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## **Standing Committee on Natural Resources**

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**EVIDENCE**

**Tuesday, June 2, 2009**

**Chair**

**Mr. Leon Benoit**

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• (1530)

[English]

**The Chair (Mr. Leon Benoit (Vegreville—Wainwright, CPC)):** Good afternoon, everyone. Welcome.

We're here today pursuant to Standing Order 108(2) for a study of the Atomic Energy of Canada Limited facility at Chalk River and the status of the production of medical isotopes. This is an issue that is important to all of us at this committee, I know, and that is really important to Canadians across the country. I'm looking forward to the meeting.

Before we actually get to witnesses, there are just a couple of things I'd like to mention. First, I see that the portable cameras have left, so that's good. Second, I understand there is agreement that at the end of this meeting we take 10 minutes to discuss where we go with this study, as well as Bill C-20, which has been referred to this committee. In regard to how we deal with that, if we could do that at the end of the meeting, that would be good.

Mr. Regan.

**Hon. Geoff Regan (Halifax West, Lib.):** Mr. Chairman, I had discussions with Mr. Anderson. He had actually proposed to meet and have the discussion on Thursday afternoon, so to indicate that there was agreement.... Perhaps he talked to someone else and I haven't heard about it yet.

**The Chair:** Mr. Anderson, I see that you want to speak to that.

**Mr. David Anderson (Cypress Hills—Grasslands, CPC):** Just in the last 10 minutes or so, I talked to representatives of each of the parties. Mr. Regan may not have been here yet, but I did ask them if they would be interested in spending.... We can spend some time on Thursday as well. We just thought that maybe after today people would have an idea. We haven't had that discussion at all about where we're going or the future business or direction of the committee, so I thought we'd give more opportunity for it.

We certainly can spend 10 minutes on it afterwards. If people don't want to, that's fine. I don't want to extend the committee meeting any longer than it needs to be.

**The Chair:** Yes.

Mr. Regan, and then Mr. Cullen. I hope we're not going to take a lot of time on this.

**Hon. Geoff Regan:** No. This shouldn't take long, Mr. Chairman.

**The Chair:** Go ahead, Mr. Regan.

**Hon. Geoff Regan:** My only concern is that if we had the minister here, hopefully she'd be willing to come back after we've heard from witnesses. That would have been the ideal from my perspective—not to have her at the beginning. Obviously, she was available today, and it's great that she's coming, but I think it's important that we hear from witnesses, find out what they are saying, and then ask her about that. If she's going to come back, then I don't see a problem with giving up 10 minutes of the time that she's here for this. Otherwise....

Are you suggesting that we stay 10 minutes longer? There's no vote at 5:30 tonight, is there?

**A voice:** No.

**Hon. Geoff Regan:** Okay. That's fine, then. We can stay at 5:30 for 10 minutes. I'm agreeable to that.

**The Chair:** I wouldn't want to interfere with the time with the minister.

Mr. Cullen.

**Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP):** Very briefly, Mr. Chair, committee members will note that earlier we discussed actually inserting the notion of going to the Chalk River facility itself. I think this should be part of our discussion.

I've raised it a couple of times at committee in terms of our thinking and planning about our capacity to understand this issue. I think many members would benefit from an on-site visit. I see that some of my Conservative colleagues are agreeing. I think we could put that in the mix, but I agree in the sense of not cutting the minister's time. Let's move on with things.

**The Chair:** Yes, we can include any of those types of issues, of course, in the conversation at the end of the committee meeting. For Thursday, we do have witnesses from AECL and CNSC. At least we have that taken care of, so we can talk about where this committee goes beyond that. That's great.

Now let's get to the witnesses we have here.

Thank you very much for being here today. From the Department of Natural Resources, we have Serge Dupont, the associate deputy minister, and Tom Wallace, director general of the electricity resources branch. From the Department of Health, we have Meena Ballantyne, assistant deputy minister, health products and food branch.

Thanks to all three of you for being here today. I understand you have a presentation to make. It may take 15 minutes or so. I think that will be helpful. Then we'll open this up to questions. Please go ahead.

**Mr. Serge Dupont (Associate Deputy Minister, Department of Natural Resources):** Thank you very much, Mr. Chair.

If you'll allow us, we'll make this presentation. This is an issue that is obviously very serious. It is also a complex issue. We hope it will be time well spent for the committee to go through some of these slides, which represent a bit of what we have learned as we have approached this issue and that give a sense of the global background in terms of both the demand and the supply of medical isotopes.

This will not answer all of the questions that I'm sure the members will have through the day, but perhaps will situate the discussion a bit. I hope it will be helpful to the committee.

Diagnostic imaging, of course, is a vitally important tool in assessing patients—

• (1535)

**Hon. Geoff Regan:** I'm sorry, Mr. Chairman. I know we don't want to delay Mr. Dupont, but Mr. Cullen and I haven't received the slides. Some people have the slides and some don't, and the clerk has kindly gone to get them. We've made a distraction, but if you could just wait a moment until we have those slides, I'd be grateful.

**The Chair:** Yes, they are coming. I believe they are here. Mr. Cullen and Mr. Tonks also do not have copies of the slides. That, I think, takes care of it. Any of you who do not have the slides will get them.

We have a fairly limited time, so please continue.

Go ahead, please, Monsieur Dupont.

[Translation]

**Mr. Serge Dupont:** Yes, it will be a lot better if you all have the material in front of you.

[English]

Diagnostic imaging is critical to assess patients and to determine treatments and further testing. Nuclear medical procedures make up an important fraction of diagnostics, and the vast majority, more than 80%, rely on technetium-99m. This is a technical term, but it's basically the medical isotope that we talk about that is in short supply these days. It is itself derived from another isotope called moly-99 or molybdenum-99, and we will show later how this evolves through the supply chain.

This particular medical isotope performs a critical role in the diagnosis of heart disease and is used in cancer diagnosis as well, through bone and internal organ scans. I'll turn to my colleague from the Department of Health to go through slides 3 and 4, which give you a better sense of the use of technetium-99m, which again is the medical isotope.

There are many medical isotopes. There is iodine of different varieties. Technetium-99 is the one that is in short supply right now, the one we are talking about with regard to the shortage.

**Ms. Meena Ballantyne (Assistant Deputy Minister, Health Products and Food Branch, Department of Health):** Thank you, Serge.

The chart on page 3 shows four key messages that I'll leave with you. The overall message is that nuclear medicine is one of many imaging technologies used in medicine. It is used in addition to X-rays, CT scans, MRIs, and ultrasounds.

The largest use of nuclear medicine procedures is for cardiac imaging. That's the biggest share of the pie that you see, about 56%. These scans are used to look at the blood flow through the heart during stress tests.

The second-largest use is shown as the big blue one, bone scans, which make up about 17%. They are used to detect progression of cancers going to the bone, or even just fractures of bones as well. Then all the rest of the uses are general organ scans. As opposed to MRIs and CTs, which look at how an organ looks, these procedures actually look at how an organ functions for a range of diseases, including cancer.

We'll turn to page 4. As my colleague said, Tc-99m, or technetium-99m, which is derived from moly-99, is really the predominant isotope for about 80% of nuclear medicine procedures. It has a shelf-life of about six hours—moly-99 is 66 hours—and that's why there's a supply disruption: it can't be stockpiled like vaccines. The supply disruption right now is of significant concern to patients and to doctors across the country.

There are, however, alternatives that can be used for some of these contingency planning purposes. They can't be used for ongoing replacement, but for most procedures in cardiac imaging—which, as you saw, is the area in which nuclear medicine procedures are most used—thallium-201 is an acceptable alternative, and it is being used now across the country as part of the contingency plans that are being rolled out by the medical community and by the provinces and territories.

Another alternative is 18-F fluoride, which uses PET cameras, another imaging modality. They are being made available through clinical trials for bone scanning. We also have some that are being used by.... The alternative really is to go to MRIs and CT scanning.

There is, however, a requirement for Tc-99m. There are some procedures for which there is no viable alternative. I'm thinking specifically about kids and pediatric bone scanning for cancers. In that case, the medical community and the provinces and territories are taking the available supply and targeting it to the priority procedures and making maximum use of the available isotopes. They're using longer scans, lower dosage, and longer operating hours. They're working weekends, working 24/7 in some cases, and the hospitals and the regions are sharing the patient load and the generators as well.

• (1540)

[Translation]

**Mr. Serge Dupont:** Mr. Chair, I would like to say a few words about the global demand. We are going to focus on molybdenum and technetium.

The global demand is calculated to be about 40 million doses per year. The distribution is on page 5. You can see that the biggest user is the United States, with about 44% of the total, followed by Europe, 22%, then Japan, 14%, with the rest of the world at 16%. Canada uses 4% of the isotopes; later, we will be able to compare that figure to our share of the supply.

Let us talk about the growth in world demand. You see on page 6 that we expect a growth in world demand for this product, a product that is rare now. Demand will continue to increase as the use in present markets intensifies and as new markets start to use nuclear medicine.

Although it is a mature market, we expect that the United States will continue to lead the world demand. There are a number of key factors, but the growth is mainly because of the aging population and the increasing prevalence of heart ailments. Demand will probably increase in Asian, South American and Middle Eastern markets as new diagnostic tools are put in place.

[English]

We'll now turn to the supply side of the market on page 7. Much has been said about this over the last number of days. Moly-99 tends to be produced in nuclear research reactors—not nuclear power reactors, but smaller research reactors. There are approximately 250 such reactors around the globe, but there are only a handful that produce moly-99 in any reasonable quantity. Indeed, 95% of the moly-99 produced for export markets comes from five government-owned multi-purpose research reactors. They are the AECL's National Research Universal, which we call the NRU reactor, in Chalk River, Canada; the BR2 reactor in Belgium; the HFR reactor at Petten in the Netherlands; the OSIRIS reactor in France; and the SAFARI reactor in South Africa. There are several other smaller reactors that provide some supplies to regional or domestic markets, but not enough to really influence the global market.

The five reactors working together, or working with regular outages, can succeed in supplying the global market in the necessary quantities. However, the NRU is one of the largest, with the reactor in the Netherlands, producing roughly 30%, sometimes 40% of the global supply, and when such a reactor is down there will be an impact on global supply. Indeed, it's worth reminding ourselves that not so long ago, toward the end of the summer up to early 2009, the HFR reactor of the Netherlands was down. During that period, the NRU at Chalk River ramped up production considerably such that there was virtually no noticeable impact on Canadian demand. Now, of course, we're facing a different situation.

