House of Commons
CANADA

Standing Committee on National Defence

NDDN • NUMBER 020 • 2nd SESSION • 40th PARLIAMENT

EVIDENCE

Wednesday, May 13, 2009

Chair

The Honourable Maxime Bernier

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● (1540)

[*Translation*]

The Chair (Hon. Maxime Bernier (Beauce, CPC)): Good day, everyone, and welcome to the 20th meeting of the Standing Committee on National Defence.

[*English*]

Pursuant to Standing Order 108(2) and the motion adopted by the committee on Monday, February 23, 2009,

[*Translation*]

we are continuing our study on Arctic sovereignty.

Before I turn the floor over to the witnesses, I believe Mr. Coderre has a question.

Hon. Denis Coderre (Bourassa, Lib.): Thank you, Mr. Chair.

I realize that we could give 48 hours' notice, but I'm wondering if members would consent to our inviting the Auditor General to testify before the committee, subject to her availability. Since the report that she tabled yesterday includes a chapter on the Department of National Defence, she could come and explain the main points to us.

Otherwise, I will table a motion, but I don't think we really need one.

The Chair: Thank you, Mr. Coderre.

[*English*]

Mr. Hawn, do you want to add something?

Mr. Laurie Hawn (Edmonton Centre, CPC): No, that's fine.

[*Translation*]

The Chair: Is there unanimous consent to move the motion?

(Motion agreed to)

[*English*]

The Chair: I want to welcome all of the witnesses.

We have with us, from MacDonald, Dettwiler and Associates Ltd., Mr. Iskander, the president. I want to welcome you to our committee.

We also have with us, from the University of Ottawa,

[*Translation*]

Mr. Donat Pharand, emeritus professor at the University of Ottawa. I can confirm that because I had the good fortune of being one of his students at this very university. You were one of my best professors, sir.

Welcome to our committee.

Hon. Denis Coderre: On a point of order, I'd like to know if he passed his courses.

Voices: Oh, oh!

[*English*]

The Chair: I will give the floor to Mr. Iskander, please. You have seven minutes.

[*Translation*]

Mr. Mag Iskander (President, Information Systems Group, MacDonald Dettwiler and Associates Ltd.): Thank you, Mr. Chair, members of the committee.

My name is Mag Iskander and I am the President of the Information Systems Group at MDA Corporation. It is indeed a privilege to have the opportunity to describe for you how space and defence technologies developed by MDA Corporation are and can make significant contributions to the security of Canada's Arctic.

[*English*]

I am sure the committee members all appreciate that providing security and ensuring sovereignty in Canada's Arctic is a daunting task. The land and ocean areas are immense, and the climate is harsh, making it difficult and often impossible for human activities. Much of the area is in darkness several months of the year.

To secure such a vast and unforgiving area will require multiple complementary systems working together as an integrated system of systems. I'm proud to submit to you that we have outstanding technology and industrial capacity here in Canada to provide and operate such a system. In many respects Canadian technology and Canadian operational experience in this realm are unique and world-leading.

The information systems group at MDA is Canada's prime space company and a major player in the Canadian defence industry. In 2008 the group had sales in excess of $400 million, of which approximately 60% were exported outside Canada. We employ approximately 1,700 Canadians, literally from coast to coast, in Vancouver, Toronto, Montreal, Ottawa, Halifax, Gatineau, and Suffield, Alberta.

For more than 40 years, MDA has been a key contributor to most of the current and the future Arctic surveillance and communications projects in space, in air, on land, and on and below the surface of the ocean.

It's clear that the key to Arctic security is wide-area situational awareness, and it is equally clear that space-based systems are the most efficient and only way of providing that awareness.

Operational for almost 15 years, Canada's Radarsat-1 and Radarsat-2 satellites, built and operated by MDA, have been providing daily, near real-time surveillance data for use by a wide-range of Canadian government departments. These satellites are routinely used for ice monitoring, ship detection, pollution monitoring, illegal fishing monitoring, maritime security, and continuous mapping of our dynamic coastline and maritime regions.

The follow-on to Radarsat-2 is the Radarsat Constellation Mission, known as RCM, currently in the design phase at MDA under contract to the Canadian Space Agency. When the RCM satellites are launched, this system will provide frequent, all-weather, day and night, high-resolution wide-area surveillance of the entire Canadian Arctic region, a task that can only be accomplished from space.

The key component of the system-of-systems approach is communications infrastructure. In the Canadian Arctic strategy, the polar communications and weather satellite mission that is currently proposed by the Canadian Space Agency will provide high-bandwidth communications linking together many of the different Arctic systems.

While space provides a very wide area of surveillance and situational awareness, airborne systems provide persistent surveillance and the ability to respond to specific incidents.

MDA is a major player in providing Canada with airborne surveillance capabilities necessary for these tasks. MDA is currently building Canada's next generation airborne imaging radar for the DND CP140 maritime patrol aircraft, and other future Canadian airborne surveillance projects. MDA is also providing the highly operational Noctua UAV service—unmanned aerial vehicle service—in Kandahar in support of our deployed Canadian troops. Following from this experience, MDA is developing world-leading Canadian industry solutions for DND's joint UAV surveillance and target acquisition system, known as JUSTAS, as well as the Canadian multi-mission aircraft, known as CMA.

On and below the ocean surface, MDA was the system integrator and continues to provide to date the in-service support for the navy's maritime coastal defence vessels. These vessels currently patrol Canada's coast, monitoring maritime traffic and performing mine detection to keep Canada's shipping lanes safe.

Looking to the future, MDA is actively developing comprehensive Arctic situational awareness solutions for the future of the Arctic offshore patrol ships. In order to effectively meet their missions, the AOPS need to be linked with other Arctic systems, such as Radarsat-2, RCM, JUSTAS, and CMA.

To maximize their efficiency and operational value, all of these surveillance systems must be tied together in an operational network and information fusion centre. MDA has built, and continues to maintain today and upgrade, the Canadian navy's maritime command operational information network, known as MCOIN. MCOIN is a key element of the maritime security operations centres, which provide secure maritime information fusion and situational awareness to Canada's navy and other Canadian agencies.

● (1545)

Through the government's efforts and the work done in Canadian industry, I believe we now know the parameters for each of these systems. We also know how to network and integrate them in an operational and efficient system of systems to meet Canada's Arctic security and sovereignty requirements.

I urge Canada to move these projects forward as quickly as possible. Furthermore, given that the fundamental objective is Canada's Arctic sovereignty, it's critical that these projects are controlled and implemented here in Canada and by Canadians. This can be achieved through a strong partnership between the Government of Canada and Canada's world leading space and defence industry. To achieve these objectives, we recommend the development and implementation of a strong Canadian defence industry strategy, and a Canadian long-term space plan.

[*Translation*]

As a proud Canadian, I am pleased to be leading MDA's Information Systems group which is a key contributor to Canada's Arctic security and sovereignty. I look forward to continuing our long productive relationship with the Canadian Government.

Thank you very much for your time.

The Chair: Thank you very much, Mr. Iskander.

I will now turn the floor over to Professor Pharand, for seven minutes.

Prof. Donat Pharand (Emeritus Professor, University of Ottawa): Thank you, Mr. Chair. I'd like to begin by thanking you for your kind introductory remarks. I taught for some 30 years at the University of Ottawa. My students have always been very generous in praising my work in the classroom.

[*English*]

I do not have any prepared text, but I do believe that you should at least have an outline in front of you. Do you not?

