaborate on some of those indigenous-led partnerships that could not only help with the security of the north but also with the development of the north for residents living there, that dual purpose. Are there perhaps indigenous-led organizations that we haven't thought about yet or perhaps we haven't heard about that could help with some of these gaps?

Ms. Madeleine Redfern: Nasittuq, which is a partnership with ATCO, has secured a NORAD contract. There's also work under way to identify NORAD modernization infrastructure opportunities. Telecommunications and the SMART cable are, without a doubt, something that Nasittuq is fully aware of, and the ability to move the current work on the research that is being done, such as the partnership with Canada and the United Kingdom, CINUK, which just launched their website yesterday.

We know that we're going to need, for the SMART cable, sensors that also require significant maintenance. There is an Arctic company, an Inuit-owned company here in Iqaluit, called Arctic UAV, so there's an opportunity to train and develop the necessary skill set for Inuit to be part of that digital and blue economy, but it requires us to make much smarter and more strategic investments for that dual purpose to allow us in the north to be part of that and not just to see international or southern-based companies doing this on our behalf with little to no involvement.

Ms. Jennifer O'Connell: Thank you.

You spoke about the Canada Infrastructure Bank and different broadband funding opportunities, but then you said—and I want to make sure I heard you correctly—that it's not built for redundancies. Could you speak to the redundancy that's needed and how we can make those programs better to take into account the very unique nature of northern broadband needs or telecommunication needs? I want to make sure I heard correctly.

Can you elaborate on that?

• (1120)

Ms. Madeleine Redfern: You did hear correctly.

ISED's universal broadband fund does not support telecommunications redundancy, including in northern remote Canada, which is extremely concerning and problematic. When Telesat effectively goes down due to weather issues or because of fibre optic lines in northern British Columbia, Yukon or NWT and is cut off, we lose telecommunication services right across the Arctic. That can even include the RCMP informing our community members that, if we need their services, we have to physically go to their detachment.

Imagine, in a domestic violence situation, that a child has broken their arm or there's a fire. It is absolutely that vulnerable, and lives are at stake. We need redundancy in the part of the region that is incredibly vulnerable. We also want redundancy for the purposes of military defence. They need real-time data under all-domain awareness, and, when and if there is a failure in one of the networks, you want a seamless transition to another redundant network so that you never lose telecommunication.

Ms. Jennifer O'Connell: Thank you.

How much time do I have?

The Chair: You have one and a half minutes.

Ms. Jennifer O'Connell: Okay, thank you.

Ms. Shadian, I want to speak to you about your testimony around the planning for infrastructure. I know that you were limited in time in your opening, but I'm curious if you have thoughts or comments that you can add on dealing with climate change, in addition to the planning for national security purposes. Obviously, the north, and the Arctic in particular, is going to feel the effects of climate change.

Do you have any comments on the need for resiliency in that planning?

Dr. Jessica M. Shadian: A big part of what we're working on is trying to create the mechanisms for Canada to create a long-term infrastructure strategy. We submitted a large proposal to the CIB, and we were perfect candidates for that because it was exactly to do with local communities and building up infrastructure there.

Of course, what we're focused on is this piece of multi-purpose, multi-user infrastructure. We want to understand what the long-term goals are and what we need to build. It's a codeveloped process, so we need to understand. First things first, we don't even have an inventory of what we have or the state of those assets that we do have in and of themselves.

We need a vision, so we need to have a sense of where we want to go and where Canada hopes to see itself in 2050 in terms of the infrastructure there. As part of that project plan, we intended to work with folks from the smart cities challenge and the construction engineers to talk about 2050. What kind of infrastructure do we need to build, and how do those supply and trade chains look in 2050 to bring in new technologies, SMRs—

The Chair: Ms. O'Connell, unfortunately, we're going to have to leave it at that.

I should apologize in advance, and over and over again. We're running a clock here, and I have to stay as close as I can to the clock.

[*Translation*]

Ms. Normandin, you have the floor for six minutes.

Ms. Christine Normandin (Saint-Jean, BQ): Thank you very much, Mr. Chair.

I thank both witnesses for their opening remarks.

I'd like to start with Ms. Redfern. Then I will come back to Ms. Shadian.

Ms. Redfern, my question is about the sensors that are found on the fiber optic cables from which immense amounts of data can be obtained, which need to be analyzed by artificial intelligence.

Are we sufficiently prepared to process this information? Who would be responsible for processing it?

Could this be of interest to different departments? Are the departments aware of the gold mine this represents?

I would like to hear more about this from you.

• (1125)

[*English*]

Ms. Madeleine Redfern: We have actually done a SMART cable feasibility study. Jim McFarlane, Jr., son of the famous James McFarlane, Sr., who created International Submarine Engineering Ltd., has been engaging on my behalf with the defence sector, environmental groups and the industry to basically better understand the state of the marine sector but also how to manage that data. We know that there are already some cables, usually older cables, that are collecting data.

On the west coast, with the University of Victoria, we know that Ocean Networks Canada has a project up in Cambridge Bay. We know that there is work being done on the east coast as well. The SMART cable that is combining the telecommunications cable and the sensor cable is actually something that the Portuguese are working on. It's probably the most advanced. There's one more company, called PolArctic, that's based in Alaska. It's run by an indigenous woman who is a former air force member.

We definitely want to figure out for Canada how we can collect this data in a way that is useful for many different users while also recognizing that there are already protocols that the defence sector must be involved in with regard to being able to get the data that meets their national security requirements. They take priority when

and if there is a need to respond to a foreign incursion in our region.

So it's relatively new. We also know that quantum computing is absolutely necessary to help process the sheer volume of data through this modern artificial intelligence software program that is being worked on, primarily in the western countries. Those are the ones we're most interested in. We don't want, of course, Chinese or foreign entities working on software that could harvest it for non-ally purposes.

[*Translation*]

Ms. Christine Normandin: That just happens to be the next question I was going to ask you.

To what extent is there a risk of this data being collected by foreign entities? Are there sufficient protections?

Would a better partnership with the Department of National Defence ensure that there are safeguards in place to prevent cyber attacks on sensors, for example?

[*English*]

Ms. Madeleine Redfern: Exactly. That's why it is really important that the defence sectors and the Canadian security agencies be consulted. Cybersecurity risks are always an issue, whether it's with satellite or fibre; however, fibre is generally understood to be significantly more secure. That's why we're having these conversations early on to inform the military and the defence sectors that SMART cables are definitely a solution, but we also need to understand the vulnerabilities. We need to figure out how to ensure that not only the infrastructure but also the harvested data are secured.

Right now the goal is always to recognize that you need to have continuous development of a software that deals with those cyber-risks. You will never get a perfect solution. There will always be an ongoing development to protect that data.

[*Translation*]

Ms. Christine Normandin: Thank you very much.

Ms. Shadian, you mentioned critical minerals. We know that the United States has its eye on mines in the north.

In your opinion, is Canada doing enough to protect this resource or are we kind of letting it go to other interests, which are not as bad as Chinese interests, but are still foreign interests?

[*English*]

Dr. Jessica M. Shadian: Exactly. I didn't have time to continue on with my discussion about critical minerals.

There are several things. On the one hand, critical minerals are really Canada's space to shine, especially in the Arctic and in the North American Arctic. We have what the world wants. That is something where we have a lot of leverage in terms of the United States.

Personally, I was a bit shocked that there doesn't seem to be a lot of backlash that the Pentagon right now is very interested in helping invest in Canada's critical minerals. As you say, supply chains won't be going to Beijing, maybe Detroit, but shouldn't Canada have the opportunity and the ability to decide where its supply chains will be built and where they go?

The United States is a very strong partner and is going to be a very strong partner in this space; however, I think that Canada needs to make sure that it's doing everything to protect its national interests in this area to make sure that it's giving itself the ability to decide for itself the direction and the future of its critical minerals economy.

This is absolutely about national security. There's a whole linkage with infrastructure and everything else. If you look at the critical mineral strategy, a big piece of this is that we need to build infrastructure around it. This is where the north becomes a real potential security risk if we don't get it right and we don't take it seriously. Others will come in, and they will fill the gap if we're not ahead of the game.

• (1130)

The Chair: Thank you, Ms. Normandin.

Ms. Mathysen, you have six minutes, please.