The slide on page 8 shows you a bit of the supply chain and how the isotopes make their way from a reactor to the patients.

First, uranium targets—we call them targets, but they're essentially bundles that go into a reactor—are irradiated. That means they're subject to the neutron beam of the reactor in the research reactor. Then, after some days in the reactor, these targets are processed. The moly-99, which is derived from this process, is extracted and it is purified. It is then incorporated into technetium-99m generators, and that is the product that is shipped to hospitals and radiopharmacies, where it's used in conjunction with drugs that allow the targeting of the radioactive materials that decay very rapidly in the body. The drugs allow targeting that to specific processes or tissues in the body.

The various steps in this process can take place at different locations and different countries, and we'll go through that. What is important is that this radioactive material decays very rapidly. The moly-99 that is produced in the reactors has a half-life of about 66 hours. That means that very quickly, if it is not shipped to the appropriate manufacturer, the product decays and is not as useful at the end of the chain. Similarly, the technetium generator that is shipped to the hospital has a limited useful life that's estimated in the range of 10 to 14 days. The longer one waits, the less effective that generator is.

This is an industry—and we'll go through the supply chain—that cannot stockpile material. It is operating every time in real time, and it has to work very efficiently at moving product through the different steps of the supply chain into the end demand. These products, of course, are subject to both nuclear and medical regulations that are necessary for producing, transporting, using the products, and approving new products, with the intent of ensuring health and safety. The various steps of the supply chain also involve costs and economic risks and rewards. Those are very critical to understanding the full complexity of the supply chain today and incentives for new or replacement technologies for the future.

● (1545)

The chart on page 9 depicts the global supply chain, including the reactor operators, the processors, and the technetium generators, and it shows how the process flows from left to right. If one looks at the top of the page, you'll see that the target irradiation occurs at the NRU in Chalk River for that element of the chain.

The molybdenum-99 is extracted in processing facilities at Chalk River, in what are called hot cells, or areas isolated with concrete to allow very sophisticated manipulation of radioactive material. This material is then shipped to MDS Nordion in Kanata. Nordion, you will recall, was spun out of AECL in the early 1990s. Nordion purifies the product. Importantly, it then exports this product to a number of customers in Japan and in the United States—mostly in the United States, to Lantheus, a technetium generator.

I'll come back then to show the flows of supply from Canada.

The other reactors essentially function the same way, going either through Covidien AG or the IRE, both in Europe—which can actually take supply from a number of reactors—and the South African reactor funnels the material through NTP Radioisotopes, also in South Africa, and it is shipped to different parts of the world.

Of course, the geographic alignment between reactors and processors stems from the constraints in shipping and the decay time of moly-99. While there is crossover between these chains, there is not perfect substitutability of product. It is not a trivial matter of taking something that comes out of the SAFARI reactor to be processed, for example, by Covidien in Europe, or going through MDS Nordion in Kanata. These products are not all substitutable.

If we look at the flows on page 10 as regards Canadian supply, it's important to understand again that the product from the NRU does not go directly to hospitals or clinics. It goes through a number of steps, first, through MDS Nordion in Kanata, as I just mentioned, which ships a portion of it to the rest of the world—and the largest portion to the United States, to Lantheus, and also, in some cases, to other customers in the United States—and it is only a relatively small portion that comes back into Canada. We indicated that the NRU supplies roughly 30% to 40% of global demand. It consumes roughly 4% of global supply. That means the bulk of the production of the NRU is actually exported; it is exported and in fact re-imported, because there is no technetium manufacturer in Canada.

You'll see that the end-use in the United States is at least 10 times greater than in Canada, at about 5,500 in terms of the units we've used here. The U.S. is itself supplied roughly 50% by the NRU—that is, 50% through this chain—and about 50% from other reactors globally.

We are all very keenly aware of the fact that the NRU is 50 years old. What is perhaps striking is that the other research reactors in the world that produce isotopes are essentially of similar vintage, between 42 and 47 years old. Of course, that means the costs of servicing these reactors go up—and, yes, their vulnerability also goes up—and there are also some licensing issues. As you know, the NRU is licensed by the CNSC to operate under its current licence to October 2011—and I'll come back to the work being done to extend that licence. The reactor in the Netherlands, for example, was given a one-year licence to operate in March of this year, after an extended outage it experienced.

Page 12 looks at some of the projects or proposals currently in the pipeline that could supply molybdenum-99 to the global market. The most immediate are on the left-hand side, but in fact even those are the only two that can actually produce within the next months.

• (1550)

The Australian reactor, called OPAL, which has been in construction basically for the last 10 years, is now commissioned to produce and to export molybdenum-99, and discussions are in place for export of that product to North America, including on the regulatory side, in both Australia as well as in Canada, with regard to the actual regulation of the health product.

Argentina has a reactor that it has been using to supply essentially to domestic and South American markets. It may supply some, albeit in modest quantities, to the North American market.

In the United States, the University of Missouri research reactor, also an older reactor, may potentially be brought onstream to produce molybdenum-99, but that is a project at this time and not a specific commitment.

The only new research reactor that is really being constructed at this time is the Jules Horowitz reactor in France, and it is expected to come onstream in roughly 2015.

There are other projects that are essentially at the conceptual stage at this time, and one would count at least five years before they come to maturity. Then there are some projects that may supply some local markets and therefore be of limited capacity or use for the global market at this time.

The proposals that have been discussed in the Canadian context include the McMaster nuclear reactor, which is also a reactor that is 50 years old and is experimental. It's a research reactor at McMaster University that has produced isotopes in the 1970s under different conditions. It has put forward a proposal to produce moly-99, and there has been engagement with McMaster to see how that could be done. But our analysis to date, the analysis of experts from AECL and from the CNSC, is that this could not be done in the short term.

UBC has also put forward a different concept, using an accelerator-based process to produce moly-99 using photo-fission. That has also been noticed as a potential process internationally, as one that merits further investigation, but again not one that is mature enough to produce at this time.

The Canadian Neutron Centre is essentially a proposal for a new research reactor in Canada, and that has been assisted by the National Research Council and would be a multi-purpose research reactor, not only producing medical isotopes.

There are, of course, additional private and public sector proposals out there. Certainly, we suspect we will have some discussion about the MAPLE reactors, which turned out to be not capable of producing and are not licensed at this time. That project was terminated in May of 2008.

The Province of Saskatchewan has indicated it is also interested in discussing with the Government of Canada possible arrangements for a research reactor and, eventually, the production of isotopes.

Perhaps I won't go through the list on page 14, Mr. Chair, not wanting to take too much of the committee's time. But the criteria that one would have to look at, looking at these various solutions, includes the technical feasibility, the readiness, the technological risks associated with the projects, and the ability to expand the technology to commercial scale.

There is business implementation and risks. The investments are very significant. Obviously, if they were to replicate in any way the production levels of the NRU, it would have to count on access to the export market for a large share of its production. This means that market has to evolve in a way that is reasonably predictable, and there has to be some ability to integrate with an existing supply chain. It does not suffice to have a reactor; you actually need to be able to work with a supply chain.

The timeliness of the solution, whether the project could be ready in five years or more, or less.... Regulatory issues have to be addressed, including the ability to handle and control nuclear materials and waste management. The United States, for example, Mr. Chair, has made it very clear that with regard to long-term solutions—not short-term, but long-term solutions—they want those reactors to function on low-enriched uranium in order to control the risk of nuclear proliferation. Currently, the NRU and most other of the reactors that produce are actually using highly enriched uranium, and this is something that the United States in particular, and indeed the international community, would want to phase out over time.

• (1555)

Where there are other broader benefits to Canadians, quite apart from the health care benefit, which is obvious, are the benefits to the medical industry or to the nuclear industry, and so forth.

The next steps in regard to key priorities in trying to address this challenge are threefold. It's also on the demand side, and my colleague from Health Canada may add to that later in the questions.

First of all, it remains a priority to put the NRU back into service and to extend the licence of the NRU. That is the best way right now of ensuring that there's something like the production of the NRU that comes back on stream, and obviously AECL is working very hard at ensuring that can be done as quickly as possible on a safe and reliable basis. It means as well that the work has to continue to extend the licence of the NRU. Funding was provided for that last year, reallocating from budget moneys of 2008. Budget 2009 provided funding again this year for AECL to pursue this work with the CNSC.

The second thing is international engagement so that we secure the best possible capacity out of existing capacity, that we achieve the best possible supply and the best use of that supply globally. That means, for us, engaging multilaterally, engaging bilaterally with the different producing countries, and also engaging with the United States.

Thirdly, the minister outlined last week the establishment of an expert review panel to go over the different proposals I mentioned earlier against the kind of criteria I've laid out.

I hope this is helpful. I'm more than happy to take questions from the committee.

**The Chair:** Thank you very much to both of you for your presentations. They were very thorough.

We'll go directly to the questions, starting with the official opposition, Geoff Regan, for up to seven minutes.

**Hon. Geoff Regan:** Thank you very much, Mr. Chairman.

Through you to the witnesses, particularly Mr. Dupont, I can tell you that sometimes we might object to a half-hour presentation. This is not one of those times. I hope I can speak on behalf of all the members of the committee to say I appreciate very much the review you've given us. I hope that as we ask questions we'll expand further on some of these topics.

Let me ask you, first of all, about the substitution issue and some of the alternative suppliers. You've mentioned this issue, the fact that you can't always substitute from one reactor to another system. Maybe you can give an example of that. But if we were able with the NRU to ramp up production when the Petten reactor in the Netherlands was down for several months this spring, what is the likelihood that the Petten reactor can do the reverse for us?

• (1600)

**Mr. Serge Dupont:** That's a very good question. Let me start with the first part of your question. One example of efforts being made to achieve greater substitutability was actually announced about 10 days ago by Lantheus, to say that they had now secured an agreement with NTP of South Africa and had made arrangements to be able to take the South African product in order to produce the generators for the North American market. We consider that to be a positive development, because heretofore Lantheus had been fully dependent on the NRU, and 85% of the Canadian market was supplied by Lantheus. We had the Canadian market fully dependent,

basically, on the NRU. This has now provided a bit of diversification for the Canadian market. That was a helpful development, but it did require some work between NTP and Lantheus to achieve that capacity to take that product.