I sent you an outline over a week ago. I said that I could bring about 20 to 25 copies, but then I was told that if I sent it soon enough, which I did about ten days ago.... I sent an outline in French and in English, as well as a map in colour.

Well, I don't know what to do. Frankly, without an outline in front of you, I just don't know what to do.

[*Translation*]

The Chair: The Clerk is looking for the document. Please continue your presentation. Committee members can follow along with the chart you provided.

[*English*]

Prof. Donat Pharand: I was supposed to take between five and seven minutes. Hopefully, I can take a few more minutes than that. I have seven points here, which you're supposed to have in front of you. I will simply enumerate those points. Also, I will suggest to you what I could spend a few more minutes on.

The first point is the meaning of what I call key terms. The second is about sovereignty over the islands. Well, I'll cover that in thirty seconds. The third is about Canada's rights, which we call sovereign rights, over the continental shelf in the Arctic basin. The fourth is Canada's sovereignty, and I emphasize sovereignty, over the waters of the Canadian Arctic archipelago. Number five is the legal status of what we call the Northwest Passage, which has six or seven different routes. In number six, I suggest a few measures to prevent what I call the internationalization of the Northwest Passage. Number seven is Canada's cooperation with the other Arctic states. Those are the seven points, which you're supposed to have in front of you, as well as sub-points on each of the seven.

Now, you might wonder why the key terms. Well, I can tell you that this convention, the 1982 Law of the Sea Convention, after all, took some 12 years of negotiation to arrive at this text, so that nearly every word has a very special meaning; certainly a good number of them have. It's quite important for us to get our vocabulary straight before we have any kind of discussion. I repeat this, because sometimes I've heard it said that those are guidelines. They're not guidelines. This is a legally binding treaty among the 155 parties to the convention. As I said, it was adopted in 1982 after some 14 years, and then it did not come into force until 1994. You can understand just from that how important this text is.

Now, on the meaning of key terms, I have six terms here, which I do believe are most important, even though this is not the energy committee. It's the national defence committee, and of course you're mainly concerned, I would presume, about naval navigational rights and that sort of thing. Nevertheless, I do believe you must be interested in the definition of those terms.

The first term is sovereignty. Everybody talks about sovereignty. Sometimes, I'm afraid they do so inappropriately. Sovereignty can be very simply defined. We're talking about territorial sovereignty. Political sovereignty is presumed. Territorial sovereignty can be simply defined as the totality, the whole bundle, of state jurisdiction. That is the jurisdiction that a state may exercise within its territorial boundaries. It applies horizontally, but it also applies vertically. It's *usque ad caelum et ad infernos*, subject of course to the rights of aircraft passage as provided in treaties and conventions.

● (1550)

The second term is internal waters, not to be confused with territorial waters. Internal waters are the waters landward of the baselines from which you draw your territorial waters. And those internal waters landward of the baselines include—and this is important in the case of Canada—the waters that have been enclosed by straight baselines across various indentations in the coast or along a coastal archipelago. That's the case for Canada, as I mentioned a moment ago.

Then you have territorial waters. Territorial waters are seaward of the baselines, and now it's generally accepted and provided for in the convention to be 12 miles. Of course, you have sovereignty, but subject to—and this is important for naval people—the right of innocent passage of foreign ships. But subject to that right, the coastal state has sovereignty over the territorial waters of 12 miles.

The fourth term, exclusive economic zone, is new since the United Nations Convention on the Law of the Sea. Before that, you had the high seas immediately beyond territorial waters. Now you have an exclusive economic zone of 200 miles. Those 200 nautical miles are measured from the baselines, and the coastal state does not have sovereignty at all over those. The freedom of navigation applies in principle, as on the high seas. However—and this is where the continental shelf comes in—the coastal state has sovereign rights, not sovereignty, exclusive rights over the resources of the continental shelf, both the water resources and those of the continental shelf. We will say a few words about that later. Beyond the 200 miles you have the high seas, complete freedom of navigation, of course, and all the other freedoms of the high seas.

The last key word I have put on this list, which you don't have, is continental shelf. The continental shelf is the continuation of the land territory under the sea. You have, as a coastal state, at least 200 miles, but you can have more than that. If it is established that it is the same geology, it is therefore the continuation of the land mass under the sea, and it can go quite a bit further. We will say a word about that later. I'm talking about the seaward limit.

Those are the key terms.

Number two on my outline is sovereignty over the islands. There is no question whatever about Canada's sovereignty over the Arctic Islands. On only two occasions in history has Canada's sovereignty been questioned. The first was in 1920, when Denmark espoused the point of view of its explorer, Rasmussen, who said that Denmark's Eskimos, as they were then called in Greenland and everywhere, can go across and shoot muskoxen on Ellesmere Island; it's no-man's land. Great Britain, who was looking after Canada's foreign affairs at the time, sent a note to Denmark and that was the end of that. There was never any question after that.

● (1555)

The second time, when there was a little bit more serious question, was in 1928, with respect to the Sverdrup Islands, west of Ellesmere. Sverdrup, a Norwegian explorer, had spent some three or four years exploring three huge islands. This one was more serious. Norway could very well have claimed those islands on the basis of its nationals' explorations and the spending of quite a bit of money. However, in 1928....

I'm sorry. I drove some 400 miles yesterday, and I don't know how I got a cold.

[*Translation*]

The Chair: You have two minutes remaining, Professor Pharand.

[*English*]

Prof. Donat Pharand: Okay.

In 1928 we arrived at a settlement of this question with Norway. In 1930 we had an exchange of notes whereby Norway recognized Canada's sovereignty over the three islands called the Sverdrup Islands, subject only to the non-recognition of the so-called “sector theory”, about which I can say a word if you want me to. So that's the end of that.

The basis of our title of course is doubled: number one, the transfer of the islands in 1870 to Canada; number two, the explorations that we, Canada, made after the transfer in 1870. So there's absolutely no doubt about Canada's sovereignty over the islands.

Now, number three, Canada's sovereign rights over the continental shelf, is more complicated. Mr. Chairman, I was very pleased to see on the agenda I received from this committee that Ron McNabb was to appear. I don't see Ron here. He's not here, is he?

● (1600)

The Chair: He was supposed to be here, but I've been told that he's ill today.

Prof. Donat Pharand: If he's going to appear before the committee, I won't say anything about this.

The Chair: He is supposed to appear. We're going to try to have him before us.

Prof. Donat Pharand: Okay. He's really, in my humble opinion, the authority on the question.

I will limit myself simply to saying this. We have two problems. We have a problem, of course, an old problem, of lateral delimitation —that is, with our neighbouring states. We in Canada have one problem with the United States through Alaska in the Beaufort Sea, and we tried to settle that in 1984 and 1985 by negotiations. We had four maritime boundary problems with the United States, and we tried to settle the four of them during about a year and a half of negotiations. We didn't succeed, so we went to court on the Gulf of Maine and we left the other three. They're still there, and that's one of them.

The second problem of lateral delimitation we have of course is with Denmark—that is, Greenland. We did arrive in 1974 at a continental shelf delimitation, up to Lincoln Sea, and we left a little gap in the line. The reason for the little gap is because there is a big rock right in the middle of the medium line that is called Hans Island, named after Hans Hendrik, a Greenlander who was on an expedition as part of the expedition of the American Elisha Kane, who was an American explorer. It was Kane—and you have Kane Basin—who named the island after Hans Hendrik.

In any event, that's not a serious problem, and that's why I said a moment ago that we have no sovereignty problem, properly so-called, it's so minor.