Ms. Lindsay Mathysen (London—Fanshawe, NDP): Thank you so much.

Again, I always seem to be continuing on the conversations from my colleagues, so I appreciate that.

Ms. Shadian, in terms of critical minerals, we're not prepared in terms of how Canada can best take advantage of them. Would the government need to make significant investments whenever we see the taking of those natural resources? Of course, the people within that area are impacted, and I think, obviously, in terms of first peoples, indigenous people, and how they're often not considered in that process. Could you talk about that and where the government needs to go with that?

Dr. Jessica M. Shadian: I think that's where Canada has a very good story to tell, because our first critical minerals mine in operation is on Dene land in the Northwest Territories. It's operated by Det'oon Cho corporation, in partnership with Cheetah Resources.

We have a model for the world about how to do indigenous reconciliation and create really strong equity partnerships with indigenous communities. This goes for the north and south of Canada as well.

In that frame of mind, we have something going on the right path. I also think the critical minerals strategy, in its current iteration that I've seen, is a bold statement to the world about Canada and where we want to go.

What I didn't have a chance to say is that last year, at our annual conference, we created the first-of-its-kind session that brought the Arctic trade councillors to Canada together to talk about regional co-operation in building trade and supply chains north of 60 and to one another with the Nordic and North American Arctic.

I think where our deficits lie is in our ability to stand our ground and do what we need to do. We have the ability to lead in this space. We just need to make sure that we keep it and that we go forward robustly and very proactively. I think that is a great way to say it.

Of course, yes, we need to invest in the infrastructure. These are going to be public-private partnerships, so we need to be able to control the kind of investment and attract the kind of investment that we want. That goes back to a lot of the work that Madeleine and I have been trying to do.

There was an earlier discussion about Inuit businesses being involved in everything. One of the activities that we have persistently been carrying out is trying to bring together Bay Street with northern indigenous development corporations and northern governments to share with one another so northerners can educate Bay Street about projects and project potential in the north, and for northerners to have a conversation that would help them pull those business cases together and make sure that the business case is something that resonates with what Bay Street wants.

A lot of those kinds of efforts try to bring the two together so we can have financial institutions from Canada and the U.S. investing in our infrastructure. Of course, this goes back to needing a bigger plan, a long-term strategy. They need something that can show pipeline of projects and bundling of projects. This is what we're missing.

• (1135)

Ms. Lindsay Mathysen: Ms. Redfern, I saw you nodding a lot. Perhaps you also could contribute to that very fulsome answer, which was awesome.

In addition, I am always concerned, because governments often talk about the need for consultation but maybe less about the more fulsome free, prior and informed consent. Maybe you could talk about that on the ground as well.

Ms. Madeleine Redfern: First of all, I want to speak to the fact that a lot of the infrastructure does need to be integrated. In order to be able to build out telecommunications, you need energy. In order to have energy, you need transportation. Often the communities, the mines and the defence sector are all wanting the same thing.

With respect to your question, indigenous communities more and more want more than consultation. They are now looking at wanting to have equity ownership in these major projects so that we benefit beyond just training or jobs. Take the fibre optic project. SednaLink is Inuit-owned and Inuit-led, and has the backing of Inuit organizations and development corporations. No other company or entity can really achieve that.

Nasittuq is that NORAD modernization vehicle that can help in directing where these investments need to go, but it needs to be more than defence. It needs, as Jessica said, a really fulsome infrastructure investment strategy that pulls in the private sector, from the mines to the investors, the northern and federal governments, and of course our indigenous communities and peoples, who want to be part of that.

Ms. Lindsay Mathysen: Mr. Chair, I'm not sure how much time I have left.

The Chair: You have 15 seconds.

Ms. Lindsay Mathysen: All right. I will cede that.

Thank you.

The Chair: Thank you for not trying to stretch your 15 seconds.

Mrs. Kramp-Neuman, you have five minutes, please.

Mrs. Shelby Kramp-Neuman (Hastings—Lennox and Addington, CPC): Ms. Shadian, I would like to direct my initial questions to you. Your time was cut short earlier, and I'd like to give you a little bit more time to elaborate on the map of our assets.

You mentioned that we don't currently have a single comprehensive map of the assets in the Arctic. Considering that we're about to embark on a historic modernization of NORAD, with tens of billions of dollars poured into Arctic infrastructure, how, in your opinion, can that oversight be defended? After your report was published, did anyone from the government reach out to you to offer to work with you and your partners to undertake any particular type of survey?

Dr. Jessica M. Shadian: No. I testified at the House of Commons for their first Arctic report, and I submitted a discussion about why we need to create an infrastructure investment strategy. I also then testified at the Senate for the previous report, and I testified earlier and spoke again.

So no, I would say they have not reached out, but we have been relentless in reaching out to Canada. We spent a lot of time putting the CIB application together. Also, coming out of COVID, and Minister McKenna talking about the need to have these kinds of legacy projects for infrastructure to pull us out of COVID, we had several meetings. It was like a football. We got put around to different places, and everyone said, "Yes, yes, thank you", so I don't know—

Mrs. Shelby Kramp-Neuman: I guess that would be a natural segue for me to direct the next question to you, Ms. Redfern, with regard to how the pandemic has greatly exacerbated the digital divide in Canada's north. Could you possibly expand on the statement you made?

Ms. Madeleine Redfern: It's important to understand that we're seeing worldwide, including in southern Canada, telecommunications advancing in leaps and bounds, while in the north we're back to the highest level of speeds pre-Starlink, which is now starting to come in. Through our major ISP, it is 15 megabits per second, versus the previous five for speed.

Even with the almost \$50-million investment that the Government of Canada made to upgrade our telecommunications, it's very vulnerable to weather, so any time there's a blizzard, rain or clouds, it can go down to literally zero. It hampers our ability to participate in online learning for children who were trying to connect to their kindergarten to grade 12. It hampers the ability of our post-secondary students to attend. It hampers our ability to do e-health and e-commerce.

There are times when you can be at the grocery store and the Internet goes down, and you can't pay for your groceries or you can't pay for your gasoline. Of course, you can't go to the bank and the ATM to get cash. It's so consistently unpredictable. When the

Rogers network went down this past summer in Canada, that is our reality several times a week. You literally cannot do anything with respect to communications. We're so dependent on telecommunications for governance and providing information to our residents. The community access program was shut down at the library, so residents who have no computer or connectivity at home couldn't get information on the pandemic.

It really is critical infrastructure, and it is now recognized by several countries around the world as a human right.

• (1140)

Mrs. Shelby Kramp-Neuman: With all the critical infrastructure that is clearly needed, and to complement everything that you've already suggested with reference to the NORAD modernization, it seems to me as though we're behind the eight ball.

How far are we behind the eight ball with regard to basic infrastructure and, more importantly, the human capital that is needed? Can we expect private industry to do most of this on their own, or do you reckon that the government needs to start some kind of initiative?

Ms. Madeleine Redfern: We desperately need to have proper infrastructure investment strategies. There is a telecommunications strategy that Canada produced, but I've learned the distinction between what is a political strategy versus what we in the business sector recognize as a business strategy.

A business strategy tells you what you're going to build, the routing, how much it's going to cost, who's going to do it and what level of potential government investment—let's say federal, provincial, territorial or municipal—might be in it, and we don't have that. What we have is a \$2-billion universal broadband fund, which everyone has to compete for. There will be one winner, and everyone else will be losers.

It undermines competition. It undermines ensuring that our customers have options. We know that competition improves service and improves cost.

The Chair: We're going to, unfortunately—

Ms. Madeleine Redfern: We're really behind the eight ball on that.

The Chair: Unfortunately, we're going to have to leave the answer there. I apologize again.

We'll go to Mr. May for five minutes.

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

Thank you to our witnesses for being here today.

Ms. Redfern, during this study, we've heard of the benefits that dual-use technology and infrastructure can have on both the security of the Arctic and the well-being of those living and working in Canada's Arctic. However, we've also heard in previous testimony at this committee that there is a lack of a whole-of-government approach to the Arctic.

Can you describe where you see federal departments and other levels of government working well together on the north and on northern development? Where do you see those gaps, specifically?

Ms. Madeleine Redfern: Recently, we're starting to hear Government of Canada departments recognize the value of dual-purpose infrastructure. I think the military gets it the best, but I can tell you that departments like Environment and Climate Change, ISED and Indigenous Services seem to not understand how to do it in practice.