With regard to your second question, indeed the discussions to date with the Dutch in particular have been very promising in that regard. They are making efforts to ramp up their production capacity by about 50%, and that will certainly be of assistance in helping to alleviate some of the shortages that are inevitable with the outage of the NRU. So we are getting those kinds of responses, certainly from at least some of the reactor owners, and I think there is also responsiveness through the supply chain. There are, however, some regulatory constraints and others that provide that they cannot always operate at capacity. There have to be some outages of those reactors for simple maintenance, sometimes some short outages and sometimes some more extended outages. But yes, the Dutch have been forthcoming, and they recognize the efforts that Canada has made, and I think they consider it now to be their responsibility to do the same thing.

**Hon. Geoff Regan:** Mr. Chairman, through you to Mr. Dupont, is it true, as has been reported, that the Dutch reactor, the Petten reactor, is to be shut down for the month of July?

**Mr. Serge Dupont:** There is a three-week planned shutdown at this time. Discussions are still continuing with regard to those plans. But that is where other reactors have to come into play, and the scheduling of the reactors has been an issue that was raised not only in the last few days but has been raised for the past month, including by the nuclear energy agency, to achieve the best possible balance. These reactors do have to undergo some outages, because it's not prudent to operate them longer than what they are licensed to do.

The reactor operators are working together in a forum called the Association of Imaging Producers and Equipment Suppliers try to align those schedules as well as possible. But there will be some periods where the supply will be tight, and that is a fact.

**Hon. Geoff Regan:** Mr. Chairman, through you again, if normally between Canada and the Netherlands, if I'm not mistaken, the NRU and the Petten reactor produce about 60%, or a little more than 60%, of the world's isotopes, and if the SAFARI reactor in South Africa only produces normally 13%, and I gather that reactor is down this week for some kind of examination, and I hope it will be very short, aren't we looking at a very dire situation in July?

Beyond that, how long do we now expect the NRU to be shut down?

• (1605)

**Mr. Serge Dupont:** On the NRU, AECL issued a release just this afternoon indicating that it can provide an update on its work. I don't have the text in front of me, but it's saying it's going to be at least three months. At this time, no further guidance can be provided.

I now have the text in front of me, Mr. Chair, and copies could be made and we could circulate them to the committee.

So as we stand, the timeframe is still at least three months, and there's no further indication of that.

You are quite right, there's no getting around the fact that there will be some periods where there will be some shortage of supply, even with the higher production at Petten. It depends on the others. The Belgian reactor will be coming on stream as well during this period to help alleviate the shortage. But as I mentioned, Mr. Chair, it is going to be how these different schedules relate over the next little while as the NRU is under maintenance.

**Hon. Geoff Regan:** Yesterday the Minister of Health talked about alternatives, including saying provincial governments and so forth were developing other measures to minimize impact, including alternate isotopes such as thallium. But as I understand it from talking to some of the doctors, the thallium technology, which is 20 years old, is not nearly as useful or as good for most procedures. The benefit of nuclear medicine is it allows the doctors to see how the organs are functioning. With thallium they can get a little bit of an idea but not nearly as good as with normal nuclear isotopes. Is that right?

**Ms. Meena Ballantyne:** Mr. Chair, there's consensus in the medical community that Tc-99m is the best there is, and there is no single alternative isotope to Tc-99m.

For cardiac, we have all been working on this issue since December 2007 in the medical community and with the provinces and territories. They have come to the consensus that thallium is a viable alternative for cardiac imaging. It can be used. It's approved. It requires the same cameras as they use with Tc-99m. They're coping by using those. That's part of their contingency planning, to use that as an alternative. It's not perfect, but it is a very viable alternative for the short term.

**The Chair:** Thank you, Mr. Regan, for your questions, and to you for the answers.

We go now to the Bloc Québécois, Madame Brunelle, for up to seven minutes.

[Translation]

**Ms. Paule Brunelle (Trois-Rivières, BQ):** Thank you, Mr. Chair.

Thank you, madam; thank you, gentlemen.

Mr. Dupont, your presentation makes me even more worried. You say that there are 250 research reactors in the world and that five of them account for 95% of the production. The NRU is one of the biggest, producing 40% of the world's supply. You say that one of the proposals involves the nuclear reactor at McMaster, which is 50 years old. We do not know for how long it can supply us with isotopes.

My question is quite simple. At the moment, is there a reactor producing isotopes anywhere in the world that can, or that could, in the very near future, take the place of the CRL?

**Mr. Serge Dupont:** That all depends on how the different countries use their research reactors. The only reactor whose production could be significantly increased at the moment—though perhaps not to the level of our reactor—is the one in Australia. But not in the short term.

In the short term, the most Australia can produce is about a quarter of the capacity of our reactor. By spending more money on it, over

several years, Australia could increase that by two or three times. At that point, the increase would start to be significant.

The reactor that is now being built in France could also have significant production capacity around 2015. However, the operator of the reactor, the Commissariat à l'énergie atomique, also has other uses in mind. It was designed for purposes other than just producing molybdenum.

Elsewhere, there are no other reactors designed solely to produce medical isotopes. It would probably not be economic to operate on that basis.

So the short answer is no. There are others that might, over five to seven years, be able to combine to reach more or less the level of production of our reactor.

● (1610)

**Ms. Paule Brunelle:** So you are telling us that Australia and France might get to that level, but it depends on their willingness to jump into isotope production, if I understand you correctly. Are those issues that Canada could negotiate internationally?

**Mr. Serge Dupont:** The dialogue that is going on in the Nuclear Energy Agency, and now in a new group that has been established to deal with this matter, is going to look at the short term as a priority and, in the long term, will make sure that there are no systemic obstacles to finding a new source of supply. All the constraints need to be assessed, whether they be economic or related to transportation. The constraints must absolutely be removed so that the projects can come to fruition. That will certainly be the case in North America.

It is interesting to note that the United States, that uses almost half of the world's medical isotopes, has no production capability at the moment. They make generators, but they do not use any of their reactors for the production of medical isotopes. That is also something that we will bring up.

**Ms. Paule Brunelle:** How do we explain the fact that, with the government aware for 18 months that the NRU reactor was experiencing serious difficulties and was undergoing technical problems and shutdowns, nothing has been done...? There was a five-stage action plan, but it is not very far along. The answer we get is that the government is going to privatize AECL. How is the privatization of AECL going to provide medical isotopes for our hospitals?

**Mr. Serge Dupont:** I think that the minister was clear on that last week, but you can ask her yourself when she comes to see you. The restructuring of Atomic Energy of Canada was not proposed as a solution to the medical isotope situation, but as a response to other imperatives.

As to the question of the last 18 months, once the failure of the MAPLE reactors was clear, in May 2008, the only way to ensure the supply of medical isotopes for the foreseeable future was to begin work on the NRU reactor in order that its licence could be extended. Money was made available to Atomic Energy of Canada for the purpose, and work was begun with the Canadian Nuclear Safety Commission.



At the moment, we are faced with an operational problem, a leak clearly requiring major repairs. That means that the commitment that we have already begun in an attempt to see what is possible internationally becomes very important. Of course, we have to look at more long-term solutions. That is all being done in parallel with the work on the NRU reactor: the world supply in the broadest sense and the consideration of longer-term solutions.

**Ms. Paule Brunelle:** Are there international discussions? Can memorandums of understanding be signed or negotiated? Could it have been done sooner? The situation has been known for 18 months, after all. Could we have moved more quickly, or would that all have been useless because Canada is too big a producer, with 40% of the world's production? Perhaps it cannot be done elsewhere and we will have to do research and come up with alternative solutions before we can proceed. We cannot get what does not exist anywhere else.

• (1615)

**Mr. Serge Dupont:** International discussions began well before now, I feel, well before the last service interruption in our reactor. In fact, the first discussions, in a major forum at the Nuclear Energy Agency, took place when the Dutch reactor was shut down and our reactor was filling the global demand.

At that time, there was a realization that effort was needed to better organize the schedules of the various reactors for better coordination of the supply, and also to come to an international agreement to remove obstacles anywhere in the market to new forms of medium- and long-term supply.

[English]

**The Chair:** *Merci, Madame Brunelle.* Your time is up.

Mr. Cullen, for up to seven minutes. Go ahead, please.

**Mr. Nathan Cullen:** Thank you, Chair, and thank you to our guests.

I want to take us back to 2007. Mr. Dupont, in 2007, when Chalk River first went down, how many of the world's reactors were also out of commission at the time?

**Mr. Tom Wallace (Director General, Electricity Resources Branch, Department of Natural Resources):** I believe all of them were operating at the time. The other four were operating, is my understanding. I'd have to go back and check the historical records—

**Mr. Nathan Cullen:** It's my recollection as well. So in 2007, when Chalk River went down the first time, the other four reactors around the world were operating and supplying isotopes. What confuses me is that when Chalk River went down in 2007, I can recall the minister and several ministers in the House of Commons saying we need to reopen it, fire Linda Keen, because this is a life and death situation for Canadians.

Advance forward to 2009 and we have four out of four other reactors shut down. Chalk River goes down and the minister strikes a committee to report back to Canadians in the fall, a committee to which she hasn't named anyone yet, and part of their mandate is to assess dangers of delayed action and reaction.

The confusion I have, and I think many Canadians have, in terms of the concern over the surgeries they need and in terms of the

diagnoses they need, is that an alternative has been suggested today, again, repeated also in the House, that thallium might make up the shortage.

Ms. Ballantyne, could you tell us what percentage of all the treatments we currently and in the past have used these other isotopes for that can thallium replace?

**Ms. Meena Ballantyne:** I'd be happy to, Mr. Chair.

Thallium, as I said, in the cardiovascular heart scans make up about 50% of Tc-99m use. The medical community and the provinces and territories, as part of their contingency planning, have agreed that thallium can be a viable source for most of that 50%.

**Mr. Nathan Cullen:** Right. So that's with respect to heart disease and diagnosing heart disease. I want to get over to cancer for a moment and detecting early onset of cancer, which I think you would agree is one of the most critical things that can happen in the life of a cancer patient: they get accurate and early detection of a disease.

What percentage of all the cancer diagnoses can be taken over by thallium?

**Ms. Meena Ballantyne:** None. Thallium does not do anything for cancer; it's only for heart disease. But there are other isotopes, such as sodium fluoride for bone scanning, to see how the cancer tumour has grown and if it's spread to the bone.

**Mr. Nathan Cullen:** What are our current supplies of these other alternatives for Canadian hospitals right now?

**Ms. Meena Ballantyne:** Right now, thallium is available—

**Mr. Nathan Cullen:** Sorry, the other ones, in terms of cancer.

**Ms. Meena Ballantyne:** For cancer, we have provided regulatory approval for patients and doctors in the provinces and territories to use those through our clinical trial applications.