In any event, and so far as—

[*Translation*]

The Chair: Professor Pharand, could you wrap it up in the next thirty seconds. I see that members have some questions for you.

[*English*]

Prof. Donat Pharand: Okay. I'm awfully sorry, Mr. Chairman. Let me go directly to the waters of the archipelago of the Northwest Passage.

In 1985, after the passage of the *Polar Sea*, the American icebreaker that had refused to ask Canada's permission to go through from Lancaster Sound right to the other side.... They refused to ask permission, so after that we drew, in September 1985, as the Soviet Union had done in January, straight baselines around the Canadian Arctic Archipelago.

Those straight baselines were drawn on the basis not of this convention—we were not parties—but on the basis of customary international law as interpreted and applied in 1951 by the International Court of Justice in The Hague in a dispute between Great Britain and Norway. The decision of the court—with, I might add, the concurrence of the American judge Hackworth—was that all of the waters within the baselines were internal waters, through which, I might add immediately, there is no right of innocent passage.

A modification was made in the 1982 convention, which didn't come into force, as I said, until 1994. The modification is that now there is a right of innocent passage. It remains if it existed prior to the establishment of the straight baselines.

I can go into more detail.

● (1605)

[*Translation*]

The Chair: Could you wrap it up, sir?

[*English*]

Prof. Donat Pharand: Yes.

Concerning the legal status of the Northwest Passage, of course the main route of the Northwest Passage is the one at the entrance of Lancaster Sound, the McClure Strait, and the Amundsen Gulf. This will definitely become, in a matter of a few years, according to the scientists—in particular

[*Translation*]

Mr. Fortier, who is an eminent authority on the subject, —

[*English*]

the main route, and not the others.

I was in an icebreaker for 28 days, the *Sir John Franklin*, and this is the route we followed. It is, shall we say, not as dangerous a route insofar as the presence of ice is concerned, but a much longer route. It is a particularly slow route because we do not have up-to-date hydrography; we do not know precisely everywhere where the bottom is.

The Chair: Thank you very much, Professor Pharand.

I'm sure the members will have a lot of questions on this; it is a subject that is very interesting for every member of the committee.

I will start with Mr. Wilfert. You have seven minutes.

Hon. Bryon Wilfert (Richmond Hill, Lib.): Mr. Chairman, I will share my time with Mr. Bagnell.

Professor Pharand, I enjoyed your presentation. I hope we can have you back so that you can complete it. I certainly found it most interesting.

Our major concerns have to do with climate change, economics, and defending the Arctic. Some have suggested that we haven't been as quick off the mark as other circumpolar nations in responding to the needs of the Arctic, in terms of climate change, adaptation, defence, etc. How would you respond to those concerns? How do you feel that we can capitalize on the economic benefits of the north?

Secondly, can you indicate to us, on your point with regard to the Northwest Passage.... There was some concern raised before as to whether we actually control the waters in the middle—yes, along the side of the islands, but not necessarily the passage itself.

● (1610)

Prof. Donat Pharand: Thank you for your question. It's a very fundamental question.

Your two questions actually are interrelated, in that they both relate to measures that Canada should take and has not yet taken to exercise effective control over navigation through the various routes of the Northwest Passage. There are seven of them—I have distributed a map, though unfortunately you don't have it—but in future, in particular there will be passage through the two routes I am indicating.

Times have changed, with the melting of the ice. It is diminishing in thickness and in extent—it's a sort of two-component kind of affair—and immediately we have a tendency to jump to saying that navigation is going to become possible very soon and Canada can capitalize economically on it.

It's not as simple as that. Why? No shipping industry will take the risks involved—and I'm talking about money risks, in the end—unless they are assured that the coastal state, in this case Canada, has the appropriate infrastructure, which means all kinds of things that, by the way, Russia has completely on the other side. Not only has it 12 nuclear-powered polar icebreakers, but it has within its regulations the obligation imposed, if it sees fit, on foreign ships to use a Russian pilot once they get into difficult, ice-covered waters.

By the way, Russia concluded a six-year study—the research papers it produced occupy about four feet on my shelf—that ended about four years ago, paid for mainly, as I understand, by Japan. The eastern countries, China and Japan, are after all interested in the possibility of saving 4,000 or 5,000 nautical miles and going through what's called the northern sea route on the other side of the pole, and possibly ours as well.

But I repeat, to summarize my answer to your question, that the first part is yes, Canada can theoretically benefit considerably from the melting of the ice and the freeing particularly of those two main routes, but certainly the main one, the McClure.

On the other hand, with respect to your second question, the answer is, not until we can prove that we have the necessary infrastructure to protect foreign shipping.

● (1615)

The Chair: You still have one minute.

Hon. Larry Bagnell (Yukon, Lib.): Okay. I have just one question.

We're in the process of passing an act in Parliament that will extend the Arctic Waters Pollution Prevention Act's reach from 100 to 200 miles. One of the rationales of the government for doing that is article 234 of the Law of the Sea, saying that we can exert those types of regulations over ice-covered waters.

What happens when, as you said, in the near future those waters are not ice-covered? Do we still have the authority to exercise that act in those economic zones?

Prof. Donat Pharand: That's a very good question. I'm glad you raised article 234, which is often called Canada's article, with the support of the Soviet Union at the time.

[*Translation*]

The Chair: Your time is up, Professor Pharand, but you can have 30 seconds to answer the question.

[*English*]

Prof. Donat Pharand: The answer to your question, I think, is yes. Until it is amended, I do not see that one can give it such a narrow interpretation as to say they're no longer ice-covered. That's my guess. Nobody knows for absolute certainty. It would be subject, of course, to a judicial interpretation, but until that article is amended, my interpretation would be that it would still apply. Of course our Arctic Waters Pollution Prevention Act of 1970 and regulations were adopted on the presumption that eventually—and that's why we fought so much and so hard during the third Law of the Sea conference—it would be confirmed, which it was by article 234.

[*Translation*]

The Chair: Thank you.

We will now go to Mr. Bachand.

Mr. Claude Bachand (Saint-Jean, BQ): Thank you, Mr. Chair.

I want to thank the two witnesses for their excellent presentations.

My first question is for you, Mr. Iskander. A while back, I had an opportunity to visit MDA and I was extremely impressed by your facilities in Sainte-Anne-de-Bellevue.

In the area of satellite exploration or observation, is COM DEV one of MDA's competitors or do the two companies work together?

[*English*]

Mr. Mag Iskander: We worked together with COM DEV in many areas within the Canadian projects. We may compete with COM DEV in the area of commercial communication satellites internationally for French and other opportunities, but primarily we are partners on all of the Canadian activities.

[*Translation*]

Mr. Claude Bachand: You mentioned in your presentation that the capability exists to observe the earth from space, that is the land and everything on and below the surface of the ocean.

Do you currently have the technology to conduct these types of observations?

[*English*]

Mr. Mag Iskander: MDA and the industrial team in Canada have a unique and world-renowned capability when it comes to sensing and observing the earth. Not only that, I can tell you that the United States, Norway, and other Scandinavian countries buy our data to manage their Arctic regions, along with other sources they have. We at MDA sell to these countries. So the short answer to your question is yes. No country has 100% capability to cover everything. We in Canada have all the main nuggets to build world-leading technologies in airborne radar, in space radar, in optical radar, in sonar capability under water, and so on.

[*Translation*]

Mr. Claude Bachand: How old are your RADARSAT-1 and RADARSAT-2 satellites? Have they been flying for 15 years?