The instant that something like a SMART cable can do climate change or environmental protection, provide telecommunication services for the communities, for mines and for defence, and develop a blue economy, it's as if the federal government's various departments start short-circuiting. They simply do not know how to take bits of different mandates and different pots of money and integrate them to support one smart investment that does lots of things.

We need to get the deputy ministers and the ministers much more aligned in understanding that they need to work together. This is why there is value in having strategies other than proclamations, visionary statements or just a pot of funding that we're supposed to apply for but that may not be funding the smartest or most strategic investments that are good for dual purpose and multiple users.

• (1145)

Mr. Bryan May: Thank you. You answered some of my follow-up questions.

I'm going to shift gears here for a minute to Dr. Shadian.

You talked a little bit in your opening statement about Arctic360, and it was very fascinating to hear about the work you were doing to be able to create that back channel with the Russians specifically on Arctic issues.

A number of us were in Washington a couple of weeks ago, and we met with folks at the Pentagon as well as the Wilson Center. They were very clear across the board that there is no appetite whatsoever to speak with Russia right now on any of these issues, including the Arctic, and they were referring, obviously, to the Arctic Council and Russia's being the chair of the Arctic Council currently and how they work around that.

Could you expand a little bit on your experience with Arctic360, how that worked, and whether there are future engagements planned right now with Russia?

Dr. Jessica M. Shadian: We had the Arctic ambassador to Russia planning to be on that session along with the other Arctic state ambassadors, and we also had the head of the trade consulate to be part of that conference as well. Ten days before the conference, the war broke out. At that point, we had a lot of discussions, largely

with the seven other Arctic states and with Greenland about how to proceed and move forward.

It was kind of organic the way it played out, because it was before the Arctic Council put the pause on its work, so we had to navigate that organically and little by little, and we ended up having to disinvite the Russians in order to have a conversation about Arctic co-operation. It took a while to get there and for everyone to agree that it was not possible or palatable for everyone to sit there next to Russia.

Mr. Bryan May: In my last 30 seconds, very quickly, when this conflict is over in Ukraine and when we see victory for the Ukrainian people, I think the Arctic will be one of those areas where we can start to normalize relations. Is there a conversation happening right now about how to do that?

Dr. Jessica M. Shadian: I think where conversations happen is mostly within academic circles, because the first step is to try to figure out how we can continue on with the research projects that have been ongoing. Russia is half the Arctic, so that's the first step to diplomacy.

Mr. Bryan May: Thank you. I think we could talk a lot more about this, but the chair is going to cut us off here, so thank you.

The Chair: That chair is terrible.

Madame Normandin, you have two and a half minutes, please.

[Translation]

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

I'll come back to the last few questions, but from a different angle.

Ms. Redfern, several other witnesses have mentioned, as you have, that when you use the expertise of indigenous-owned companies for infrastructure in the Arctic, it is more efficient, faster, and less expensive. However, we have often heard from other witnesses that the government has ruled out some projects altogether.

Are there any arguments that are given for the rejection of these projects or is it really only due to a lack of organization or logistics on the part of the government in awarding projects?

[English]

Ms. Madeleine Redfern: I think it's important to understand that, in Canada's north, especially in Nunavut, we have a highly transient bureaucracy, and this is also why indigenous organizations and indigenous leaders are really pushing to see more indigenous participation in these projects and get these contracts, because we provide that level of stability.

There's also, interestingly, a growing problem of high transiency within the federal government. I'm someone who has been mayor for two terms and someone who's back in business, and it is not only challenging but incredibly frustrating that you finally start to get awareness with people who are in policy, program funding and senior management, and they finally start getting it—it takes about two years—and they're gone. That's a huge risk for Canada in developing or deciding who gets investments.

There's an inclination to invest in the very large, mostly southern-based companies rather than work with and develop northern and indigenous business capacity and award contracts to us, even when we have partnerships.

• (1150)

[*Translation*]

Ms. Christine Normandin: Thank you very much.

I only have 30 seconds left, so I'll stop here.

[*English*]

The Chair: Thank you.

We can pass it on to Ms. Mathysen.

You have two and a half minutes.

Ms. Lindsay Mathysen: I'll take three minutes, if they're available. I have a lot of questions.

Ms. Shadian, you talked a lot about infrastructure. You talked about specific telecom. Both of you did. Could you talk about the other forms? You briefly mentioned transportation and housing. Can you talk about the investments in those and what's necessary, in your view?

Dr. Jessica M. Shadian: The infrastructure we're talking about is transportation infrastructure. Housing is also a big issue, of course.

All of these things are interrelated. As Madeleine was saying, they're multi-purpose and multi-user. You can't have a SMART cable without having the adequate energy supplies. It goes all around. Telecommunications rely on energy. You need to have the infrastructure set in place, from ports to everything else, to be able to function.

This goes back to how we're missing the bigger strategy. We need to figure out how all of these pieces go together. We don't even know what we have. We need to figure out what we want and then how we get there. The gaps just go on and on. It's roads, airports, telecommunications and energy. All of those rely on one another to function and exist.

It's difficult. Other countries put together annual infrastructure reports and they provide information for investors on things that are going on. We have the Wilson Center carrying out some of what we should be doing ourselves and deciding for ourselves what we'd like to build and what's going to follow it up.

In terms of investment and the private sector, the CPPIB has a venture investment in Bluejay, in a critical mineral mine in Greenland. Other countries are becoming more attractive for Canada's pension funds to be investing in these kinds of critical mineral

mines. I don't see why we haven't been able to bring our pension funds on board.

I understand this goes back to the siloed thinking in terms of ISED, Finance, Defence and NRCan. A critical mineral strategy talked about infrastructure. Northern Affairs then talked about infrastructure. CanNor talked about infrastructure. What happens is that you end up with one not being aware of what the other is doing.

We end up with money. There are these buckets of money that go out, but everything becomes underfunded. It's not thought through strategically, as Madeleine was saying. We don't have a strategy for how to build and make sure that we're being strategic about what we're doing to ensure that it actually goes for the long term.

The Chair: I have to leave it there, even with Ms. Mathysen's bonus time.

Mr. Bezan, you have five minutes.

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

I want to thank our witnesses for being with us.

I'll start off with Ms. Redfern. I know you wear many hats involving both Arctic360 and CanArctic. You were a former mayor, as well.

Talking about the fibre optic system that you're looking at, can that be used and integrated within the North Warning System as we upgrade those facilities?

Where are you laying these cables? Will they have that connectivity to get us to those remote locations where our new and improved radars are going to be located?

Ms. Madeleine Redfern: Absolutely, there is an opportunity.

We've costed out the SednaLink through various phases. It could go from Happy Valley-Goose Bay to Iqaluit and up along the east coast of Baffin Island, connecting the communities. It could connect Nanisivik and the mines. It could connect into EAUFON, which is Nunavik's fibre optic cable, so it would provide redundancy there. It can, absolutely, then go through the High Arctic and through the Northwest Passage to Inuvik, which would also provide redundancy.

We're fully aware of where all of the potential strategic locations are. There is redundancy to Thule. It could go up to Alert. These are all a question not of a technical issue, but of political will and the financial investments to make it happen.

The question is whether we want this critical infrastructure to be Canada-owned and Canada-led, or we want an international company to build it—which has done extremely poorly in communicating and consulting with our Canadian north, let alone with Inuit. This is why the Inuit organizations want to be the owners of this infrastructure.

• (1155)

Mr. James Bezan: Ms. Redfern, you talked about cost. You said you've costed it out. How much money are we talking about here to actually make that investment?

Ms. Madeleine Redfern: Phase one, between Happy Valley and Goose Bay, is about \$130 million. The entire network all the way to Inuvik is just under a billion dollars.

Mr. James Bezan: Thank you for that.

Professor Shadian, you were talking about the need for an Arctic strategy. I agree with you 100% that it's sorely lacking. It's surprising that we don't have one, as an Arctic nation. When we look at all our allies, they have one. We do talk from the defence perspective—this is the defence committee—on modernizing NORAD and protecting our Arctic sovereignty.