**Mr. Nathan Cullen:** Let me be more specific. I'm trying to understand right now, on the shelves in our hospitals and cancer treatment centres, what's the supply of alternatives for the isotope?

**Ms. Meena Ballantyne:** My understanding is that there is not an issue, there's not a shortage of supply of sodium fluoride. We'll go back and check and I can confirm with the committee. This is a practice of medicine. It depends on the patient, it depends on the facility, whether they have access to PET scanners or not. All those decisions are being taken by the doctors who are working extremely hard to make sure the patients' needs are met.

**Mr. Nathan Cullen:** Does the Government of Canada have a list of critical incidences, in terms of hospitals that are in most desperate need right now? We're hearing from doctors, like Dr. Tracey and others, who have talked about running out this week, and with a cascading effect across the country of other cancer treatment centres and hospitals that will be running out. Does the Government of Canada have, essentially, a triage process, where they say where it needs to go first, what little is left?

**Ms. Meena Ballantyne:** Mr. Chair, maybe I can use this opportunity to let you know what we've been doing in the health community since 2007.

We have been working with the provinces and territories and the medical community to make sure triaging guidelines are in place, because as you may appreciate, in the practice of medicine, the doctors know their patients' needs best. They know their facilities, in terms of if they have a PET scanner or not, if they have a SPECT camera or not. Those are health care professional decisions.

We've been working with them and with the provinces and territories. And thanks to the good work of Ontario, which has been the leader in developing some contingency planning, we've issued guidance so they can triage their patients, so they can decide on which ones are the emergency cases, where the available technetium supply should be targeted.

• (1620)

**Mr. Nathan Cullen:** How long does that triage list last, if we're hearing that Chalk River and the other supplies will not come on for a number of months and other supply sources may be some years? Triage only works in moments of emergency, and you apply the patches where you can to hold the fort. I look at the diagnoses that are specific to the types of isotopes we've now lost, in terms of diagnosing new cases of breast cancer, bone scans, newly diagnosed cancer patients with immediate treatment decisions.

In 2007, the minister said this was a life and death situation. We advance two years later, approximately, and we see a patchwork quilt of things to have Canadians rest assured. We also have studies in hand that there is a concern around false-positive images that are created when using thallium instead of the isotopes we currently use. If these other replacements were so fantastic and the supply of the other isotopes coming from Chalk River was so sketchy, then certainly hospitals and doctors wouldn't be using isotopes that normally come out of Chalk River; they would have used these diverse supplies.

What confuses me in this is that AECL, at the origin, was the supplier and distributor of these. The Government of Canada sells off the purchasing component to MDS Nordion, then gets sued for \$25 million—successfully sued, I might add—for having hived off and then privatized this, then shutting down the MAPLE supply of reactors. Canadians are told 18 months ago it's a life and death situation, we have to override safety concerns at the nuclear facility in Chalk River. Eighteen months later, we're seeing proposed alternatives. We have a number of doctors saying that won't cut it.

**The Chair:** Mr. Cullen, if you would like a response at all, you'd better ask the question fairly quickly.

**Mr. Nathan Cullen:** My question is this. When talking to cancer patients right now, I have no answers from the minister yet to say

that over the next weeks and months they should feel anything but concern for the diagnosis and treatment of their cancer. Can you respond to that?

**Ms. Meena Ballantyne:** Mr. Chair, our minister has been talking every week to her provincial and territorial counterparts. We're facilitating access to these alternatives; we're working with the medical community to have these available to them as soon as they need them.

Since 2007, one of the other things that's happened is that of the two supply companies, Lantheus and Covidien, one—Lantheus—has diversified its sources, so it's no longer reliant on the NRU. For example, Lantheus has ramped up its capacity to produce thallium and is making that available right away to everybody across this country, and it's being put into use. It has also signed a deal with South Africa to get supplies. So the supply is not going from 100% to zero; it's going down.

There's no question that the NRU is going to have an impact. The prolonged shutdown and shortage will have an impact; there's no question about that. But we're much better prepared than we were in 2007—the health care community, the provinces and territories, the supply chain as well, everybody—in terms of diversifying supply.

Our current supply forecasts are that Covidien, which gets its supplies from the Netherlands, is able to supply western Canada to its normal levels, because it hasn't been impacted by the shutdown. But for the Lantheus customers, Lantheus is committed to doing its best to get to 50% supply. For example, last week it was around 50%; this week it's going down. There are partnerships between Lantheus and Covidien to increase the supply for Canadian patients. So it really varies week to week. It depends upon the provinces and territories, and even provinces and territories have diversified supply sources.

Everybody has learned from 2007, and we're much better prepared this time, but there's no question that this is serious and it is going to have an impact on the health care system as it goes on.

• (1625)

**The Chair:** Thank you, Mr. Cullen, and thank you, Ms. Ballantyne, for your answer.

We go now to the government side, to Mr. Trost for up to seven minutes.

**Mr. Bradley Trost (Saskatoon—Humboldt, CPC):** Thank you, Mr. Chair.

I want to pick up on those questions. As I was looking through my notes and running through the timeline, I noted that it was on May 15 that the problem really began to be observed at the NRU. It seems that fairly quickly steps were being taken. I mean that within literally hours or days, things were being moved. It was noted that May 23, about eight days later, was when AECL would essentially no longer be able to meet its scheduled production requirements for medical isotopes. I must say that compared with the chaotic nature of 2007, things seem to be running better this time.

My question is, why are things running better? We have the protocol; we have steps and communications taken. What specifically are we doing this time that we didn't do last time, and why is it working better? Could you elaborate? What has changed so much that it's made the situation more manageable?

**Mr. Serge Dupont:** The one thing we would say, and Meena may add to this, is that within hours, basically, of knowing that the NRU would be down for a prolonged period—initially it was indicated that it would be for more than one month—the information was posted on the AECL website with an explanation as to what was going on. Indeed, as this developed, as the leak materialized, the information was disclosed. As the situation progressed, there were a number of updates on the site, and within hours, as soon as it was determined that it would be at least one month, this was communicated to the medical community, and afterwards as well, through a protocol that ensures that AECL provides that information to both our department and to Health Canada.

It also provided information, as a reference point, that the supplies would be continuing during the week, because even when the reactor is down, they can still pull some rods out of the reactor and process the moly. That, of course, comes to an end after a period of roughly one week. So that period was set out. There was certainly a heads-up to the medical community that there would be difficulties ahead.

Then, as my colleague from Health Canada indicated, there were also measures in place in terms of contingency planning on the demand side, as well as rapid engagement with international partners on the supply side.

**Ms. Meena Ballantyne:** Mr. Chair, just to reinforce what my colleague has said, one of the biggest lessons learned was to have early communication and notification—this is what we heard from our medical community and from the provinces and territories—so that they could plan ahead and know how long to plan for. That was one of the biggest lessons learned. It was in the invaluable advice we got from the lessons learned report last year. The communications protocol to give virtually instantaneous notice of the fact that the NRU is going to be down for a certain length of time was instrumental in getting this contingency plan going.

We also have been working very hard over the last year with the medical professionals and with the provinces and territories to have these alternatives in place, should we need them, and all the regulatory approvals.

My job as the ADM of the health products and food branch is to make sure that whatever Canadians are using by way of health products is safe and comes from a quality place and actually does what it's supposed to do. Any time there is a new source of moly-99, or new generators, or a new condition for which you're going to use the same medication, our scientists look at it and make sure the approvals are in place. We've been working on this, and now it's unfolding and these measures are out there.

As I said concerning the supply chain, with the two main suppliers having diversified their supply chains and with the international conversations that are going on, there is real hope about boosting the supply chain this time around that wasn't there last time.

**Mr. Bradley Trost:** It's good to hear that the steps taken by the government and the various departments over the last 18 months have paid off.

Out of curiosity, one thing I noted is that most of the nuclear medical procedures that were referred to today are diagnostic in nature. I understand, even though I'm nowhere close to being a doctor, that diagnosis is important before you get to treatment. But I want to know, for people watching, because there may be some misperceptions that people may be missing their treatments out there in Canada, that by and large it is on the diagnostic side that we will be rationing, because that's where we can do substitutions.

Would that not be a correct analysis? Even without the NRU, 60% of the world's production is still going to be there. So for 60% of procedures, we wouldn't have to ration, we wouldn't have to squeeze timelines, we wouldn't have to do anything. Am I making the correct assumption that it's going to be mostly diagnostics and the less critical diagnostics that will be the ones first substituted for?

•(1630)

**Ms. Meena Ballantyne:** Yes, absolutely. Again, it's the medical community who will decide, based on the needs of patients. They're already targeting the available supply of technetium to the emergency cases. If, in certain cases, delayed diagnosis means delayed treatment—

**Mr. Bradley Trost:** So if people have relatives or friends out there, they don't have to worry; they are going to be getting their cancer treatment, and they ought not to misread something they're seeing in the newspaper.

**Ms. Meena Ballantyne:** Yes, absolutely. This does not affect radiation therapy for cancer. Radiation therapy does not rely on moly or Tc-99m. That's cobalt, so it's not coming from the NRU. There's no shortage of radiation therapy for cancer treatment at all.

**Mr. Bradley Trost:** Okay. I just wanted to make that clear.

I think my time is up, Mr. Chair.

**The Chair:** You have one minute.

**Mr. Bradley Trost:** Here is the other question I have. We've talked almost exclusively about moly-99. I know there are a few other isotopes involved. Are they just not that critical? Why have we not mentioned them or gone into them? Are they much easier to substitute for? This is curiosity.

**Ms. Meena Ballantyne:** There are other isotopes, but they use different cameras. For example, for the SPECT cameras or gamma cameras, which use the technetium, the alternative is thallium, which can use the same camera for cardiac scanning. You can also use iodine-123 to image kidneys. It has a half life of 13 hours, so again timing is critical. We have gallium-67, which is used for the detection of Hodgkin's disease and lymphomas, among other types of cancers.

Using PET scanners.... This country doesn't have as many PET scanners as we have SPECT cameras, because nuclear medicine is state-of-the-art, the best there is to treat some of these things. But there is fluoride or FDG, which can be used for bone scanning for cancer, which is now made available through the clinical trials, and we know hospitals in Quebec are going to be using this. We have rubidium-82, which is used in some small heart conditions as well. We also have MRIs and CT scans that can be used.

Again, this is for contingency planning, not for ongoing management. But they are alternatives that the medical community and the provinces and territories have identified in their contingency planning.

**The Chair:** Thank you very much.

Thank you very much, Mr. Trost, for your questions.