● (1620)

[*English*]

Mr. Mag Iskander: Radarsat-1 was designed for seven or eight years. It has been flying for 12 years, if I'm not mistaken.

Mr. Claude Bachand: Is it still active?

Mr. Mag Iskander: It's still active. It has some minor issues, but it's still active and operating. Radarsat-2 is designed for a seven-year life. We expect it to be well within the 10- to 12-year range, as most satellites that we build exceed their life expectancy.

[*Translation*]

Mr. Claude Bachand: You have secured the contract to design the RADARSAT Constellation Mission. That means additional RADARSAT satellites are in the works.

How many satellites are being built? What will they be used for? What is their intended purpose?

[*English*]

Mr. Mag Iskander: The Radarsat Constellation Mission is in phase B right now; that's a second study phase. The current configuration is three satellites. That could be expanded into six total, but right now we're looking at three. They are of smaller size and mass than Radarsat-1 and Radarsat-2. Their function is to monitor the Arctic activities with what we call higher-visiting frequency. Because you have three in the same orbit, you visit the same spot three times more frequently than if you have only one satellite.

[*Translation*]

Mr. Claude Bachand: Are these radars designed to follow a trajectory from the North Pole to the South Pole, while orbiting the North Pole and the South Pole, somewhat like the COM DEV satellite?

[*English*]

Mr. Mag Iskander: I'm not sure what COM DEV is described here, but COM DEV is a partner with us on the RCM. It's the same program, the same project. It's a polar orbit, so it covers.... But it has a funny orbit, what you'd call elongated at one point in time, to stay longer on top of the north Arctic.

[*Translation*]

Mr. Claude Bachand: How much time do I have left, Mr. Chair?

The Chair: You have one minute remaining.

Mr. Claude Bachand: I have a question for you, Professor Pharand. You seem to be well versed on this subject.

First of all, regarding Canada's strategy with respect to Arctic sovereignty, would I be off base if I said that one very important argument that will be invoked will be the fact that this territory has been occupied since time immemorial by a people known as the Inuit? Would the presence of the Inuit not be the main argument invoked to establish a claim for sovereignty?

You also mentioned a treaty or international convention. However, there is a UN body called the Commission on the Limits of the Continental Shelf. With the help of the studies it receives, the Commission tries to determine the boundaries of each circumpolar nation.

Ultimately, do you think these are the arguments or best strategies to employ to establish Canada's sovereignty over the Arctic, that is stressing that the Inuit have long occupied these lands and demonstrating through scientific means that Canada's continental shelf extends out to a certain limit?

Prof. Donat Pharand: The two questions are not connected, from a legal standpoint. A coastal nation's sovereign rights to its continental shelf are in no way dependent upon the occupation of the land. With respect to the limits of the continental shelf, we are not talking here about a separate convention pursuant to which scientific data submitted by states, in this case, the five Arctic States, would be considered. We are talking about a commission on the limits of the continental shelf. Currently, this commission considers data submitted by the five Arctic States. Russia and Norway must submit their data this year.

● (1625)

Mr. Claude Bachand: And what about Canada?

Prof. Donat Pharand: Canada has until 2013 since we ratified our convention in 2003. Each State has ten years to submit its data. Occasionally, this process can take longer. In Russia's case, the deadline passed three or four years ago and it was granted an extension until 2013.

The Chair: You have 30 seconds left, Professor Pharand.

Prof. Donat Pharand: To answer your second question, the fact that the Inuit have occupied the land since time immemorial is an important consideration, but it's not connected to the issue of the establishment of the outer limits of the shelf. Nevertheless, it is a major consideration and could prove extremely important for consolidating Canada's rights, specifically its sovereignty over the coastal waters delimited in 1985. Norway took similar action when it determined in 1951 that Norwegian fishers had exclusive fishing rights over two of the country's bodies of water.

The Chair: Thank you, Professor Pharand.

We will now go to Mr. Harris.

[*English*]

Mr. Jack Harris (St. John's East, NDP): Thank you, Mr. Chairman.

Thank you both for your presentations.

Mr. Iskander, can you tell me whether there's currently a planned launch date for the RCM satellites? Is that something that's already been decided or planned for?

Mr. Mag Iskander: The initial plan right now is for 2012. These are going to be firmed up, based on the studies we're doing right now. In these projects you typically assess your situation as you go along. That's the idea.

Mr. Jack Harris: Is Radarsat-2 now fully operational? If it is, when did it become fully operational?

Mr. Mag Iskander: It is fully operational. It has been fully operational since April of 2008. As I said, it's providing a significant amount of radar imagery, not only to the Canadian government but to other neighbouring governments in the Antarctic as well.

Mr. Jack Harris: Okay. Won't there be significant overlap with the RCM, if it does become operational in 2012?

Mr. Mag Iskander: Correct.

Mr. Jack Harris: Thank you.

Professor Pharand, I'm sorry that we didn't get your notes. I hope you're not insulted by our committee—

Prof. Donat Pharand: So am I; I'm very sorry.

Mr. Jack Harris: I'm very interested in your comments.

First of all, what level of confidence do you have in the fact that the so-called Northwest Passage is part of the inland waters of Canada, and therefore not subject to innocent passage, notwithstanding the *Polar Sea*? What level of confidence do you have about that?

Prof. Donat Pharand: I am, I think I would dare say, at the highest level of confidence. I have written that in a 65-page article, for which I can give you the reference if you're interested.

Mr. Jack Harris: I am.

Prof. Donat Pharand: I'll give it to you later, so as not to lose time.

To summarize very briefly, Canada did that, as I indicated a moment ago, not under the Convention on the Law of the Sea, but under customary international law as applied by the International Court of Justice in 1951.

Mr. Jack Harris: It's the Corfu Channel, is it?

Prof. Donat Pharand: No.

Mr. Jack Harris: Which case is that?

Prof. Donat Pharand: Corfu Channel is on navigation rights. No, it was the Anglo-Norwegian fisheries case of 1951. Corfu Channel was in 1949. It had nothing to do with that, but it is important in relation to the Northwest Passage nevertheless, on another point.

The reason I am very confident is that it was only some 20 years later—eighteen and a half years, to be exact—that Canada, after drawing the straight baselines, became party to the Convention on the Law of the Sea, so it was not by virtue of a provision of the law of the sea convention, but by virtue of customary international law. In other words, what I'm saying to you is that in 1985, when Canada drew the straight baselines, there was no right of innocent passage, and therefore after 1985, after the straight baselines were drawn, there was none either.

● (1630)

Mr. Jack Harris: Okay.

I want to go back to that in my third question, but first I want to give you an opportunity, if you haven't had sufficient time, to tell us what measures Canada should be taking, because I think that was your last point.

Prof. Donat Pharand: Yes, that's right.

Mr. Jack Harris: Did you cover all the measures you think Canada should be taking to ensure that we have—

Prof. Donat Pharand: No. I think I list twelve here. I'm not sure. I had limited myself—you would have seen on my outline—to six of them. The first one I think is the most important one; that is, to make the present voluntary system of northern regulation compulsory, but particularly to enforce it.

What Prime Minister Harper said in August 2008 was that he intended to make northern regulation compulsory, which some of us have been advocating ever since the beginning, some 25 years ago. That's all well and good. It's a good intention. He's expressed a number of good intentions. But first you have to do it. Secondly, you've got to have appropriate regulations in order to support your enforcement measures. And as I understand from an officer of Transport Canada, it is expected to have the regulations in place by 2010. So good intention and good expectation are the only things I can say that are good about this.