When you start looking at the infrastructure needs, knowing what National Defence will be investing from the standpoint of navy assets, radar satellites, the LEO constellation, upgrading the RADARSAT constellation, and runways for forward operating locations for our air force, what would your priority list be? Could you prioritize those assets from an infrastructure base, where we can have that combined support for communities, industry and the armed forces?

Dr. Jessica M. Shadian: Do you want me to pick one type, such as telecommunications?

Mr. James Bezan: What's your first priority, for example? What would it be? As a think tank, I'm sure you guys have put some research into what's most needed and what the benefit would be to our Arctic sovereignty and the defence of our Arctic territory.

Dr. Jessica M. Shadian: Yes. In terms of infrastructure, it has to be telecommunications. It has to be energy. It also needs to be ports. It needs to be runways. Less and less so do we need roads these days. Communities are fly-in, fly-out.

Again, I think this goes back to how difficult it is to put one over another. You can't run 5G off windmills. We really need to have consistent, affordable energy. We also need to have consistent but state-of-the-art telecommunications. We also need that supporting physical infrastructure. We can't defend our north without any ports, or with just one or two ports. We do have a very large coastline.

As to where the most important emphasis should be put, this needs to be thought through strategically. This needs to be done in a manner that has a goal in mind. Let's say it's 2050. Where do we want to be in 2050? Then we figure out how to get there.

A lot of the energy we want to put into this is to be working with those who do smart cities. They're the ones who are talking about the infrastructure of tomorrow for the second half of the 21st century. We don't want to build a 1950s cement port if that's not what the future is.

We need to also understand where we're headed and where we're going. Then we can understand how to link these different pieces of infrastructure together. Ultimately, it's multi-purpose and multi-user, and this goes to defending—

The Chair: We'll have to leave that there.

The final questioner is Mr. Fisher for five minutes.

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

Thank you very much to the witnesses for being here today. I'm going to ask a plethora of questions. On some you may feel that you want to add to the record today, but there may be some questions that you're not interested in answering. They're questions I've asked other witnesses in the past.

One of the future implications of climate change is increased shipping in the Arctic as a cause for concern. As well, I know it's a minor issue right now, but in terms of increased cruise ship activity in the Arctic, what are the disadvantages? What are the advantages? I did hear from other witnesses that there's an increased level of risk, but I think many Canadians think, well, everything's just going to be easier now when the passage opens up.

On the amazing opportunities for people in the north with NO-RAD modernization, are there labour issues, people issues and skills issues? How do we make sure that Canadians in the north benefit from those incredible opportunities, from that Canadian investment? We've talked a lot about infrastructure, but we've only really talked about a gap in federal infrastructure. Whenever we talk about provincial and municipal, we seem to not talk about that as much with regard to the Arctic. We have a mayor here as a witness today, so I thought maybe we'd see whether the municipal and the provincial infrastructure is better than adequate or whether there's a gap there as well from those two orders of government.

That's pretty much all I have. I'll let you folks take us out.

Thank you.

• (1200)

The Chair: We have five questions, three and a half minutes, and two witnesses. I'm not sure how this math is going to work. Maybe a minute each would be helpful.

Ms. Madeleine Redfern: I'll be quick.

As a former mayor and the former president of the Nunavut Association of Municipalities, I can say that the energy infrastructure is actually a territorial Crown corporation. The telecommunications can and should actually be owned and run by Nunavut Inuit. Right now it's run primarily by companies that are either in Yukon or in the south. We need telecommunications particularly for search and rescue as more and more vessels are coming into the Arctic.

When the plane went down in Resolute, one of the very first things the military and first responders required was access to good telecommunications. They had to tell our entire territory to stop using the Internet and the phones so the first responders could actually communicate with each other. It's a massive priority issue.

Also, we basically need to have those ships have good access to telecommunications so we know where they are. When and if anyone is stranded, whether it's a cruise ship or those idiots on their Sea-Doos going through the Northwest Passage, you can actually know exactly where you need to respond so that lives are saved.

Lastly, part of that Arctic strategy needs to be building the human capacity in our regions so that finally our people can benefit from building out this infrastructure—owning it, managing it and servicing it.

Dr. Jessica M. Shadian: In regard to climate change, the only thing I can say is that we maybe need to get with the program.

If we look around the Arctic, we see that lots of our Arctic neighbours are actually using the cold and the fact that it is remote and there is climate change happening, and melting permafrost, as an advantage to find new innovations, to figure out how to build better infrastructure to withstand climatic changes generally, and especially in terms of permafrost melt. Svalbard is doing a lot on this, because they have a big seed bank. They're looking at how steel interacts with permafrost.

We should not be looking at this only as a challenge, as an impossibility, as an obstacle, but actually we need to start looking at this as a real opportunity for Canada to be more innovative. This is where ISED has a role to play.

On cruise ships, the bottom line is that they need infrastructure. Without infrastructure, it is a risk. I think all the cruise ship companies would argue for the same. They would like to do what they want to do, and they'd like to do more of it, but they can't do it. As much as they would like to respect the communities and work with the communities, if there is no infrastructure, from ports to hotels....

In terms of NORAD helping northerners, I guess I don't believe in trickle-down infrastructure. We cannot just have NORAD saying, "Oh, yes, we're going to build all this infrastructure", and all of a sudden with all these defence things, "Sure, it's going to help. Maybe there will be telecoms, maybe there won't. We're going to build some things here and there."

I think this is where we come back to our having to have multi-purpose, multi-user, strategically thought-out infrastructure, because we have no guarantee or even a sense of whether it's automatically going to help northern communities.

The Chair: Thank you, Mr. Fisher.

That brings our first hour to an end.

I want to thank the two witnesses, Dr. Shadian and Ms. Redfern, for their obvious knowledge base here and the sharing of it. I wish it could have been in a more relaxed setting, where they don't have somebody keep hammering the clock. It is what it is, and we make do.

With that, colleagues, I want to suspend for a minute or two while we empanel for our second hour.

• (1200)

(Pause)

• (1210)

The Chair: I'm going to have Dr. Kikkert and Dr. Vullierme do their five-minute opening statements.

I am looking at the clock, colleagues. We're not going to get full rounds in; it's just not going to happen.

Dr. Kikkert is assistant professor of public policy and governance at the Brian Mulroney Institute of Government at St. Francis Xavier University.

You have five minutes, sir.

• (1215)

Dr. Peter Kikkert (Assistant Professor, Public Policy and Governance, Brian Mulroney Institute of Government, St. Francis Xavier University, As an Individual): I'd like to begin by acknowledging that I am joining you from the ancestral and unceded territory of the Mi'kmaq people.

I am honoured to be here. Thank you for the opportunity.

I spent the last three weeks in Nunavut working with Nunavut Emergency Management and several other researchers, including Mr. Pedersen, to facilitate three regional round tables on search and rescue to build relationships between community, territorial and federal responders and to discuss the status of the search and rescue system in the Arctic. Given how frequently search and rescue has come up during these hearings, I thought the committee would be interested in the results of the round tables.

First off, they highlighted the need for governments to understand search and rescue as a fundamental component of community safety and security. The safety net provided by the SAR system allows Inuit and other Arctic residents to live, travel, harvest and work on the land, helps communities cope with climate change, and contributes to individual and community health and well-being. Funding should reflect the central role that SAR plays in Arctic life.

Second, round table participants emphasized the wide array of challenges that community responders face in delivering SAR on the ice, water and land of Nunavut, including volunteer burnout, training and equipment issues, funding shortfalls, limited mental and physical health supports, slow response times from primary SAR aerial assets based in the south and the confusion and barriers caused by the rigid jurisdictional division between air, marine and humanitarian search and rescue. All of this is compounded by a heavy caseload. There are over 200 public searches a year in the territory, and many more are never reported through official channels.

For federal and territorial coordinators and responders, the challenges of Arctic operations are no less profound. They are limited support infrastructure, communications difficulties, fewer vessels of opportunity to assist with marine SAR, the austere environment and the vast distances involved. Moving a Cormorant helicopter from Greenwood, Nova Scotia to the High Arctic, complete with multiple refuelling stops and crew changes, is a real logistical feat. With unpredictable and expanding outside activity—from cruise ships and passenger planes to fishing boats and bulk carriers—increasing the risk of major transportation disasters and the need to prepare for mass rescue operations, these challenges will intensify.

Finally, responders at every level highlighted the need for greater communication and co-operation between all SAR partners, which should be the bedrock of the SAR system.