The time for this portion of the meeting has ended. I'd like to thank the witnesses very much for some very useful information for the committee in doing its study. From the Department of Natural Resources, Serge Dupont, associate deputy minister, and Tom Wallace, director general, electricity resources branch, thank you, gentlemen. And from the Department of Health, Ms. Ballantyne, assistant deputy minister, health products and food branch, thank you again very much.

We will suspend for a couple of minutes while the minister and others come to the table.

• (1630)

(Pause)

• (1635)

**The Chair:** We will reconvene the meeting.

To continue our study of the Atomic Energy of Canada Limited facility at Chalk River and the status of the production of medical isotopes, for the second hour we have the Honourable Lisa Raitt, Minister of Natural Resources. Thank you very much for being here. And with her, from the Department of Natural Resources, are Cassie Doyle, deputy minister, and Serge Dupont, associate deputy minister. Thank you very much for being here again.

Minister, I understand you have an opening statement.

**Hon. Lisa Raitt (Minister of Natural Resources):** I do. Thank you, Mr. Chair.

**The Chair:** We will hear that and then go to questions.

**Hon. Lisa Raitt:** Thank you very much. Thank you for the introduction.

Ladies and gentlemen, securing a reliable supply of medical isotopes for Canadians in both the short and the long term is the focus of my department right now. It's important to underline that when we talk about security of supply, we are talking about a global industry and a global market. The issues surrounding security of isotope supply are global in nature. We are very concerned about this situation. I look forward to the committee's contribution to achieving the results that we all seek in this matter.

I would like to underscore at the outset that we are facing a situation now very different from the one we were facing in December 2007, when Parliament passed emergency legislation to

overcome an impasse between the regulator and AECL and to enable the NRU to be restarted.

Last time, there was no good reason to keep the reactor in a shutdown state. The reactor was brought back online quickly and safely after Parliament heard from six witnesses and unanimously passed legislation. This time, we are faced with a significant technical problem that must be addressed before the reactor can be brought back into operation.

The last time, there were poor lines of communication between AECL, the CNSC, and the government, and significant delays in notifying the medical community as a result. This time, the medical community was informed within hours of the government's being informed that the reactor outage needed to be extended, so that necessary contingency planning could be put into effect immediately.

Last time, we were not equipped to take steps to secure alternative supplies, and officials were scrambling to understand the industry and make hurried contacts with foreign reactor owners, all to no avail. This time, we have international infrastructure in place, which will be necessary in the coming weeks and months to help the global community address a serious shortage that will persist for some months.

I will be dealing with all of the above in my opening remarks today, but let me first begin by updating on the status of the NRU.

As the committee is aware, routine monitoring uncovered a small heavy water leak at the NRU reactor on May 15. AECL has indicated that the NRU will remain shut down for a minimum of three months to identify what repairs are required and to implement the repairs. AECL has further updated concerning their process this afternoon.

I wish to take this opportunity to repeat that we are assured by both AECL and the Canadian Nuclear Safety Commission that the leak is contained and poses no risk to worker or public safety or to the environment, and an inspection program is under way. The duration of the outage will not be known until the investigations are completed and the repair options are identified.

The NRU produces some 30% to 40% of the global supply of a key isotope used in medical diagnostic procedures: molybdenum-99 and its decay product, technetium-99m. In fact, all of NRU's production is exported after further processing by MDS Nordion. About 10% of the exports are imported back into Canada by our health care providers.

As has been the case for some time, aside from NRU, only four other reactors are equipped to produce this essential medical isotope for the international market. Like the NRU, all of these are of an advanced age. This age and the maintenance requirements of all five major reactors contribute to the fragility of the global medical isotope supply chain. However, there are other factors in a highly regulated complex supply chain that relies on multiple public and private sector participants to get product to customers.

There are a limited number of processors in the chain. These are the companies that take the raw isotopes from the reactor and turn them into pharmaceutical products for use in hospitals. Due to the brief shelf life of the product and the short timeframe for delivery, it is preferable that processors be located in close proximity to the producing reactor. A further constraint is that not all processors can accept products from all reactors, for technical, contractual, and other reasons.

While assuring a reliable supply of isotopes is an important issue for Canadians, it is also very much a global issue, given the global demand's reliance on just five aging reactors. Unfortunately, it is also an issue for which there is no quick or easy solution.

● (1640)

That does not mean that we're simply throwing up our hands. What we can do, and what we will continue to do, is work with our partners in Canada and around the world to protect the health and safety of Canadians in both the short term and the long term.

To this end, we continue to move forward with a five-point plan. This plan includes the following: one, resuming NRU operating as quickly and safely as possible and pursuing a renewal of the NRU operating licence; two, mitigating short-term supply disruptions; three, engaging major isotope-consuming and -producing countries to coordinate short-term supply and to investigate long-term solutions; four, exploring alternatives to moly-99-based medical procedures; and five, encouraging alternative moly-99 production sources in the long term.

In terms of the NRU, AECL is working to bring the reactor back online as quickly as possible and in consistency with the highest safety standards. In addition, AECL and the CNSC have concluded a memorandum of understanding to identify the requirements for extending the NRU operating licence beyond its current expiry date of 2011. Indeed, in Budget 2009 our government allocated \$47 million to AECL specifically for this work.

Second, since the last extended shutdown of the NRU, in December 2007, our government has taken concrete action to manage the impact of short-term isotope supply disruption such as we're experiencing now.

In January 2008, my department, Natural Resources Canada, together with Health Canada and AECL, concluded the protocol for notification and information sharing concerning shortages of medical isotopes. This protocol ensures that provincial and territorial health authorities and health practitioners are advised quickly of any potential or real disruption in the isotope supply chain.

With timely information, the medical community can respond quickly in order to prioritize procedures, take steps to extend and share limited isotope supplies, and utilize alternative procedures when possible. The health community has responded favourably to this initiative.

In December 2007, Health Canada struck the ad hoc working group on medical isotopes. This group reviewed the 2007 NRU outage and presented a number of recommendations to Health Canada. The working group has provided recommendations for enhancing communications, improving physician engagement, and developing best practices in triaging guidelines. Health Canada is

working with the working group, as well as provincial and territorial health authorities and medical practitioners, to further this work.

The working group continues to meet and provide advice on a regular basis. It recently facilitated the sharing of guidelines that will assist the medical community to deal with the shortfalls in supply.

Government officials have also met with Canadian and U.S. private sector participants in the isotope supply chain, including MDS Nordion, Lantheus, and Covidien. These meetings are helping to ensure that the Canadian health care system continues to receive its fair share of product during periods of limited supply.

Third, the Government of Canada has been instrumental in drawing the international community together in a cooperative effort to foster global solutions. For example, at our government's request, the Nuclear Energy Agency convened an international workshop on the security of supply of medical isotopes in late January. The workshop attracted representatives from every part of the supply chain, including reactor operators, private sector isotope processors, the health industry, medical practitioners, government regulators, and policy experts.

Participants at this workshop recognized the global nature of the issue and underscored the need to deepen and develop contingency plans for supply disruptions in the near term and to share these plans as appropriate. More importantly, and at our government's urging, participants agreed to establish a high-level group to move the agenda forward.

Two weeks ago, I led a teleconference with many of those who are represented on this high-level group, including government and industry representatives from isotope-producing countries, to emphasize the importance of the international collaboration. The high-level group, consisting of representatives from key isotope-producing and -consuming countries, held its first formal discussion this morning. In acknowledgement of our international leadership on this file, Canada was today named the chair of this working group. I participated in the call and took the opportunity to underline that global cooperation will be required to maximize isotope supplies in the short term. It is also required to improve transparency in transmitting the best possible information to the medical system, and also to address impediments to the development of secure isotope supplies over the long term.

● (1645)

We were encouraged to learn that the Netherlands' reactor was working to increase production by 50% and the South African reactor by 20%, in the short term. Belgium indicated it has received approval to increase its processing capacity, and Australia is now producing isotopes and looking to ramp up production significantly. So we are seeing helpful developments on the supply side. But there are still challenges ahead.

The fourth point in our plan involves work being undertaken through Health Canada in concert with provincial and territorial counterparts and medical practitioners to facilitate the use of alternative medical and diagnostic procedures—alternatives that are helping to ease the demand for moly-99 in the short term while medium- and long-term alternatives are being explored.

The fifth point in our plan involves supporting efforts to develop new sources of supply for moly-99 over the long term. A number of concepts and ideas have been put forward since December of 2008. Some involve new technologies; others the enhancement of existing facilities; and still others are new facilities based on existing technologies. My department has supported feasibility studies regarding the use of an existing facility at the McMaster nuclear reactor to produce moly-99. Our government has also funded a workshop at the University of British Columbia and the TRIUMF research facility to explore the use of particle accelerators for the production of moly-99 through photo-fission.

But there are no easy or short-term solutions, and any efforts to develop new sources of moly-99 will take time and will take investment to implement. But last Thursday, our government announced the establishment of an expert panel to review proposals from the private and public sectors for new sources of key medical isotopes for Canada. The expert review panel will bring together world class expertise in the domains of health science, applied science, and public policy in order to assess the various proposals advanced, against technical, economic, and other criteria. The panel will provide its assessment in the fall.

Also on Thursday, I announced that our government is proceeding with the restructuring of AECL, now that the review of the corporation has been completed. The review concluded that a restructuring at AECL would inject strength in the nuclear industry in Canada, further strengthening its culture of growth, its culture of innovation, and its culture of leadership at a time of global expansion in the market.

Our objective through this restructuring is to position the Canadian nuclear industry to retain and create skilled jobs in designing, building, and servicing nuclear energy technology in Canada and abroad. Restructuring will not resolve issues surrounding the NRU and the supply of medical isotopes. Ensuring a reliable supply of medical isotopes is not only an issue for Canada; it is a global issue that requires a global solution.

It is also worth noting that on March 24, 2009, I introduced to Parliament Bill C-20, the Nuclear Liability and Compensation Act, a bill that will modernize the 1976 Nuclear Liability Act. I was pleased to see that this bill was sent to committee yesterday, and it is my hope that you will give the bill early consideration and return it to the House quickly.

To conclude, Mr. Chair, the Government of Canada is making every effort to minimize the impact on Canadians of the current disruption in the global supply of medical isotopes. Furthermore, we are exercising our responsibility as a major part of the global supply chain to foster the global cooperation needed to achieve a long-term solution.

I want to thank you for your time, and I look forward to any questions the committee may have.