You see, it's no good to know that a ship is there and you might not have given it permission to enter. By the way, the northern reulation presently is not actually a permission that is given; it's an acknowledgement. And the distinction is made very specifically that Canada says “Yes, okay, fine, here are the regulations. We will inspect your ship.” It's an acknowledgement that you've notified us, but not that you've asked permission and that we gave you permission. It leaves very much to be desired when one thinks of the requirements for the effective exercise of control over navigation.

Another matter, of course, is that of the polar icebreaker. As you know, in 1985, shortly after the baselines, Mr. Clark, the Minister of Foreign Affairs, decided and a firm decision was taken to have a class 8 icebreaker. It was better than nothing at all. It's not as good as a class 10, but it was a good class 8. And then the next government said it was too much money and we didn't need it, so it was cancelled. So we have none. We have three moderate icebreakers, the old *Louis S. St. Laurent* and a couple of small ones besides that.

So certainly with that you cannot control the multi-year ice. Even though it's not quite as thick and not quite as extensive, the multi-year ice, which comes down the McClure and down the McClintock.... We were stuck there for two days just because of the polar ice that came down. So it's all well to say that it is melting, but the huge pieces of ice resulting from the melting constitute a very considerable hazard, so that you have to be prepared with the adequate polar icebreaker.

● (1635)

[*Translation*]

The Chair: Thank you.

[*English*]

Prof. Donat Pharand: I'm finishing. I know I'm—

[*Translation*]

The Chair: Thank you, Mr. Pharand. You may continue.

I believe Mr. Payne has a question for you.

[*English*]

I'll give the floor to Monsieur Payne.

Mr. LaVar Payne (Medicine Hat, CPC): Thank you, Mr. Chairman.

I'd like to thank the witnesses for coming.

And I'll get back to you, Mr. Pharand.

I was obviously very pleased to hear in your presentation, Mr. Iskander, that MDA has a facility in Suffield. Of course Suffield is in my riding. And of course—

Prof. Donat Pharand: What is in your riding? I'm awfully sorry, sir.

Mr. LaVar Payne: MDA has a facility in our riding, in the Medicine Hat riding. The Canadian Centre for Unmanned Vehicle Systems is also headquartered in Medicine Hat. So that, for me, is a very positive thing.

I found your presentation, as well as the one the other day regarding the satellites and the possibilities of getting all the information from those, very intriguing. On that front, could you tell me a bit more about the abilities of Radarsat-2 in tracking ships and possibly other land items and icebergs?

Mr. Mag Iskander: Radar capabilities are unique, because they operate 24 hours a day, seven days a week. They are not obstructed by clouds. They are not obstructed by light—that is, the absence of light. The area of interest, of course, is in darkness most of the year, so you can see the advantage of using radar.

When it comes to monitoring waters, because of the nature of the flatness of the water, and because ships are very small objects relative to the size of the ocean, optical devices really do not give the optimum observation value. Radar has capabilities for spotting ships via detecting the wave behind the ship. Radar can understand the angularity of the water and can actually see waves of water and can then detect ships through the wakes behind the ships.

Combined with identification means, such as the AIS of the ship, and fusing other data, you can get timely, accurate information to make a decision and have the enforcement the professor spoke about. The only way you can do that in such a massive area is through radar based in space. That's really the advantage of radar.

With regard to land, actions on land, and information related to land, of course, airborne radar is again of significant value. The same characteristics, again, because of the clouds and the absence of light, whether it is airborne on a CP-140 patrol aircraft or on an unmanned airborne vehicle, give you the same thing. In this case, in the latter case, you can get it near real time. As you're passing over, you can actually get the imagery.

The idea is that it's a phased approach. You have radar that is in lower orbit to give us the overall picture. Radar data is really not that useful if you don't have the techniques and the algorithms to analyze the data and detect the change. Here in Canada we are leaders, without question, in the world. Again, change detection is one of our strengths. So you get the overall picture, and once you spot an area of interest, you deploy more localized radar surveillance to determine the nature of the activities, and you decide, based on that, whether you want to take an action.

● (1640)

Mr. LaVar Payne: I find it quite intriguing that you can determine that a ship is there in terms of the waves. I'm wondering what size of ship would be required to make the waves so that the radar could actually get that image.

Mr. Mag Iskander: We have capabilities on Radarsat-2 to go down to a one-metre resolution. A one-metre resolution, presented in normal language, means that any object that is more than one metre by one metre in surface will be detected by the radar. This is what we call a spotlight, which is the tight lens. In normal operations, we can go to three metres. RCM is expected to be between three and five metres, which is ample for detection of an average ship or a small ship, for that matter.

Of course, just to add, the CP-140, as you may know, is also used to detect subwater activities as well, as part of their current missions.

I just want to remind the committee that the RCM, although we're working on Radarsat Constellation Mission, is only partially funded. This is not funded through the completion of the program. It's funded only through the next phase. We are in phase B, and it's only funded through phase C.

I also mention the polar communication weather satellite. That is also not funded. These are programs that need to be addressed by the government. They need to be approved. They need to be fully funded in order for this to be realized in the next decade.

The Chair: Twenty seconds.

Mr. LaVar Payne: I'll just finish up.

You talked about illegal fishing. Maybe you could describe how you could figure out somebody was fishing illegally in the Arctic waters.

Mr. Mag Iskander: Should I respond to this? I'm not sure.

The Chair: Go ahead, please.

Mr. Mag Iskander: The identification of the ship comes in very handy through matching it with the radar image. One would know whether that ship is permitted to operate in this water or not. Just recently, we participated in certain activities that quickly uncovered some illegal fishing on the coast of Europe. You see the ship but you don't know if it's legal or illegal. So you need to identify the ship through automatic identification system or other means and then fuse the data and by comparison you would know whether it is or is not permitted to operate there.

Mr. LaVar Payne: Okay, thank you.

[*Translation*]

The Chair: Thank you.

Go ahead, Mr. Coderre.

Hon. Denis Coderre: Thank you, Mr. Chair.

Professor Pharand, we've talked at length about conventions and treaties. We are trying to grasp the legal complexities and so forth. I'd like to talk about symbolic gestures, for the layman. For example, the Russians arrive by submarine and plant a flag, while the Danes seize control of an island. One can imagine Canada's reaction to these incidents.

Do gestures like these have an overall impact, or are they merely for show? As far as the negotiations are concerned, what do these symbolic gestures mean?

Prof. Donat Pharand: They mean nothing, absolutely nothing. The Russians are no fools and they know this very well. It's all for show, for the media.

That said, from a scientific standpoint, I have to say that the Russians are far more advanced that the other four Arctic states in terms of their knowledge of the geology of the Arctic polar basin. It began with the Papanine expedition in 1937 and, if I'm not mistaken, they have now reached station 45. They know the geology of the Arctic polar basin.

In 1974, the Russians published a geological map showing the location of the Lomonosov Ridge. The Americans maintain that this ridge contains approximately 25% of the world's oil reserves. The ridge is a disputed area. Russia is claiming ownership of this shelf, a position disputed by Denmark and Canada.

Generally speaking, from a scientific and legal standpoint, the level of cooperation is fairly good. Not long ago, on Mary 28, 2008 to be precise, the five coastal Arctic States made a declaration in Greenland. These five States get along very well. Despite the Russian flag-planting spectacle, the States do get along.