While there are many challenges, I also want to highlight for this committee the innovative search and rescue policy and programming that really stood out at the round tables.

Nunavut Emergency Management is working to become a national leader on ground search and rescue operations in its community-based approach. Use of response technology and prevention work should serve as a model for other northern jurisdictions. The Coast Guard's expansion of volunteer auxiliary units, fuelled by the indigenous community boat volunteer program and more training and engagement, its hiring of Inuit SAR officers and trainers, its collaboration and exercises with industry partners to mitigate risks, and the establishment of the Rankin Inlet marine rescue station have all improved marine search and rescue in the Arctic.

CASARA's national remotely piloted aircraft systems program hopes to get drones into the hands of community SAR volunteers in the north. The enhanced maritime situational awareness initiative of the oceans protection plan and the establishment of new VHF, AIS and cellphone towers by various municipal, territorial and Inuit organizations all have great potential to take the search out of SAR.

My first recommendation to this committee is that these efforts be sustained and, where possible, expanded. They empower local responders, improve community-based capabilities and save money by reducing the need for the deployment of a Hercules or a Cormorant from the south, which generally costs hundreds of thousands of dollars for each flight.

My second recommendation is for the immediate re-establishment of a permanent Arctic or northern search and rescue round table by the national search and rescue secretariat. Right now, individual agencies and departments are doing great work in the region but lack strategic direction. A round table involving first responders like Mr. Pedersen and policy-makers from the north and the south would, at a relatively low cost, facilitate the building of relationships, improved communication, the sharing of best practices and lessons learned on SAR prevention and response, the synchronization of efforts, planning for mass rescue operations, and discussions around the basing, pre-positioning and/or contracting of primary SAR units in the Arctic.

It would ensure that the priorities of northern indigenous rights holders and the realities of Arctic operations are taken into consideration in decision-making on Canada's broader SAR program, in-

cluding major hardware and infrastructure investments, which has not always been the case in the past.

• (1220)

Finally, the round tables could facilitate the codevelopment of a comprehensive Arctic SAR strategy that properly addresses the unique challenges facing SAR operations in the region, something that was first promised in 2006.

I look forward to discussing these issues and ideas and other solutions that were raised at the round tables during the question period.

Thank you very much for your time.

The Chair: Thank you, Mr. Kikkert.

Before I call on our second presenter, I saw Mr. Pedersen give a thumbs-up and wasn't sure of the significance of the thumbs-up.

Mr. James Bezan: He liked the comments, so he gave a thumbs-up.

The Chair: Okay. Without a headset I can't call on you, Mr. Pedersen, but thank you for whatever it is you said.

Dr. Vullierme is a researcher at Centre de recherche du Centre hospitalier de l'Université de Montréal.

You have five minutes, please.

[*Translation*]

Dr. Magali Vullierme (Researcher, Centre de recherche du Centre hospitalier de l'Université de Montréal, As an Individual): Thank you, Mr. Chair.

I'm very honoured to be invited to testify again. I hope the points I can bring to you today on the Canadian Ranger patrols will be helpful.

Today we will focus on the role these patrols play in security in the Canadian Arctic, and what kind of security we're talking about—security for whom, why and how?

When I found out about these patrols almost 10 years ago, in 2013, while writing a master's thesis, my plan was to analyze them from the perspective of traditional security by working on the relationships between civilians and the military, as well as the relationships between indigenous people and the Canadian Armed Forces.

However, over the years of research, interviews and field investigations that I have been able to conduct, I have come to realize that this angle is not sufficient and that it would leave out what these patrols bring and reveal about these Arctic indigenous communities: strong community support, an equally strong desire to preserve their culture and language, the absolute necessity to take care of each other and an unbreakable bond with their territory.

Junior Canadian Ranger patrols also do a lot of work to strengthen the intergenerational ties broken by the federal and provincial governments during the residential school period, as well as all the work to fight suicide among young people by trying to give them a little spark, as was often mentioned to me by members of the 2nd Canadian Ranger Patrol Group, in Quebec. In fact, there is a strong desire to strive for the overall and holistic well-being of these communities.

In order to best cover all aspects of this holistic approach, I adjusted my angle of analysis and applied the lens of human security, in its broadest sense, with its seven dimensions, to the study of these patrols. I think it's an indispensable and unavoidable exercise to undertake when we're talking about Canadian Ranger patrols.

I wouldn't be so bold as to go into the details of this cherished Canadian concept here, nor will I launch into a political science lecture on human security. However, I would like to point out how my approach and that of other academics working on the Arctic regions differs from common postures.

In fact, in my research, I choose to apply human security, taken in its broadest sense, not to foreign operations, foreign affairs or peacekeeping operations, but rather at an intra-state level, that is in the relations between a state and its own populations, between a state and its less affluent populations.

Having said that, I've identified some points that I think are worth raising with the committee today.

First of all, if you're interested, we can quickly explain how the Canadian Ranger patrols and their counterparts, the Junior Rangers, reinforce most dimensions of human security. The Canadian Ranger and Canadian Junior Ranger patrols are an example of operationalizing the concept of human security. That is an example to be studied, understood and, who knows, perhaps exported.

We can also talk about how ranger patrols are an example of interculturality, since their cultural diversity is important and represents Canada's cultural richness.

We can also focus more specifically on the main tasks of the Canadian Rangers and detail examples for each of them, starting with the role of the rangers in land protection operations, which can be illustrated in particular in connection with climate change.

Second, in domestic Canadian Armed Forces operations, such as Operation Laser, but also in search and rescue operations, although the rangers are not the first responders, they provide invaluable support and expertise, as my colleague mentioned.

Finally, the presence of Canadian Armed Forces reservists in local communities strengthens these communities, particularly through the patrols of Junior Rangers.

Of course, I remain open to any other subject that would interest you today. I will try to answer your questions, to the best of my knowledge.

Thank you.

● (1225)

[English]

The Chair: Thank you very much.

We have way too little time already, so I'm going to have to cut back the first round to four minutes.

I see that Mr. Pedersen has a headset now.

If you put the headset on, are we ready to hear from you, Mr. Pedersen? Is the headset connected, and are you ready to make your presentation? You're not connected, okay.

Can we get a connection?

So much for that idea. Now we're going to go to the four-minute round.

Mrs. Gallant, you have four minutes, please.

Mrs. Cheryl Gallant: Actually, I thought it was Shelby who was going first.

The Chair: That's news to me. I have you. Sometimes, things just don't work.

Mrs. Kramp-Neuman, you have four minutes.

Mrs. Shelby Kramp-Neuman: Thank you.

The first question, Professor Kikkert, is with regard to the rangers. Few and poorly equipped.... It certainly strikes me as an untapped resource that can be very valuable.

The question is how you see the Canadian Rangers being able to better contribute to security in our Arctic.

Dr. Peter Kikkert: I'm very happy to take on that question, but Mr. Pedersen has just asked if I could read his statement to the committee.

Is that something that would be possible? I have it here in front of me.

The Chair: I would like that, but I think we're past that point. We'll get it circulated to the committee members.

It is a real shame to not have a real volunteer talk to the committee, so we'll circulate the statement and try to figure out something else to get Mr. Pedersen's views before the committee. Thank you.

You heard the question.

Dr. Peter Kikkert: I did.

The Chair: You can keep going.

Dr. Peter Kikkert: To answer that question, I can work in part of Calvin Pedersen's text.

His answer is that he is a ranger. He has been a ranger for almost 25 years. He is a fourth-generation Canadian ranger, and he's very proud of his service.

The rangers do a lot of very important things. Just this summer, Calvin was at Operation Nanook/Nunakput, which meant that he and his patrol were keeping their eyes on the Northwest Passage to monitor vessel traffic. This is important from a broad Canadian security perspective, but also for the safety and security of his own community, so I think there is a real desire for more of those kinds of operational experiences.

The constant emphasis on having more and more rangers is not really what a lot of rangers are after. Calvin, here in his statement, is saying to give them more operational experience, give them more training and make use of them more, because they are the eyes and ears. The more they are used out in the land, the better it is going to be for Canada's broader security and safety concerns. To support this, the 1st Canadian Ranger Patrol Group needs the support staff and headquarters staff required to make this kind of operational expansion possible.