• (1650)

**The Chair:** Thank you very much, Minister, for your very pointed and helpful presentation. I appreciate it very much.

We will go now to the questioning. I think we'll have time for a seven-minute round for all parties, and then another two-minute round afterwards. So that's the way we'll proceed—if I can keep you on time—starting with Mr. Regan, from the official opposition, for up to seven minutes.

**Hon. Geoff Regan:** Thank you very much, Mr. Chairman, and thank you, Minister, for coming. It's nice to have you here today on what is certainly an important issue. In fact, we've heard some of the leading medical experts in Canada refer to the situation as a catastrophe.

I had a meeting a few weeks ago, in fact, before this happened, with some nuclear medicine people from Halifax, Dr. Andrew Ross, for example, who were very concerned about what might happen if this sort of thing were to occur with future supply. That was even before this occurred. And you have said in your comments today that you are very concerned about the situation.

I guess in view of that, my first question is that given that we're obviously going to be hearing from some expert witnesses in the field, people from AECL and so forth, and in view of the importance of this matter, are you willing to make time in your schedule to come back again after we hear from those witnesses?

**Hon. Lisa Raitt:** I see no reason why I would not want to come back, if the committee wanted me to attend and answer questions members may have as we move along.

**Hon. Geoff Regan:** Thank you.

Madam Minister, I cannot but compare your comments today—and it's a bit self-congratulatory in terms of what you've been doing—with what we heard on June 5 of last year from Minister Lunn, who was then Minister of Natural Resources, the minister then responsible for this file in your government, who said, “Canadians can be assured that they will have an adequate supply of isotopes.”

Clearly, what he said was not accurate. How does that compare with what you've told us today? In fact, we've heard about this five-point plan that supposedly was in place, but now, a week and a half after the shutdown, we see a dwindling supply of isotopes, patients are not getting the tests they need, and we have to ask what has this so-called plan accomplished?

**Hon. Lisa Raitt:** Thank you for the question, Mr. Regan.

In June of last year, where we would have been in terms of chronology is that AECL had taken a decision to discontinue the MAPLE reactor project. The government accepted that decision of AECL.

The important part of the MAPLE project, as you are very well aware, is that that was the solution for Canadian medical isotopes. MAPLE 1 and 2 had been under development for many years, and in fact were supposed to be commissioned in 2000. But it didn't happen then, and then it moved on to 2003, and indeed in 2008 the decision was taken that after 12 years and hundreds of millions of dollars and no isotopes produced, it was time to discontinue the project. Indeed, that is what happened.

At the same time, AECL also indicated that it would pursue the extension of the licence for the NRU. There was no reason at that time to believe there would be no ability for the NRU to continue to produce medical isotopes. It had done so on a very reliable basis for many years. Indeed, it's important to note that the shutdown in September of 2007 was a regular maintenance shutdown, but the problem with that shutdown was the fact that CNSC and AECL disagreed as to whether or not the reactor could be restarted. That's why the government ended up introducing emergency legislation, and all the parties passed it.

From that time forward, a couple of things happened. The department, AECL, and CNSC, after the miscommunication with the community and the situation we faced in December of 2007, commissioned a report by Talisman. Talisman set out a number of recommendations, which were all implemented by the departments in terms of communicating with the medical community as to when there would be a medical isotope shortage, and those protocols and those contingency plans were being worked on.

In December of last year we set out our five-point plan, as noted in my opening remarks, indicating that we were focusing on the global situation and predominantly recognizing the fact that the NRU, as we all know, produced 60% of the world's isotopes for a period of time in the fall, when the Petten reactor was down. It was that global isotope chain that we were focusing on, and that's why Canada actually moved forward to ask that the world take a look at this on a larger stage.

• (1655)

**Hon. Geoff Regan:** Thank you.

Minister, you said today that the duration of the outage will not be known until the investigations are completed and repair options are identified. Now, we've been hearing that same line for quite a while, and I would think that surely you have been asking AECL when these investigations will be completed, because we keep hearing that same thing. We want to know how long this is going to be down, and we keep hearing at least three months. There are some who've suggested it will be a lot longer. When are the investigations going to be completed?

**Hon. Lisa Raitt:** We absolutely asked that question of AECL. It's incredibly important that AECL focus on the inspection of its reactor vessel and also focus on the options associated with the repair of it. As indicated earlier today, I think, they've updated the community in terms of how they're moving forward on furthering the inspection, and I would expect they're focusing on it.

We ask all the time in terms of how fast they are working, but they have to do it within their culture of safety and they have to do it in concert with the CNSC, the regulator who is there, and make sure that the health and safety of workers and the environment and the

people around the area are protected as well. I believe them when they tell us they are working as diligently as they can in order to get to the end result. I don't think it's lost on anybody how important it is for AECL to do their inspection and to make their recommendations on repairs as quickly as possible. This is a very concerning issue.

**Hon. Geoff Regan:** If the government was planning for this for so long, as you suggest, why do we see such a flurry of activity with new things happening, such as, for example, this announcement about appointing a panel? Why would you not have appointed that panel, if you were planning for this, months and months ago? Why wouldn't the government have appointed that panel last year?

Secondly, when are you going to name the panel?

**Hon. Lisa Raitt:** In December, we indicated that we were going to be looking at different types of medical isotope production, and we have received a number of proposals since then. It was a matter of bringing it together. As well, it should be pointed out that we were also engaged in the review of AECL and the restructuring plans, and those two pieces were coming together.

In terms of when we'll be announcing the expert panel, it is our hope that we will have all proposals in by July 31 of this year, in order for the panel to assess them. So we'll be looking to appoint a panel as soon as possible.

**The Chair:** Thank you, Mr. Regan. Your time is up.

We go now to the Bloc Québécois, to Madame Brunelle, for up to seven minutes.

Go ahead, please.

[Translation]

**Ms. Paule Brunelle:** Good afternoon, minister.

You said something in your presentation that concerns me. You said that, the last time, in 2007, there were no good reasons to keep the reactor out of service. You went on to say that we are now victims of a major technical problem that has to be fixed.

Are you thinking of shutting the reactor down for good and not telling us about it?

[English]

**Hon. Lisa Raitt:** The process we're in right now is that the reactor vessel is being inspected by AECL to determine the damage, the location of the leak, and the best way to do the repairs. That's the information we have from them at this point. It is impossible for me to say how long it will take to repair it or what the decisions of AECL will be concerning what options to choose in making the repairs.

● (1700)

[Translation]

**Ms. Paule Brunelle:** What I see at the moment is skilful crisis management. You tell us that you have learned a lot since 2007. You provide information, you have a communication plan, the medical community has to get itself organized so that it can operate without isotopes, and so on. But you are surely well aware that none of that produces a single isotope, helps a single patient or allows a single test to be conducted. You have known that the NRU reactor has had serious problems for 18 months and that we were heading towards an isotope crisis.

Why have you been so slow to react? When we are asking you about solutions that will get us isotopes, you tell us that you are going to privatize AECL. Is that because you do not know what to do?

[English]

**Hon. Lisa Raitt:** Concerning some of the statements made, first of all, it was not known that the NRU was not functionable; in fact, quite the opposite was the case. This government was looking at extending its licence, because of the fact that the NRU was working. Indeed, over the fall the NRU produced 60% of the world's isotopes; it worked very well. It is a reality that this is one of the oldest reactors in the world and that it will encounter technical difficulties, and we have one right now.

So to indicate that we knew there was going to be a medical isotope shortage is simply not the case.

With respect to what we have done and what we have learned, out of December 2007 the fragility of the global isotope chain has been revealed. It was important for us as Canadians to connect with the rest of the isotope-producing and isotope-consuming countries, and that's what we have done. We now chair the high-level working group on dealing with the supply chain.

But for the fact that we had developed those relationships, we would not have achieved the very quick results in two weeks of having Petten be able to ramp up their production, having Belgium be able to indicate that they can add to their capacity, and also having SAFARI indicate that they can ramp up as well. It is a direct result of the action that was taken by this government that we were able to address this situation as quickly as we did.

[Translation]

**Ms. Paule Brunelle:** Minister, you told us yesterday that you were going to be part of a conference call this morning with representatives of other countries that produce isotopes. Did you come up with concrete, tangible solutions to deal with the shortage?

[English]

**Hon. Lisa Raitt:** As I mentioned, we received reports back from the other countries indicating how they'd be able to ramp up production to supply to the world.

The other side of it, too, that we discussed, which is equally important, is to be able to better equip the medical community to understand how much isotope will be available at any given time. There is a lack of information flowing, and we need to have our medical practitioners with as much information as possible so they

can manage on the ground. So that discussion happened as well. We need the commitment by the isotope-producing countries to indeed make sure that information is shared and is pushed through the system, from the reactor to the processor to the generator, and indeed out to the rest of the medical community. As I mentioned as well, there's the commitment needed from the other countries to increase the production of their medical isotopes. Finally, there is the need for discussions about maintenance schedules with respect to currently operating reactors.

I think those are the three take-aways from this morning, and I think it was a very good meeting. Indeed, there will be follow-up meetings in the coming days from the broader companies associated with isotopes, isotope production, and isotope generation.

[Translation]

**Ms. Paule Brunelle:** Can we say, as MDS Nordion claims, that it is possible to start up the MAPLE program again? It also seems that you have abandoned the idea of restarting the MAPLE program.

● (1705)

[English]

**Hon. Lisa Raitt:** Yes, thank you very much.

As I indicated, the MAPLEs, as designed, did not produce a single medical isotope and simply didn't work. AECL took the decision to discontinue them, and we accepted that decision.

However, there have been indications from MDS Nordion that, in their opinion, they can be restarted. We look forward to receiving all proposals, as I indicated in my notes about using facilities and not using existing facilities. But it is a fact that the MAPLEs, as currently designed, do not work. I dearly don't want people to think you can flip a switch and have medical isotopes produced from those reactors, because it simply cannot happen.

MDS Nordion may have a point of view that may be associated with the position they're trying to assert, but it is not the fact and reality of the situation. If it were that simple, Madam, we would have addressed that matter very quickly and not been in the situation we're in.

**The Chair:** You have 30 seconds.

[Translation]

**Ms. Paule Brunelle:** I cannot say much in 30 seconds. Let me just say that we are looking for action, very quick action, from the government. Our doctors and their patients are demanding it from us. We cannot just conduct an exercise in communication and crisis management. We need concrete solutions. You are going to have to make really specific announcements so that the medical community can continue to function.