● (1645)

[*English*]

The Law of the Sea provides for important rights and obligations concerning the delineation of the outer limits of the continental shelf. The protection of the marine environment, which of course is immensely important there, includes ice-covered areas, freedom of navigation, marine scientific research, and other uses of the sea. This is the important part. We remain committed to this legal framework and the orderly settlement of any possible overlapping claims.

[*Translation*]

It's important to emphasize that although the United States are not yet a signatory to the convention, they have expressed their support for the declaration of the leaders of the five coastal Arctic states.

So then, to answer your question, the gesture is meaningless.

Hon. Denis Coderre: Legally speaking, is this declaration in fact a declaration of intent?

Prof. Donat Pharand: I'm happy you brought that up. It's more than a simple declaration of intent.

As it so happens, a decision was reached in 1933 in the matter of a dispute between Norway and Denmark over the sovereignty of the eastern part of Greenland. The court held that when a head of State or a representative speaks on behalf of his government, even if only to make a simple declaration, the government is bound by the declaration, even if it is unilateral. In this case, the declaration was made by five countries, following a special conference the purpose of which was to determine the degree to which the five States could agree.

Some argued that the Arctic Ocean was a very unique body of water and that special legislation was needed, to put the issue into Canadian legal terms. However, the Arctic Ocean is subject to the United Nations Law of the Sea Convention.

The Chair: Thank you, Professor Pharand. You've been quite clear.

I will now turn the floor over to Mr. Blaney.

Mr. Steven Blaney (Lévis—Bellechasse, CPC): Thank you very much, Mr. Bernier.

My first question is for Professor Pharand.

Thank you for joining us. You mentioned the Russians' feat. You also spoke about the Northwest Passage and the historic and legal dimensions of the actions of Canadian navigator Joseph-Elzéar Bernier. July 1, 2009 will mark the 100th anniversary of Captain Bernier's claim to sovereignty over the Canadian Arctic archipelago.

Do you consider this to be an important gesture in terms of our sovereignty over the High Arctic, Professor Pharand?

● (1650)

Prof. Donat Pharand: Excuse me, but what incident are you referring to exactly?

Mr. Steven Blaney: On July 1, 1909, Captain Bernier erected a plaque on Ellesmere Island.

Prof. Donat Pharand: I apologize, but I didn't quite catch the name.

Joseph-Elzéar Bernier made four trips to the Arctic and on one of these trips, he erected a plaque. He was a proponent of the sector theory, which, I can assure you, carries no legal weight. Nevertheless, I'm not saying that his gesture was meaningless.

He proclaimed Canadian sovereignty over the land, not the waters. He explained this in a book that he later wrote. He claimed all of the lands inside this triangle for Canada, that is from longitude 141 degrees to latitude 69 degrees, detouring around Greenland.

If the Canadian sovereignty claim involved only the lands and islands, then this gesture might mean something. However, it has no bearing in terms of our claim to Arctic waters, or especially in terms of the legal status of the routes through the Northwest Passage.

Mr. Steven Blaney: Thank you for answering that question very clearly, Professor Pharand.

My second question is for you, Mr. Iskander.

You stated that you were very involved in air and submarine surveillance and control systems in the High Arctic.

Basically, my question has to do with the difference between what is currently being done and what we would really like to see happen. I think you have a pretty good idea of the type of monitoring that is needed.

You made no mention of costs in your presentation. Could you give us an estimate of the cost associated with the different systems that you develop. You also mentioned that there was a private component and well as a public one. Could you tell us more about that?

Prof. Donat Pharand: I don't think I can help you a lot as far as the last two points are concerned. I'm not up on the financial side of matters. My sole concern is the legal side.

Mr. Steven Blaney: Thank you, Professor Pharand.

I will put the question then to Mr. Iskander, who works in the area of satellite systems.

Thank you very much, Professor.

[*English*]

Mr. Mag Iskander: Our involvement in monitoring the North Pole, the Arctic area, is through Radarsat-1 and Radarsat-2. These are singular spacecraft that have capabilities of not only the North Pole but other areas they cover.

The continuation of the radar monitoring with specificity to the Arctic requires the addition of the Radarsat Constellation Mission for a number of reasons. One, the orbit is different, as described earlier. The frequency of visits is higher, and the design uniqueness of the RCM program—

Mr. Steven Blaney: What is the magnitude of this project, the constellation mission?

The Chair: There are 15 seconds left.

Mr. Mag Iskander: The total program is in the realm of $600 million, and only $200 million has been approved by the previous government. The balance of the money has not been approved by the government; therefore all of the remainder work is not done.

● (1655)

The Chair: Thank you very much.

Monsieur Bachand.

[*Translation*]

Mr. Claude Bachand: Mr. Iskander, some things, such as vessels, can be observed by satellite. On occasion, we have been concerned with observing activities below the surface of the water, and consequently, submarine activity. We've been told that we do not have the technology at this point in time to detect the presence of submarines in Arctic waters.

Is that an accurate statement? If so, are you working to develop the technology that would enable us to detect the presence of submarines in the waters of the Northwest Passage?

[*English*]

Mr. Mag Iskander: I am not really expert in the area, Mr. Bachand, but I can tell you that CP-140 radars have the ability of detecting submarines. Your question is directly related to the identification of the type of submarine. I am not an expert in this area, and there may be Canadian capabilities I'm not aware of.

At MDA we do provide sonar capability to detect and draw the nature of the bottom of the sea. We have this technology, but I'm sorry, I'm not familiar with identification of submarines.

[*Translation*]

Mr. Claude Bachand: I see.

I have another very important question for you.

I've heard that an international agency was the one to decide the trajectory of the satellite and to grant permission to launch satellites into space permanently. I've been told that trajectories and slots have been reserved for Canada and that as we speak, some people in Canada want to sell these slots to other nations.

Can you confirm whether this is in fact the case?

[*English*]

Mr. Mag Iskander: You may be referring to a decision that was made back in 2007, if I'm not mistaken, to put on auction a certain number of slots, and that took place. There were Canadian slots put out for auction internationally. I should point out that these were high-altitude communication slots—geosynchronous satellites, as opposed to the earth observation satellites, which fly at a much lower altitude. So these slots were related to communication satellites, as opposed to earth observation. But yes, I believe this decision was made and carried out under the chairman's Department of Industry at the time.

[*Translation*]

Mr. Claude Bachand: I have one last question for you, Professor Pharand.

Earlier, you appeared to be receptive to the argument that Canada's claim could be tied to the occupation of the land since time immemorial and to efforts to scientifically prove the boundaries of the continental shelf. Now, some people are saying that in order to exercise full sovereignty, control over the land is needed. Experts have told us that if ships enter the Northwest Passage, we should think about boarding them, stopping them or intercepting them. Otherwise, we would be demonstrating that we occupy the territory and that the offshore continental shelf belongs to us, but that we do not control the territory.

Do you think these vessels should be boarded? How do we avoid a military operation? Is there some way of boarding a vessel other than by carrying out a military operation?

Prof. Donat Pharand: First of all, it is important to distinguish land territory, strictly speaking, from maritime territory. A reference to the waters of the Arctic archipelago, including the waters of the Northwest Passage, is a reference to maritime territory.

While the Inuit can claim that they have occupied the land territory since time immemorial, they cannot establish a similar claim in the case of the maritime territory.

In my humble opinion, as I have written—and the Canadian government does not fully agree with my position on this matter—Canada cannot establish historic title to the waters of the Arctic archipelago. However, we can establish our sovereignty on the basis of customary international law as interpreted by the court in 1951. As I said earlier, I am confident about that claim.