That's one thing on which I very much agree with Calvin. The rangers could possibly be used for more operational activities out on the land, monitoring the Northwest Passage and these kinds of things, but to support that operational tempo, it is important to make sure that the headquarters of the 1st Canadian Ranger Patrol Group has the support they require.

• (1230)

Mrs. Shelby Kramp-Neuman: Thank you for that.

This is an additional question between you and Mr. Pedersen.

We clearly have a personnel crisis in our military right now. Can you speak to the impact on our ability to protect and strengthen our north and give it the attention it needs as a region of growing competition between Canada, Russia and China?

Additionally, can you speak to the troop strength of the ranger program capabilities, such as search and rescue?

Dr. Peter Kikkert: I would answer that the Canadian Rangers play a lot of roles that are very important. They are very active in making sure that our troops—our Canadian Armed Forces, our Arctic response company groups or other CAF troops—can operate in the north. That is, to me, one of their fundamental missions, as well as making sure that they are passing along their knowledge, their learning and their skill set to those army troops and personnel coming up to the north. It's really important that they do that.

They are also providing those operational capabilities, so monitoring the passage. During disaster events, rangers are often mobilized as first responders to provide aid to their communities and their regions, so they're very much fulfilling that role as well.

Mrs. Shelby Kramp-Neuman: Could you complement your answer with a suggestion of where we are with the necessity of more trained personnel and where we are with equipment for the rangers?

Dr. Peter Kikkert: I'll take your question on the equipment for the rangers first.

What I hear most from people like Calvin, as a ranger, and other rangers is that they're comfortable using their equipment. They know it. They're using their snow machines. They're using their boats while out on patrol. They feel comfortable with that.

Right now, they get a SAR equipment usage rate through which the military compensates them for the use of that equipment. That could be increased. I certainly hear that a lot from rangers, and I think Calvin would agree that the usage rate could be increased. However, this idea of providing rangers with permanent boats and permanent snow machines that have to sit in a sea can for half a year and can only be used for ranger activities.... I don't see that as a popular idea among many of the rangers I have spoken with, and I think Calvin would agree with that.

Increase the equipment usage rate that allows rangers to use their own equipment and to invest in their own tools.

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

We'll go to Ms. Lambropoulos for four minutes.

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

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

Mr. Kikkert, I'll be asking you, and if you're able to get some communication with Mr. Pedersen then I'll be asking both of you. I also find it very unfortunate that he's not able to share with us just because of a technical issue.

I'm wondering what you think are some of the main challenges noticed by the rangers and by northern communities for search and rescue operations. Has it been getting more and more difficult due to global warming? Over the years of experience that Mr. Pedersen has had, has he noticed an increase in challenge, let's say, because of that fact?

Dr. Peter Kikkert: Yes, environmental change is absolutely making search and rescues more common, and the actual execution of those searches more difficult. Again, changing ice conditions, changing conditions on the land and changing turning seasons, all of these have led to increases in the number of searches across Nunavut, but it's also other things. It's loss of land, safety knowledge and traditional knowledge that is having an impact here. More severe weather is also linked to environmental change. There's a lot going on in this space to drive up the number of searches, not the least of which, of course, is increased outside activity.

Calvin's search and rescue group in Cambridge Bay actually has been quite busy rescuing ecotourists who are skiing between Cambridge Bay and Gjoa Haven, which I think is a really good example of some of the new pressures that are put on the SAR system by increased outside activity.

Ms. Emmanuella Lambropoulos: I heard you speaking with my colleague earlier about the rangers and about how they don't necessarily want for more rangers but for better capabilities, to be trained better and to be able to operate better. You were mentioning also that there's a greater need, in the sense that there are more search and rescue operations because of global warming, with more people going up to the northern areas. I'm wondering if you see a potential for more rangers to be recruited.

I know that another question was about recruitment of the armed forces, and the rangers really do play a particular role in protecting the Arctic. I'm wondering if you can give us your opinion on whether or not there is capacity for growth. Other witnesses in the past have told us that it's pretty much maxed out, in the sense that as many people as could be in there are in there. I'd like to hear your opinion on that.

• (1235)

Dr. Peter Kikkert: I think the room for expansion should be taken on a community-by-community basis, but I would align myself more with what Calvin was saying there, that the number of rangers doesn't need to be increased, but maybe their operational capabilities and their training opportunities do.

In terms of search and rescue, I would highlight that across the 1 CRPG, which covers the Yukon, the Northwest Territories and Nunavut, rangers were only officially activated twice for search and rescue this year. The rangers wear lots of hats, so they're often volunteers on the ground search and rescue teams in their communities. They're often members of the Coast Guard auxiliary units that go out to do marine searches. I think that's a really important distinction. The training that is given to rangers is not always just used in an official capacity, but is often used to bolster the search and rescue system on a voluntary basis.

The Chair: Thank you, Ms. Lambropoulos.

[Translation]

Ms. Normandin, you have the floor for four minutes.

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

My first question is for Dr. Kikkert.

We recently heard from the Canadian Coast Guard and the Royal Canadian Navy that, for certain large-scale operations, there had to be collaboration with other states, including Russia.

Is this something we're seeing from the Canadian Rangers as well? Do you occasionally have an obligation to work with other states in rescue operations?

[English]

Dr. Peter Kikkert: From an international perspective, our search and rescue responsibilities absolutely depend upon international co-operation, particularly in the North American Arctic. I can think of really close ties between the Canadian Coast Guard and the joint

Arctic command in Greenland, or our partners in Alaska. Those international dimensions are essential for proper search and rescue response.

I'd also just say, though, that the connections and the co-operation among Canadian governments, departments and agencies could also stand to be improved, particularly for low-probability, high-consequence events like a mass rescue operation. That will be an "all hands on deck" situation that will require mass co-operation across the federal, territorial and regional governments, but also with our international partners.

Yes, I think there's a lot of space to improve our international engagement on search and rescue.

[Translation]

Ms. Christine Normandin: Along the same lines, could you tell us about the co-operation with the Royal Canadian Navy and the Canadian Coast Guard and what, if anything, could be improved?

[English]

Dr. Peter Kikkert: Just generally, I think creating more spaces for the various actors involved in search and rescue in mass rescue operations and in maritime disasters needs to be improved. They need to have more space for people to talk, to engage and to plan on an ongoing basis. It gets back to this idea in emergency management that plans are useless but planning is everything. They need the chance to sit down, hash through plans, hash through roles and responsibilities, and really figure out how to do this. There's nothing more complex and nothing more challenging than a mass rescue operation in the Arctic. The more planning and the more relationships we can build in the lead-up to this, the better that will actually occur.

Part of the round tables we just held were tabletop exercises trying to figure out these different roles and responsibilities. I can say that there is room for improvement on that to make sure that everyone is crystal clear and on the same page with regard to who is responsible for what.

[Translation]

Ms. Christine Normandin: Thank you very much, Dr. Kikkert.

Dr. Vullierme, I'd like to ask you a quick question.

You mentioned the spirit of collaboration between the rangers and the local communities. The communities are willing to lend a hand, and they could be given a little more training.

Is that potential being sufficiently used? Have you found that these communities are an underutilized resource, in a way?

Dr. Magali Vullierme: Yes and no. Actually, the rangers are part of the communities. In the north, for example, the rangers are Inuit living in Inuit communities. They are leaders who are part of those communities. So those resources are already very well used.

Let me explain the situation a little more. We were talking about the recruitment of rangers, but, as Dr. Kikkert said, the goal is not to recruit more rangers, but to train them better.

However, in the medium and long term, the absolute necessity will really be to support the Junior Canadian Ranger program. Without juniors, there will be no rangers in a few years, since there won't be enough people from the communities who know their environment well and who know how to survive in their environment. So there is a real need to support this youth program.

This program is very popular. In Quebec, for example, there are more junior patrols than ranger patrols. So there is a whole pool of young people who will potentially be recruited into ranger patrols later on.

We need to build on this younger generation, who are eager to participate in the community, who are eager to play a role, and who also look to the rangers as leaders, role models and examples for the future.

• (1240)

The Chair: Thank you, Ms. Normandin.

[*English*]

Ms. Mathysen, you have four minutes.

Ms. Lindsay Mathysen: Thank you so much to all the witnesses, whether they can speak to us or not. I appreciate everyone taking this time with us today.