[English]

**Hon. Lisa Raitt:** Thank you very much. *Merci beaucoup.*

**The Chair:** Thank you, Madame Brunelle.

We go now to the New Democratic Party, and Mr. Cullen, for up to seven minutes.

Go ahead.

**Mr. Nathan Cullen:** Thank you, Chair.



Thank you, Minister, for being here.

In 2007, I recall various ministers of your government—and the Prime Minister, amongst others—scream there was a life and death crisis taking place in terms of medical isotopes. The Parliament at the time believed the government and allowed for the re-opening of the Chalk River facility, the same one we've been talking about today, over the concerns of the regulator and the chief person, Linda Keen, responsible for the safety of Canadians. I guess I'm trying to understand. In 2007, the other world reactors were up and running; now we have none of those reactors up and running, and the government won't use the term "life and death situation".

You were asked this question a little while ago. I was there and I remember that you didn't answer it. I am wondering if I could put the question to you again: do you believe this is a life and death situation?

**Hon. Lisa Raitt:** Thank you.

One thing I do want to point out, Mr. Cullen, is that you indicated there are no reactors up and running today. I think you received a presentation earlier from the ADM indicating there are reactors currently operating. In fact, that's why medical isotopes are being produced. So I just want to make sure we understand that record.

I, and we, are very concerned about the situation, and that's why our officials are engaging worldwide with their colleagues on medical isotope production, and that's why the Minister of Health is working to help on this side in terms of the shortage of supply. Health and safety, of course, are of the utmost concern for any government, and especially in this case. And the reality—

**Mr. Nathan Cullen:** I'm not going to get a life and death answer out of you here.

The NRU was functional, and you said earlier in your responses that you didn't know it was going to go down in advance, obviously. You seem surprised that the Chalk River facility ran into this difficulty. By that I mean it worked well until it didn't.

Your government has stepped in with a proposal of alternatives. In fact, our research has shown that not all of the treatments that moly-99 is able to perform for Canadians, especially cancer patients, actually have viable alternatives that are anywhere near to being as high in quality. I'm sure you're aware that I've had folks in my family diagnosed with cancer, and early and accurate detection was absolutely critical, which is what these isotopes produced at Chalk River were meant to supply. The substitution of lesser-quality procedures should be of grave concern.

I have no idea why you won't simply call it what you did in 2007 in terms of a life and death situation, with the vast majority of reactors in the world not up and running and producing isotopes. You've talked about workshops, studies, committees, and expert panels. I want you to offer today to Canadians a guarantee that those waiting for the detection of cancer will have the supply at their hospital.

Can you do that?

• (1710)

**Hon. Lisa Raitt:** Mr. Cullen, as we indicated earlier, there is going to be a shortage of supply of medical isotopes. You can't

promise something that you simply don't have. The reality is that we are working all the levers that we possibly have, from our worldwide contacts to working with medical practitioners, both to increase the global supply and to manage the supply that we do have.

**Mr. Nathan Cullen:** Does the government—

**Hon. Lisa Raitt:** The alternatives—

**Mr. Nathan Cullen:** Have you proposed a—

**The Chair:** Mr. Cullen, would you allow the minister to finish her answer?

She wasn't finished the answer. You have to give a reasonable amount of time for a response. If there is a situation in which a witness is stalling, then I certainly allow questioners to intervene, but that's simply not the case here.

Madam Minister, would you continue with your answer?

**Mr. Nathan Cullen:** Chair, through you, I thought the minister had finished. She had responded to my question and paused, so I went on to the next question. I don't think this is a—

**The Chair:** Thank you, Mr. Cullen. The minister—

**Mr. Nathan Cullen:** We're not deducting this time, I assume, Chair, for our intervention.

**The Chair:** The minister had more to respond.

**Hon. Lisa Raitt:** Thank you, Mr. Chair.

I was just going to point out that I think people in Health Canada would be the best ones to speak to whether or not a medical isotope is adequate, as well as those in the medical community. You received a briefing from a representative from Health Canada today; I can see on the third slide that there are alternatives that can be used in planning, and they are acceptable to the medical community.

Mr. Cullen, I think it's incredibly important that we not have fear-mongering for people in Canada with respect to this issue. We are managing the matter. We are making sure that we're increasing the supply of isotopes on a global scale, we are managing the shortage of supply, and we're working very hard to do so.

**Mr. Nathan Cullen:** We also heard from your officials that supplies that are some thousands of miles away are a concern in terms of being able to get them to the processors and to the patients who need them. You're counting on South Africa and potentially Australia, and you're suggesting that's the same thing as having something up the road at Chalk River. That is not compatible. That does not make sense with the testimony we heard today.

My concern is that you had 18 months to fix the problem and give Canadians some greater assurance that the cancer they're facing and the stress their families are facing would be alleviated by a consistent and excellent supply. That has not happened. Now we have an indefinite shutdown of one of the major world suppliers. To say this is somehow a global phenomenon and that you were surprised the reactor went down again—one of the oldest reactors in the world, one that's had a litany of problems—and to simply rest upon the ability of that reactor to produce these critical isotopes seems irresponsible. Then you refused to call it a life and death situation today, but in 2007, when there were other reactors up and running, it was a life and death situation, and we had to fire Linda Keen in order to get things back up, because Canadians were going to die.

**Hon. Lisa Raitt:** Mr. Cullen, I appreciate your remarks, but how I characterize or don't characterize the situation is not as important as how I deal with the situation. Dealing with the situation means that we increase the global supply of isotopes and we manage the supply. What we call it is going to be a difference of opinion between you and me, but what's important is that we work on it and that we work on it together.

With respect to the NRU, you indicated that there have been a litany of problems. That is simply not the case. I think we should be very careful about the facts we present to committee, knowing there's a difference of opinion.

We are concerned as well for people who aren't able to have the medical isotope tests they'd like to have right away, and that's why we're working on it.

The last point I'd like to make, Mr. Cullen, is that it's quite counterintuitive for you to indicate that the other reactors in the world aren't sufficient for our supply, when Canada notably supplied 60% of the world for a long period of time. If it was good enough to go that way, it's fine enough to come back to us. Any increase worldwide, I believe, is an incredible benefit for us, and we're working together with our colleagues on that matter.

**The Chair:** Thank you, Mr. Cullen. I've allowed you some extra seconds.

We will go now to the government side, to Mr. Allen. Ms. Gallant will take the last minute and a half or two minutes, I understand.

Mr. Allen, go ahead, please, for five and a half minutes.

**Mr. Mike Allen (Tobique—Mactaquac, CPC):** Thank you, Mr. Chair.

And thank you, Minister, and your officials, for being here today. I appreciate it.

What was so striking in the presentation in the last session we had was the age of the five reactors clear across the world. I found the age of these five reactors just amazing.

As part of the international infrastructure you've talked about, which is much better than it was in 2007, and being the chair of the international group and having recently had discussions with the international groups, what is the most recent feedback you have received from them with respect to how you can fill the gap in isotope supply while the NRU reactor is down?

●(1715)

**Hon. Lisa Raitt:** Thank you, Mr. Allen.

As we indicated, in terms of increasing use, we were lucky enough to speak, as I said, this morning with representatives for the other reactors in the world.

The Petten reactor in the Netherlands has just undergone normal maintenance shutdown and is now operating at full capacity. It can step up production by 20% to 30% and possibly more. The Belgian reactor, as we indicated, is available for extra capacity. As well, the SAFARI reactor indicated that they would be able to increase up to 20%.

Just piggybacking on what you indicated about the presentation before, if you have the slides, slide 13 was the most important, in the sense of showing the age of the reactors currently, but also for looking at the reactors that are coming online. Australia, for example, is ramping up its ability to produce medical isotopes in order to fill the gap, and France too. Those are important aspects to remember.

**Mr. Mike Allen:** Given the age of some of these reactors and given that MAPLE was really Canada's attempt to try to put something in place—and we all know that MAPLE went off track, as the Auditor General showed in her analysis, and then in early 2000 it really started going off track until the decision was made to close down the project....

Given that, and given the age of our reactors, was any contingency planning done by the previous government or anybody along the way, in the event that the NRU, with its age...and given that the MAPLEs were having problems? Was any contingency planning done?

**Hon. Lisa Raitt:** My understanding is that as early as 2000 it would have been known that the MAPLE reactors were experiencing difficulty in operating and being licensed, and the same thing was very clear in 2003. It was between 2003 and...it took until 2008 for AECL and the government to accept the decision of AECL to discontinue the MAPLEs.

When AECL took the decision to discontinue, it was made very clear that they would have to pursue the extension of the NRU licence in order to ensure that we would receive medical isotopes. That's what they did, and they entered into an MOU with the CNSC on that matter.

**Mr. Mike Allen:** How much time do I have left, Chair?

**The Chair:** You have four minutes. Ms. Gallant could take the second round, if you'd like to work it that way. It's up to you.

**Mr. Mike Allen:** Is there going to be a second round?

**The Chair:** Yes.

**Mr. Mike Allen:** So I have one minute left?

**The Chair:** You have three and a half minutes left.

**Mr. Mike Allen:** I have one more question and then I'll turn it over.

You just brought up the question of Bill C-20, the Nuclear Liability and Compensation Act, coming to committee. May I ask you to comment with respect to some of the things we were talking about—trying to get new ideas, new isotope supplies, and potentially looking at all the options, including medical procedures, and all that type of thing? I look at Bill C-20 as addressing the reactors that we have out there today, which is important to increase the liability and insurance provisions. Do you also see it as having an impact on potential future investment, including investment in reactors that could provide isotopes in Canada?

**Hon. Lisa Raitt:** I think this bill is incredibly important, and I look forward to the committee's discussion on the matter. In fact, it's so key that it is clear that when certain companies consider actually bidding on building reactors in Canada, they look to make sure there is a nuclear liability act in place so that they have their protections and at least a written establishment of the compensation and civil liability to address damages resulting from radiation in the unlikely event of a radioactive release from a Canadian nuclear installation. That's what the act goes to. Indeed, the bill increases the liability limit of operators to \$650 million from \$75 million. More importantly, it gives a clear and comprehensive definition of the kind of nuclear damage that can be compensated for.

In terms of an entire package, it is good to modernize this act in order to bring our civil liability regime up to international standards, which may allow us to attract international interest in terms of the global supply of medical isotopes. We're in the process now of exploring different ways in which to produce medical isotopes, and we encourage all kinds of options. That's one thing the expert review panel will be looking at.

• (1720)

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

Ms. Gallant, you have a question or two. Go ahead, please.