Not only can we invoke the fact that we have occupied the land territory, but we can also point to the fact the Canada's Inuit have used certain waters as if they were land territory to fish, hunt seal, and so forth, and that they have done so since time immemorial.

I think Canada can follow Norway's lead and invoke these facts to consolidate, but not establish, its sovereignty. Establishing sovereignty over waters is more difficult than establishing sovereignty over land. The same three things must be proven.

● (1700)

The Chair: Thank you, Professor Pharand.

I will now give the floor to Ms. Gallant.

[*English*]

Mrs. Cheryl Gallant (Renfrew—Nipissing—Pembroke, CPC): Are you going to turn the waters over to me as well?

Some hon. members: Oh, oh!

Mrs. Cheryl Gallant: Thank you, Mr. Chairman.

At our last meeting, the committee heard testimony that Canada does not have the capacity at this time to patrol the Northwest Passage effectively. Last week, EU parliamentarians from the NATO member countries stated their concerns over the need for NATO assets to assist in patrolling their allies' waters. So if we don't have the capacity as a nation to patrol the Northwest Passage and our territorial waters, they want to know if they're going to be required to help.

How would Canada's dependence on NATO for assistance and security affect Canada's sovereignty over our territorial seas, and how would it affect our chances for a larger portion of the continental shelf?

Prof. Donat Pharand: You're asking this of me?

Mrs. Cheryl Gallant: Yes, I am.

Prof. Donat Pharand: I have no idea. I have no idea whatever. I do not know anything about defence.

I do not know how we could possibly ask NATO to come in for this sort of thing. First of all, they're territorial waters. There's absolutely no question as to our sovereignty, subject only to the right of innocent passage. Insofar as the continental shelf is concerned, NATO would be in the way.

This has nothing to do with defence. I cannot answer your question. My answer is simply put: nothing.

Now, Mr. Chairman, if I could seize this opportunity, you talked about the Northwest Passage and you talked about control, etc.

The Chair: You're my professor, so go ahead.

Prof. Donat Pharand: You mentioned submarines and their detection. We have the responsibility when we claim full control over these waters to have full control over these passages throughout. We must be in a position to show full and effective control, and that includes of course the stopping of foreign ships. These are sovereign waters of Canada. Do you have our permission? If you say yes, okay, fine; now we inspect and see if you conform to the Arctic Waters Pollution Prevention Act and regulations of 1970.

One of the six measures I mention here is submarine detection. Normally, when you determine if a strait is an international one or not, and it makes all the difference in the world, you of course count only the transits of surface ships. However, I have to add that if you, as the coastal state, have reason to believe that you might have submarines using your waters, it might very well be held against you, and it might very well count as a foreign transit for which you did not ask permission. That is the reason why I have been suggesting for years that we should have submarine detection at both ends: Lancaster Sound and the McClure Strait and Amundsen Gulf. Here there's not much of a problem, because the submarine couldn't go far, but it's been proven that American submarines have been in the McClure Strait and Lancaster Sound, and we know about that, and that's fine. It's counted in the list of 69. I counted the foreign transits from 1905—Amundsen made the first trip in a fishing boat, from 1903 to 1905—to the end of 2005. In one hundred years, 69 crossings have taken place. That counts both ways, like in 1969, the *Manhattan*, a reinforced tanker, as a test made one way and then the other. I've counted that as two.

Since then, I have not the precise count, but we've had perhaps something like seven or eight tourist ships per year in the last two or three years. But this is certainly not enough to make the Northwest Passage an international strait or, as it is called in the convention, one used for international navigation. Relating to submarines, the difference is this: if it is an international strait, you have the new right, since the convention, called “transit passage”. It looks very innocent. It was fabricated by the U.K. delegation. It looks very innocent: transit. Transit passage means that as a foreign ship and a submarine, you do not even have to surface. The convention says right of passage in the normal mode of navigation. Well, the normal mode of navigation is under water. That is the big difficulty between the Americans and ourselves. They pretend that this is an international strait.

● (1705)

[*Translation*]

The Chair: Thank you, Professor.

Mr. Bagnell, you may proceed.

[*English*]

Hon. Larry Bagnell: Thank you.

Mr. Pharand, I'm going to ask both my questions right at the beginning, so that I get them in.

The first question is on the dispute over the Beaufort Sea boundary and the line the Americans seek and the perpendicular line the Canadians seek. I want to know from you which you think has the stronger argument. That's my first question.

Second, if the other countries believe that the Northwest Passage is an international strait, why are they not flying their planes over it? I understand you can fly your planes over an international strait.

● (1710)

Prof. Donat Pharand: That's correct.

I'll take your second question first. Yes, transit passage means not only the right of navigation on and under water, but also the right of navigation over it as well. It means aircraft. You're absolutely right. I didn't mention that in my answer, but that is another dangerous component, as it were, of that new right of transit passage.

As for your first question, I would not dare.... I study that quite a bit. When we tried to settle the four maritime boundary problems about 20 years ago, I was called an academic in residence in foreign affairs, and I advised the government on these four maritime boundary problems. I wouldn't dare say that we are absolutely right and the United States is absolutely wrong. What is going to happen, I would dare say, is that if we go to the court, it's going to be a line somewhere in between, and if we don't go to the court and arrive at an amicable settlement, it will be somewhere in between.

What we are doing is using the 141st meridian. We say we have been using the continuation of the 141st meridian for quite a while. We say that our legal basis is therefore an historical use of a particular meridian of longitude.

The Americans have a better departing point. The Americans say that it is the median line. Well, this used to be, in the 1958 convention on the continental shelf, the rule. It is no longer the rule. Nevertheless, it is still considered an equitable factor, and because of the concavity of the coast here on the Canadian side, a median line beginning here goes about like this, on the inside.

The beauty of it is that perhaps—and I don't know—it might not be, as we progress, more of a disadvantage to Canada at all. Why? It's because, if you look at a modern geological map, lo and behold, the equidistance line goes like this, but then look at the archipelago: then the median line comes back and crosses the 141st, over to the American side, shall we say.

By the way, I don't think you could find a better description on the map than the last number of the *National Geographic*. From a legal point of view, I think you will find that chart very accurate.

As I say, I would not dare to answer your question or to make a guess. All I would say is that somehow we're going to compromise on the basis of a number of equitable factors, and I could make a list.

[*Translation*]

The Chair: Thank you, Professor Pharand.

I will now turn the floor over to Mr. Boughen.

[*English*]

Ray, it's your turn.

Mr. Ray Boughen (Palliser, CPC): Thank you, Chair.

I would add my voice of welcome to our witnesses, the same as my colleagues have.

I have a question for either of the witnesses to answer. It seems to me that a lot of time and effort has been dedicated to the question of sovereignty. And I think there must be some economic issues around that in terms of who gets what and who's entitled to what. Then I think of the environmental issues and the harsh climate and building requirements and all those things that face developers in this day and age, and the north is no exception.

Do either one of you think that in five years to ten years from now the north will be in such a developmental position that it will be a real money producer, a real economic driver of our economy overall? Do you have any feeling on that?

● (1715)

Prof. Donat Pharand: The expert on the financial side tells me to go ahead. Well, it's going to be very short, because I really don't know.

I suppose I could say that insofar as the exploitation of natural resources, it is a very, shall we say, delicate matter to deal with. I am pleased, however, to say this: Within the Arctic Council, which Canada helped create in 1990, I believe it was, or 1992, the five Arctic states together are developing a polar code. It was changed to "guidelines"; somebody objected to "code". Those guidelines are specifically intended to protect the marine environment in case of either a spill from a ship or, eventually, a spill from the exploitation of the continental shelf resources.