Mr. Kikkert, you talked about the Canadian Rangers having their own equipment. They like having their own equipment and being able to control that, fixing it and using it for their own use, and then renting it out when it's needed by other organizations or that search and rescue prospect. You also said that an increase in the equipment usage rate would be helpful. Has that payment kept up with the increase in inflation and costs thereof?

Dr. Peter Kikkert: This is where Calvin would be much better to comment on that. He was just on patrol this summer.

I would say that what I've heard from rangers—Calvin, nod if this is correct—is that the equipment usage rate has not really kept up with these changes or with inflation. I think a really notable contribution from a ranger perspective would be to increase that equipment usage rate and to make sure they could reinvest in their machines, in their tools and their equipment, which would make them far more effective on the land as rangers but also on the land as hunters feeding their families and as fishers feeding their families.

So yes, increase that usage rate. I think that's the message that Calvin would definitely be passing along here, and I agree with it.

Ms. Lindsay Mathysen: We got the thumbs-up. That's good.

With regard to the organization of that, knowing what's involved in terms of the inventory and being able to call on those pieces and the people involved, not just the equipment but also the people, is

there anybody who organizes that overall? Is that more necessary? We had heard about a lack of understanding of what inventory we even have up in the north. Is that a problem?

Dr. Peter Kikkert: From a ranger patrol group headquarters, I think they have a really good feel for how many rangers they have in their communities and what resources those rangers have access to. I don't see it as a particular problem for the 1st Canadian Ranger Patrol Group.

Dr. Vullierme can maybe talk about that from a 2nd Canadian Ranger Patrol Group perspective a bit more. Certainly, ranger HQ has a fairly good feel for what its rangers can and cannot do in the north.

Ms. Lindsay Mathysen: I would love it if you could send the committee your paper, "Strengthening Search and Rescue in Nunavut: Approaches and Options". If you could table that with the committee, it would be appreciated.

I think within that, you called for a public safety officer or office. Can you explain that and why you think that would be helpful?

Dr. Peter Kikkert: Yes. Actually, that's an idea that I codeveloped with Calvin. There's more that we have written on that since then. I would be happy to send that along.

I think one of the ideas that come out of our work on search and rescue is that some communities have 30 to 35 searches a year, which is a ton of work for volunteer search and rescue coordinators. It's not just the search; it's the organizing, the fuel, the food and the paperwork. It's a drain.

One of the ideas that came out was, what if we had paid search and rescue coordinators at the community level? Some communities only have one or two searches a year. Is that really justifiable across Inuit Nunangat? The response to that, which we worked on, was, what about a community public safety officer position that could do search and rescue coordination, that would do emergency preparedness, that would do marine safety, that could go into the schools and educate about SAR prevention and that could fulfill all of these kinds of safety, resiliency and emergency management tasks at the community level? This would, of course, be a local individual with local ties to the community, who could really easily integrate themselves into the broader community makeup.

That was the idea for a community public officer program. We tied together search and rescue and a whole bunch of other requirements and needs in northern communities. It would also act as this individual at the local level who could bridge these different federal and territorial agencies that have different pieces of this pie—

• (1245)

The Chair: Thank you.

Ms. Lindsay Mathysen: I have a point of order.

The Chair: What's your point of order?

Ms. Lindsay Mathysen: I would like to suggest that since Mr. Pedersen is such an incredible witness whom we cannot hear, if we could get him the appropriate headset, we could invite him back to the committee. Of course, he can submit whatever he wants to in writing to the committee.

It would be really valuable to hear from him. To take that time would be helpful.

The Chair: That's not a point of order, but it's a good suggestion. It's one that I was going to make at the end of the committee meeting.

Ms. Lindsay Mathysen: Great minds....

The Chair: That's a scary thought right there.

Mr. Pedersen has probably had the best presentation so far today and he hasn't said a word.

With that, we're down to 15 minutes, colleagues. We're down to three minutes each.

We're starting with Mrs. Gallant for three minutes.

Mrs. Cheryl Gallant: Actually, Mr. Chair, Mr. Kelly is going to go first.

The Chair: Okay. You're switching it.

Mr. Kelly, you have three minutes.

Mr. Pat Kelly (Calgary Rocky Ridge, CPC): Thank you, Mr. Chair.

Earlier, Mr. Kikkert, in your presentation, you mentioned the identification of vessels travelling in Canadian waters by rangers on shore. I'm not sure if I understood you correctly on whether Mr. Pedersen was, in fact, involved in the operation that we have heard about at committee. We talked about the limitation of domain awareness by the navy.

Are ground-based rangers the most effective way to identify ships in Canadian waters?

Dr. Peter Kikkert: I think that's a great question. It's one that requires a bit of an understanding of how complex this space is right now. There's a lot going on that contributes to our domain awareness at the ground level up, or the sea level up.

We have Inuit marine monitors who go out as part of a Nunavut Tunngavik Incorporated program to keep their eyes on vehicle traffic. That New Zealand sailing boat that moved to the Northwest Passage was first spotted by Bobby Klengenber of Cambridge Bay, who is an Inuit marine monitor. He got eyes on it from his cabin. He's one of Calvin's friends.

Second, there's the Coast Guard Auxiliary. They get the boats on the water. Yes, it's for search and rescue, but why not keep an eye on maritime traffic and on potential trouble spots, etc.?

Of course, the Canadian Rangers do this as well. They get out on the land, both as regular citizens who report back things they see to ranger headquarters, and also on actual exercises and operations.

Mr. Pat Kelly: Thanks.

Indeed, Canadians are grateful to have that resource and to know that it could happen. Given the incredible amount of space, is that a

foolproof system to have marine domain awareness across the Arctic?

Dr. Peter Kikkert: It's part of the puzzle. There are a lot of different components, from satellites to aircraft and ships that need to be doing the same thing. They do contribute. These grassroots-level organizations contribute to this broader picture.

If you don't mind, let me read a recommendation that Calvin has made. This was going to be one of his conclusions: "I'm not too concerned about a Russian ground invasion. That would likely result in the biggest search and rescue operation the north has ever seen. Still, the Canadian Armed Forces needs to be able to operate effectively in the north and to have the surveillance capabilities required to know what is going on in my homeland. We need the infrastructure to support these efforts. We need airstrips that can be used by the military's aircraft and the deepwater ports required by its ships."

These kinds of grassroots organizations that we've talked about, Inuit marine monitors, the Coast Guard Auxiliary, rangers and Inuit guardians all play a really important role, but, yes, we do need these other layers of domain awareness as well.

The Chair: Thank you, Mr. Kelly.

That's an excellent recommendation, by the way.

Ms. O'Connell, you have three minutes.

Ms. Jennifer O'Connell: Thank you, Mr. Chair.

Thank you all to the witnesses for being here today.

With this short amount of time, I will put the question out to both witnesses who can answer today.

In terms of training and equipment, I think we've heard loud and clear some of the requests there. What about exercises that are held and the role that Canada can play, whether it be with the rangers or other local organizations that might have a role to play in this with our allies and some of the exercise opportunities? It's not just your initial training but that ongoing learning to make sure that everyone is prepared as the nature of the exercise changes and evolves. Could both of you comment on exercises?

● (1250)

Dr. Peter Kikkert: I can jump in quickly just to say that there is a pretty sophisticated exercising program going on right now, which is spearheaded by the Coast Guard in its training and exercise programming, working with cruise industries in particular to make sure that they are ready for what a mass rescue operation might entail in the north.

There are also operations through Operation Nanook-Tatigiit, which focuses on search and rescue and emergency management concerns in the north. We have these various pockets of exercising.

I would love to see these sustained, and, as you're saying, enlarged to include even more partners. I think that those are making a big difference in getting the north ready for some of the safety and security issues that are going to arise in the near future.

[Translation]

Dr. Magali Vullierme: I can talk about the French armed forces, with whom I have spoken and worked. In bilateral and multilateral exercises, French soldiers from the Groupe militaire de haute montagne have worked with Canadian Rangers and have benefited from their advice. This is a very practical example.

With respect to training, Lieutenant Colonel Mainville, who was the commander of the 2nd Canadian Ranger Patrol Group until this year, told me that climate change is already having an impact on the periods during which the rangers can train. These periods are being shortened. Increasingly unpredictable weather conditions are disrupting these exercises. That factor must also be considered during annual ranger patrol exercises.