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

Through you to the minister, you made an announcement last week about the restructuring of AECL. How is that restructuring going to impact jobs at the Chalk River labs?

**Hon. Lisa Raitt:** Thank you very much for the question.

Being from the area, you've always brought to my attention the importance of Chalk River and the importance of the workers at the Chalk River facility. It's a driving force, really, in our decision-making regarding restructuring.

Essentially, in restructuring we would see that both sides of AECL would be better bolstered by being able to focus on their individual areas. In one case, the AECL commercial or reactor side would be focusing on their area. On the other side, Chalk River would be focusing on the research, the technology, and the science side of it.

It is truly desired that when we undertake restructuring, both sides will be positioned to flourish. It would be not only AECL in terms of selling more reactors, but also Chalk River in terms of taking advantage of that entrepreneurial and innovative spirit there. We would see them truly dedicating themselves to research of different types, research not just associated with AECL and not just associated with the ACR-1000, but with all kinds of other things as well. It's no

secret to the committee—and you've heard it from other witnesses too—that there is interest in utilizing nuclear technology for a better, more efficient means of extracting oil from the oil sands. That could be an area in which Chalk River could play a role in terms of research.

We fundamentally believe that by separating the two, we will allow both equally to flourish. I believe as well that the merits of the research done at Chalk River will drive an attraction to invest in Chalk River, allow the research to speak for itself, and attract attention, innovation, and investment. I think it would be positive for jobs by not only helping with what we currently have, but also by growing that area so that we have the potential for more jobs in the area.

**The Chair:** Thank you, Ms. Gallant.

We go now to the second round. Each member will have two minutes, so it will be basically one question with a short answer.

Mr. Bains, could you start off for the official opposition?

**Hon. Navdeep Bains (Mississauga—Brampton South, Lib.):** Thank you very much, Chair, and thank you, Minister, for coming out.

One key issue that has been brought to our attention is the cost to the health care system. As we learned today, GE Healthcare notified customers today of a price increase. We know the alternative procedures also put a fair amount of burden on the health care system.

Has there been any costing done to indicate how much this will impact the provincial and territorial governments? If so, does the federal government have a plan to work with its counterparts provincially to help alleviate some of the financial burdens they're facing with these increases in isotopes and with the alternative procedures that are being suggested in order to deal with the crisis?

**Hon. Lisa Raitt:** We'll definitely take that up with the Minister of Health. She is the one on the forefront in dealing with the provinces and the territories on implementing the contingency plans, and we will ask her. We will point out to her the situation and seek her determination as to whether there's an increase in the costs associated with the province.

**Hon. Navdeep Bains:** When you find that, can you submit it to the committee as well, with the cost scheme or whatever the impact will be at the provincial level?

**Hon. Lisa Raitt:** Absolutely, we will provide the information.

**Hon. Navdeep Bains:** The second question I had, Minister, is, did you see this shutdown of Chalk River coming? Did you anticipate it in your position a while ago?

**Hon. Lisa Raitt:** The reality of the situation is that AECL is the operator of the NRU, and they have the best information regarding the NRU. This government relies on AECL to operate it in the best way it can. My role is to make sure that if there is an unplanned outage, we communicate with the medical community and ensure as well that all appropriate measures are being taken under the supervision of CNSC for the health and safety of Canadians.

As to my being in touch with AECL concerning the operating of the National Research Universal reactor, the answer is no. But I do rely, as we should, upon the professionals at AECL who operate that facility, in giving us the best information. And they did not give me the information that they had expected this shutdown. This is an unexpected, unplanned shutdown of the NRU.

• (1725)

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

Now we go to the government side, to Mr. Shory for two minutes.

**Mr. Devinder Shory (Calgary Northeast, CPC):** Thank you. I'll take one minute, because I'll be sharing my time with Mr.... Where did he go?

**Voices:** Oh, oh!

**The Chair:** If you don't mind, go ahead.

**Mr. Devinder Shory:** That's fine. I can take all of the two minutes.

Minister, thank you very much for being here this afternoon. I know as a fact that this issue of medical isotopes is your top priority and that you have been working very hard to deal with this serious issue. Thank you for that.

You have been in contact with your counterparts on this issue, and earlier we heard that it's not that the world has run out of medical isotopes; that there is still up to 60% of global supply available. I'm sure, with the early information sharing with doctors and the medical industry, doctors must have prioritized their preferences in using medical isotopes. My question is, have you received any response from your counterparts indicating that they will help fill the gap in isotope supply while the NRU reactor is down?

**Hon. Lisa Raitt:** Thank you very much for your question.

I think what I'll indicate is the actual context of my discussions on the ministerial level with our isotope-producing counterparts.

What I have done is stress with them the importance of the supply side and the demand side of the issue. As I have indicated, we've had two international calls on the matter. This morning I participated in the first discussion of the high-level group for which Canada is the chair and is driving the agenda.

This also underlines that both major producers and consumers have recognized the need to work internationally on action across a whole range of issues. One of the issues is coordinating reactor schedules to see whether there is increased capacity at reactors. We've done that, and the countries have reported back that they can increase, can ramp up.

The second aspect, though, is equally important. That is to make sure that the medical practitioners and the medical community have timely, cogent information, so that they're able to manage the supply

they do have, so that we avoid as best we can the situation that Canadians are in the dark and are worried and wondering whether they're going to have a diagnostic procedure done. Right now, the information gap is unfortunately too wide, and this international effort is about bridging that gap and having more information in the hands of the medical practitioners, so that they can communicate to the Canadian public what diagnostic procedures are available and when.

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

Thank you, Mr. Shory.

Now we go to Monsieur Malo, for two minutes.

[Translation]

**Mr. Luc Malo (Verchères—Les Patriotes, BQ):** Thank you very much, Mr. Chair.

Minister, in your presentation, you said that the reactor is old. One of Mr. Dupont's slides that he showed us earlier also clearly indicated that the reactor was old. Last December, you presented a five-point plan. When we know perfectly well that the reactor is old and all the reactors in the world are old, is it not the responsibility of the world's largest supplier to make sure that the likely shutdown of an old reactor will not result in a shortage? Would you not agree that doctors and their patients are facing a shortage because of sloppiness on the part of the government?

[English]

**Hon. Lisa Raitt:** No, I disagree that they're faced with shortages in that sense. I believe that in terms of Canada's responsibility in the world, we absolutely stepped up to the plate in the fall of this year when we produced more isotopes for the world. We recognized all too well the fragility of the global supply last year, and we're the ones who started the process of putting countries together internationally to address the matter.

In fact, Canada has shown leadership on the matter, plain and simple: we chair the committee and we've led the effort in making sure that the reactor operators speak with one another about making sure that we've produced schedules of maintenance that make sense with each other across the board.

The other aspect to remember is that we do have more reactors coming online. Australia is ramping up in order to produce medical isotopes. France is currently building. There are other proposals out there in the world as well. The reality is that the world has been planning for the turnover of medical isotopes as a result of recognizing that reactors are aging. Unfortunately, at this point we do have a shortage of medical isotopes, and we're dealing with it in the best way we possibly can, both in terms of dealing with the medical community on shortage of supply and in terms of looking to our other member states who produce medical isotopes in asking them to increase their amounts, as we did with ours in the fall.

The point is that they've said yes. They are going to be increasing capacity as they are able to, and that is a sign of leadership: when Canada asked, they have responded. That's a result of the work we've been doing since December of last year.

• (1730)

**The Chair:** Merci, Monsieur Malo.

We'll go now to Mr. Anderson for the last part of the questioning.

**Mr. David Anderson:** Thank you, Mr. Chair.

This may be more of a statement than a question, because I think we've seen today that it's easy for the opposition to activate their best hindsight and try to put words in people's mouths while talking about events they certainly did not predict and casting blame in connection with those events.

I want to quickly go over the things that we've been told today.

The government has been active over the last couple of years in opening lines of communication between the various parties, including AECL, the CNSC, the federal government, and industry. They've made arrangements in this situation for alternative supplies of isotopes. They've also made arrangements for alternative options for diagnostics.

The five-point plan is complete and thorough. I'll go over it again: getting the NRU operating as quickly and as safely as possible; trying to mitigate the short-term supply; working with other isotope producers to coordinate supply; exploring alternatives to moly-99; and encouraging alternative production sources that have been part of the Health Canada working group that was put in place to review the outage of two years ago.

There has been international participation through the international workshop on the security of supply of medical radioisotopes and the establishment of another international high-level group, which we will chair. We're moving ahead on Bill C-20 to encourage and enable investment, and the—

**The Chair:** We have a point of order from Mr. Cullen.

**Mr. Nathan Cullen:** Yes, it's just a small thing, and I hate to interrupt my friend.

You've pointed out before that when we have our presence graced with ministers of the crown, it's an opportune time for MPs of all sides to actually ask questions of pertinence to the issue, rather than give statements by members, which we have time for in the House—

**The Chair:** Mr. Cullen, you know it's up to members to decide how they're going to use their time. I think my comment was on allowing the minister time to answer, should you actually ask a question.

**Mr. Nathan Cullen:** I wasn't referring to your point earlier today, Chair. You've made this point to us many times. It just seems like such valuable time when the minister is here. If my colleague wants to make statements, he has all sorts of time—

**The Chair:** It is valuable time, and that's why we'll allow Mr. Anderson the rest of his two minutes.

Mr. Anderson.

**Mr. David Anderson:** Thank you, Mr. Chair.

I understand Mr. Cullen's frustration with this process, because he has found the government has far more things in place than he would ever have suspected or known before today.

Again I'll just mention that we're moving ahead with Bill C-20, which is important, and obviously with the AECL restructuring initiative.

I would like to thank the minister for being so willing to show up here today, for giving direction to this issue, and for providing strong leadership across this country so that Canadians can be confident we're moving ahead in a safe way with this issue.

**An hon. member:** Hear, hear!

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

Thank you very much, Minister, for coming.

The committee will suspend for a couple of minutes and come back for a very short session on where we go from here, but first, Minister, thank you very much for coming, and thank you, Ms. Doyle and Monsieur Dupont.

Do you have any short, final comment you'd like to make, Madam Minister?

**Hon. Lisa Raitt:** Thank you, Mr. Chair.

I wish the members of the committee all the best in discussing the serious matter before us with the witnesses who come forward. I look forward to seeing what comes out of the committee's deliberations.

Thank you very much.

**The Chair:** Again, thank you very much.

We will suspend for a couple of minutes while the witnesses leave, and then we'll come back for a very short in camera session.

*[Proceedings continue in camera]*





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