It is a very important matter. How long is the damage going to last? We don't know. All we know is that it's going to last a hell of a long time. To clean up there, it's not like.... Even for the *Exxon Valdez*, as you know, it took years to clean up. This is much worse, insofar as it's a difficult environment.

I couldn't say any more than that. I'm sorry.

Mr. Mag Iskander: My sources for my position are probably a little like yours, which are newspapers and so on, both local and European. Maybe the one light I can add is that I do deal with agencies from Europe, and particularly space agencies in Russia. I can tell you that there's a significant interest by the head of and the rest of the space agency in Russia in cooperating with Canadians to understand the Arctic and to develop the Arctic and, based on the information I read, the resources. There's going to be an economic conflict around resources and the amount of resources in the Arctic. Whether it's going to be developed to be habitat for millions of people, I don't see that. But certainly for resources, I can tell you that the interest from the space guys in Europe is significant.

Mr. Ray Boughen: Thank you, Mr. Chair.

The Chair: Thank you very much.

Now we'll go to Mr. Hawn, please.

Mr. Laurie Hawn: Thank you, Mr. Chair.

First, to Mr. Iskander, you talked in your briefing about developing comprehensive Arctic situation awareness solutions for the AOPS and how they need to be linked with Radarsat-2, RCM, JUSTAS, and CMA. When you envision that command-and-control communications infrastructure, how complete do you see our coverage being for air, land, sea, and undersea surveillance? And do you see any missing links in there that we need to think about?

Mr. Mag Iskander: Do you mean currently, or as we implement these projects?

Mr. Laurie Hawn: I mean as you implement the projects.

Mr. Mag Iskander: If we do it the proper way, if we define our requirements, properly considering all the inputs from all angles, I believe that with these four or five projects we will have sufficient coverage to provide information in a timely manner, in an accurate manner, in near real time or real time, for proper decision and action, given that we do this right and if we get the funding required.

I was asked a question about funding before. As I said, the funding for RCM is incomplete to the tune of $400 million. Polar communication is not funded at all. These may appear to be huge numbers for Canada, but let me assure you, sir, that given what we know about other countries, if Canada intends to buy this from other countries, it's going to cost an order of magnitude more.

● (1720)

Mr. Laurie Hawn: Are you talking about government funding when you say that figure?

Mr. Mag Iskander: The government funding required for these projects, if we do them through Canadian capabilities and through our Canadian technology, which is world-leading, is a significantly lower number than if you entertain buying them from outside the country.

But again, these are not funded yet.

Mr. Laurie Hawn: Professor Pharand, I have two questions. You talked about the number of transits you've observed over the last 100 years. How many transits would it take to make the Northwest Passage an international strait—i.e., one with a right of passage without permission? That's one question.

The other question is about the requirement for infrastructure to protect foreign shipping, which you mentioned earlier in your remarks. What kind of infrastructure are we talking about there?

Prof. Donat Pharand: On your first question, you cannot determine in advance how many transits are necessary in order to say it is now an international strait and therefore that the new right of transit applies. I can only tell you—and somebody mentioned a moment ago the Corfu Channel case—there is no definition in the convention for what is a strait that's used for international navigation. The expression is used, as I have just stated.

There is only one case, the Corfu Channel case of 1949 in the International Court of Justice. In that case, over an 18-month period, there were close to 2,000 ships that put into the Port of Corfu. Those were the only ships that were counted as transits.

Now, of course this is not an area like the Port of Corfu. We're talking about a remote area, and we have to take that into account.

The Permanent Court of International Justice in 1933 in the East Greenland case did take that into account, insofar as determining what acts of occupation were sufficient, either by Denmark or Norway. In that case, Denmark won.

What I'm saying to you is that I don't know. Nobody knows how many transits are necessary. But I can tell you that over a period of 100 years, 69 transits are certainly not sufficient.

Mr. Laurie Hawn: So somebody just makes a claim and we fight it out in the international court, or what?

Prof. Donat Pharand: I'm sorry...?

Mr. Laurie Hawn: So does some other country then just make a claim at some point, and then we fight it out in the international court?

Prof. Donat Pharand: Well, sure, certainly. I believe that Canada has already said to the Americans that if they wish to take the matter to the international court, that's all well and good. Yes, absolutely, that is the way to go.

I'm awfully sorry, but you had a second question, I believe.

Mr. Laurie Hawn: Could you define what you meant by the infrastructure to protect foreign shipping?

Prof. Donat Pharand: Oh, yes, I can.

The Chair: You have one minute.

Prof. Donat Pharand: Shall we say that I have many things to say here, but there are two things I should perhaps mention.

First, I do think we should do the best we can to conclude what I would call a transit agreement, not a right of transit, with the United States. It would provide for two things. It would provide for the United States to recognize Canada's sovereignty over the waters, including those of the Northwest Passage, on the one hand. On the other hand, we would conclude a sub-agreement, insofar as the passage of American ships is concerned, which of course would have to comply fully with our regulations under the Arctic Waters Pollution Prevention Act.

Mr. Chairman, I have a second thing to say.

● (1725)

The Chair: Yes, but you just have 30 seconds.

Prof. Donat Pharand: We have to make more use, if I may insist, of the Inuit. We must not only say, “Oh, you've been there a long time, thank you very much”, and we're going to invoke that. No. I think we have to do a little more than what we're doing now.

As you know, you have the Canadian Rangers there, and they're equipped with the Lee-Enfield rifle, which we used to have during the last war. I remember it very well. It's a good rifle, but I do think they need more than that. As well, they need to be better equipped generally and better educated insofar as defence matters are concerned. I would generally involve them more.

I know you're not concerned with icebreakers, but certainly I would do some recruiting for the coast guard.

[*Translation*]

The Chair: Could you wrap it up, please?

[*English*]

Prof. Donat Pharand: I want to bring to your attention this declaration, about three or four days ago, by the Inuit Circumpolar Council. It's a two-and-a-half-page declaration entitled “Declaration on Arctic Sovereignty”.

Mr. Laurie Hawn: The committee received it.

Prof. Donat Pharand: If you have it, then you will have noticed the last line: “Inuit and Arctic states must, therefore, work together closely and constructively to chart the future of the Arctic.”

They want to cooperate, they want to offer more, and I think we have to accept their offer.

[*Translation*]

The Chair: Thank you, Professor Pharand.

At this time, I'd also like to thank Mr. Iskander for his presentation. Thank you both very much for taking part in our proceedings.

Before we adjourn, I have a motion, further to our discussion at the start of the meeting.

[*English*]

Unless the Auditor General appears on June 1 or June 3, the committee will hear witnesses in relation to its study on Arctic sovereignty.

Do we have the agreement of the committee on that?

We have support from Mr. Wilfert and Mr. Hawn.

Some hon. members: Agreed.

The Chair: Go ahead, Mr. Wilfert.

Hon. Bryon Wilfert: Mr. Chair, Mr. Pharand had an outline. Will that be coming to us?

The Chair: Yes.

Hon. Bryon Wilfert: I want to congratulate you for being a very good liberal chairman today. That was excellent, especially when you were the student. That was very good.

[*Translation*]

The Chair: Thank you.

The meeting is now adjourned.

Thank you very much.

Published under the authority of the Speaker of the House of Commons

Publié en conformité de l'autorité du Président de la Chambre des communes

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