[English]

The Chair: Thank you.

You have one minute, Madame Normandin.

[Translation]

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

Mr. Kikkert, I would like to take you back to a statement you made in our earlier study on the use of the military in situations like those caused by climate change. You mentioned that, the more the military is used for domestic exercises, the less combat-trained they are, which can be problematic.

Does your comment also apply to operations in the north, where the environment is much more hostile?

This could also be part of the training of our military: we could send them to carry out exercises along the lines of Operation Lentus, but in the north.

[English]

Dr. Peter Kikkert: That's a great point. I think that the increasing role of the Canadian Armed Forces in domestic response operations in the south is a clear challenge for the north, which has fewer resources across the board for emergency response and emergency management. Therefore, the Canadian Armed Forces should be able to operate in this space, but I think there are deep concerns from the northern residents that the more the CAF responds to situations in Nova Scotia or British Columbia, the north might get forgotten.

That's an important thing to consider, that other jurisdictions should be developing their own capabilities so that the CAF can be used in a space like the north where their unique and self-sustaining capabilities are absolutely required for all types of emergency response scenarios in the north. That's why—

The Chair: Thank you. I'm sorry, again. All I do is say “sorry”.

Ms. Mathysen, you have one minute.

Ms. Lindsay Mathysen: It's ironic, considering that we can't hear from the witness on the ground, but in terms of being on the ground, there was a comment about the loss of land and traditional knowledge. How are we ensuring that rangers and indigenous people within those decision-making bodies are actually leading that

and are being called upon in roles of leadership to ensure that we hear their voices first and foremost?

Dr. Peter Kikkert: Right now, actually, ranger leadership is going on in Yellowknife for the 1st Canadian Ranger Patrol Group. Ranger leaders from across the north were able to come together and talk to 1 CRPG about what they want to see happening in the near future. I think that's a great built-in part of the organization that allows rangers to speak their minds.

In terms of passing along traditional knowledge and ensuring that this becomes a really important part of the solutions to all the challenges, I think Calvin Pedersen might say this: When he was in high school, there were lots of opportunities in the classroom to learn these skills and to pass along traditional knowledge, but those all disappeared. Yes, the junior Canadian rangers program, the JCR, is fantastic, but they're not [*Technical difficulty—Editor*] as many kids in the communities as is required.

Get back into the schools with traditional knowledge and skills. That's a great way to go forward.

• (1255)

The Chair: We'll have to leave it there.

There seemed to be a kind of interruption in Mr. Kikkert's feed. Hopefully, that didn't create any difficulties.

We're down to three minutes. I have Mr. Kelly for the next three minutes. Is that true?

Mrs. Cheryl Gallant: I'll go next.

The Chair: Go ahead, Mrs. Gallant.

Mrs. Cheryl Gallant: What's your opinion on the solutions to the shortage on upgrading the critical NORAD infrastructure's lack of human capital available up there to do that work?

The Chair: Whom is that directed to?

Mrs. Cheryl Gallant: That's to Magali.

Dr. Magali Vullierme: I'm sorry. I didn't hear the question.

Mrs. Cheryl Gallant: What, in your opinion, are the solutions to the shortage of human capital available to do the upgrading on the critical NORAD infrastructure?

Dr. Magali Vullierme: Do you mean using rangers to help keep an eye on the infrastructure?

Mrs. Cheryl Gallant: No. Okay. There's a shortage of personnel up there. I'll go to my next question.

Aside from the United States, Russia, New Zealand and China, what other countries have the rangers observed passing through in Arctic waters above Canada?

That's for either witness.

Dr. Peter Kikkert: I can't provide the answer to that. I think the military would probably have that information.

I will highlight that it wasn't actually a ranger who spotted that New Zealand sailing yacht. That was a member of the Inuit marine monitoring program. I do want to give them proper credit for that spot.

Mrs. Cheryl Gallant: Okay.

Insofar as the rangers go, besides the increase in value of the compensation for their equipment, how would they like to get the increased training that they've asked for, such as for GPS? What is it they need for that training?

Dr. Peter Kikkert: I think there are lots of opportunities here. Depending on where they are, rangers might ask for more emergency response training so that they can better help with the different emergencies facing their communities, whether that be wildfires or tundra fires or flooding. There are all types of different emergencies they could be called upon to respond to. I think expanding that kind of training would be—

Mrs. Cheryl Gallant: Yes. In orienteering and using GPS, do they want to come out of their homeland, those territories, in order to learn about this, or do they want entities to come to them to teach them in their own environment?

Dr. Peter Kikkert: I think Calvin is indicating “come this way”, having the training at the community level or at the regional level.

I know that some rangers have enjoyed exchanges in places like northern Australia. That's a really important part of the organization. For the most part, though, I think the training must be done at the local level to ensure that most rangers are benefiting from it.

The Chair: Thank you, Mrs. Gallant.

Mr. May, you have the final three minutes.

Mr. Bryan May: Thank you, Mr. Chair.

My questions will be for Madame Vullierme.

You've previously written on the benefits to Canada increasing its participation in NATO allied exercises in the Arctic region. Do you believe that Canada is doing enough in terms of participating in allied exercises hosted by northern NATO allies?

[*Translation*]

Dr. Magali Vullierme: I think Canada is doing what it can with the capabilities it has.

Concerning the Arctic, there is often a tendency to compare Russia's capabilities to Canada's. But consider that a city like Murmansk in Russia has about 300,000 people, whereas there are no Arctic communities of 300,000 people at all in Canada.

I think you have to put all of this in a general context and in an ah doc context in Canada. Canadian participation can't be as large as American participation because the Arctic communities we have are much less densely populated than those of other Arctic states.

• (1300)

[*English*]

Mr. Bryan May: Besides military exercises, do you see other opportunities for Canada to deepen co-operation with our Arctic allies?

[*Translation*]

Dr. Magali Vullierme: Let's return to the Canadian model.

What comes up most often about the Canadian position in the Arctic regions is the support of the federal and provincial governments for indigenous communities. What really makes Canada strong in Arctic geopolitics are indigenous people first and foremost.

There is still work to be done, but in political discourse and in fact, Canada is the state that is doing the most for its indigenous peoples. We need to continue to support that, diplomatically, by also highlighting the Canadian Rangers, who can serve as a model, for example.

On the Greenland side, there is the Sirius Patrol. It is composed almost exclusively of Danes who patrol Greenland. It could be very useful to export the Canadian Ranger model to Greenland, among other places, to show these people the best practices that we have with respect to indigenous and non-indigenous people.

[*English*]

The Chair: Thank you.

Thank you, Mr. May.

That brings us to the end of our second hour.

On behalf of the committee, I want to thank Dr. Kikkert and Dr. Vullierme.

Mr. Pedersen, you are supremely articulate without saying a word. I will look forward to an invitation going from our clerk to you to see whether we can get you properly wired up. I look forward to that opportunity for you to speak to the committee and share your experiences. Clearly, our committee is in need of the knowledge and the experiences that you've had.

I thank Dr. Kikkert for doing his best to substitute.

Colleagues, before I adjourn, we are having Madam Justice Arbour on Thursday. It's my intention to have at least an hour with her. I would also like to set aside some time in those two hours for some committee business. We've been juggling schedules, and it's been very difficult to pull a bunch of people together. As well, we have the Auditor General scheduled for the 8th, along with Jody Thomas, the national security adviser. We just have to work together to make our final run.

I see Mr. Bezan is waving his hand.

Mr. James Bezan: Mr. Chair, I'm asking for some clarification.

When we have the Auditor General, will the national security adviser be accompanying her, or will it be on the study that we're doing right now?

The Chair: They're separate hours. The intention is to have separate hours.

Mr. James Bezan: I think that for the Auditor General, we would want a two-hour meeting, based on her report and based on the need to dig in thoroughly on that.

I would suggest, then, that we would possibly invite Ms. Thomas to appear at another time. It could be, potentially, this Thursday, if we have only an hour with—

The Chair: You've not been privy to all the difficulties of lining up these people.

• (1305)

Mr. James Bezan: I'm not here to make your life easy.

The Chair: You are succeeding.

I'm not going to respond to your intervention at this point. I will ask you to save your intervention for when we are meeting once again.

In the meanwhile, the meeting is adjourned.

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