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Thursday, June 4, 2009

Chair

Mr. Leon Benoit

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● (1530)

[*English*]

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

We're here today to continue our study, pursuant to Standing Order 108(2), of the Atomic Energy of Canada Limited facility at Chalk River and the status of the production of medical isotopes.

We have two groups of witnesses today. The first will go from 3:30 to about 4:20. We'll shorten the period. The second will go from 4:20 to 5:15. That will leave 15 minutes for us to discuss committee business, because we have to know who we want to invite or what business we want to deal with Tuesday and Thursday of next week and beyond that. If everyone can be thinking about that so we can do that in 15 minutes and at least get next Tuesday's witnesses finalized, that would be very helpful.

We'll get right to it. From Atomic Energy of Canada Limited, we have with us today Hugh MacDiarmid, president and chief executive officer, and with him is Bill Pilkington, senior vice-president and chief nuclear officer.

Thank you very much, gentlemen, for coming today. You know well what we're here to discuss today. If you have a presentation of up to ten minutes, go ahead and make the presentation.

Mr. Hugh MacDiarmid (President and Chief Executive Officer, Atomic Energy of Canada Limited): Thank you very much, Mr. Chairman.

[*Translation*]

I'd like to introduce to you Mr. Bill Pilkington, Chief Nuclear Officer for AECL.

[*English*]

Bill will be taking us through a presentation regarding the NRU at Chalk River and the manner in which AECL intends to identify and then implement a solution for the safe return to service of that reactor.

Since our time is limited, let me just say that AECL and its people will approach the current situation at Chalk River with attention to several principles that will guide our actions.

First and foremost, we will never operate an unsafe reactor. This is our highest commitment to our employees, our communities, and all Canadians.

Second, we view the production of medical isotopes as part of our core mission for Canada, and indeed for the world. As such, we have a duty to resume production as soon as it is safe and practical to do so. We will return the NRU to service as soon as possible, with lasting repairs and every assurance of safe operation. In returning the reactor to service, we will draw on all available expertise, both internal and external, so that we apply the best minds to this issue. We will work seven days a week, 24 hours a day, where practical, until we finish the job. A professional project management approach will, as always, guide our actions.

We will act in lockstep with the Canadian Nuclear Safety Commission, our regulator, with which we continue to have an extremely constructive relationship.

Finally, we will conduct ourselves with the utmost transparency before Canadians, the medical community, our shareholder, and indeed, as requested, this committee and Parliament. Ladies and gentlemen, to that last point, let me extend an invitation to members of the committee to visit Chalk River to see for yourselves the work that is under way.

Thank you, and I would like to now turn it over to Mr. Pilkington.

Mr. Bill Pilkington (Senior Vice-President and Chief Nuclear Officer, Atomic Energy of Canada Limited): Mr. Chairman, NRU shut down automatically on May 14 due to a loss of off-site power. A decision was made not to restart due to evidence of a heavy-water leak. The small heavy-water leak, which was the cause of the extended shutdown, continues at about four to five kilograms an hour.

I refer you to slide two in the material you were given, which shows the general layout of the NRU reactor and how we manage the heavy-water leakage. All of the heavy water from the leak is being collected and stored in specially designed drums. About 20% of the heavy water evaporates and results in a monitored airborne release from the Chalk River site. As a result of the leak, tritium emissions are just above the specified action level at which AECL reports to the CNSC and to our local stakeholders and posts to the AECL website. However, these emissions are at approximately one one-thousandth of the regulatory limit.

The leak location was identified four days after shutdown, using remote camera inspection due to the extreme difficulty in accessing the location from the top of the reactor, nine metres above.

I refer you to slide three, which shows the leak location, nine metres below the access points at the top of the reactor, and shows a detailed view of the configuration of the leak location. The leak was caused by corrosion starting on the outside wall of the vessel at the base. Specifically, nitric acid formed from radiation effects on the nitrogen in air and water at the base of the vessel. Full video inspection of the base of the reactor vessel indicates one other area similar to the leak location and half a dozen other areas of concern.

I refer you to slide four, which shows the leak location on the circumference of the vessel and the five additional black dots indicating the other areas of concern. Preliminary assessment of the extent of the corrosion and available nuclear repair technologies confirms there is no immediate or simple solution. This judgment is reflected in our recent guidance of at least a three-month outage.

Slide four has three photos: number one, when the vessel was new; number two, representing the general condition at the base of the vessel; and number three, showing an area of concern. Inspection and repair activities are complex due to limited access to the leak and corrosion location and by the surface condition on the vessel walls.

We are currently removing the fuel from the reactor. We will then drain the heavy water and do non-destructive examination on the inside wall at the base of the vessel. We will select the most appropriate cleaning and repair technique, and all work must be done remotely, due to access from the top of the reactor and high radiation fields. Only when we know the extent of repair and the technique can we produce a detailed plan and schedule for the work.

In parallel with the repair and inspection, we will complete an assessment to confirm that the vessel is fit for service. We are keeping the CNSC inspectors directly involved at the Chalk River site and officials in Ottawa fully informed of all our activities. Our repairs will be sound and our fitness for service assessments will be complete and accurate in order to facilitate a CNSC decision that it is safe for the NRU reactor to return to service.

AECL is fully committed to transparency with you, the CNSC, and our stakeholders. Returning the NRU to safe, reliable operation to support medical isotope production is our primary objective.

Thank you, Mr. Chair.

● (1535)

The Chair: Thank you very much, gentlemen, for your concise report to us to start off.

We'll go now to questioning, starting the seven-minute round with Mr. Regan, from the official opposition.

Hon. Geoff Regan (Halifax West, Lib.): Thank you very much, Mr. Chairman.

Mr. MacDiarmid and Mr. Pilkington, thank you very much for coming today. It's nice to see you again.

It sounds like perhaps you're close to finishing the investigations. We keep hearing from the minister that when the investigations are completed, we'll be able to assess how long it might be out. I'm trying to assess whether, for example, the three months are really the minimum, or whether in fact it will be longer than that.

Canadian patients who are looking for diagnoses are obviously anxious to know.

Mr. Bill Pilkington: We still have more work to do to be able to complete that assessment. We have two challenges that have to be met. One challenge is to get the proper inspection equipment to the location inside the vessel where the leak and corrosion exist. We're producing special tooling to be able to deliver inspection equipment to that location, and we need to complete that inspection. We will not be able to complete all of that inspection until we have the fuel out of the reactor, and that will be at least two more weeks. The other thing is that with some inspection data we have to determine the appropriate repair technique. Once we have those two tasks done then we can put together a plan for repair and return to service.

Hon. Geoff Regan: When do you expect the investigations to be completed?

Mr. Bill Pilkington: It's hard to put a fixed date on that, but I would say that it's probably more than a week away. It's probably at least two weeks away at this point.

Hon. Geoff Regan: You're defuelling. You're moving the fuel rods. Will you have to empty the reactor vessel, or have you already had to do that?

Mr. Bill Pilkington: The sequence is that we need to take the fuel out first and then that allows us to drain the heavy water from the vessel.

Excuse me, but in my last answer, when I suggested two weeks, we may have to add that two weeks to the end of the time that we defuel the reactor, and that's a three-to-four-week exercise, which started a week ago.

● (1540)

Hon. Geoff Regan: Will you have to empty the reactor vessel of heavy water?

Mr. Bill Pilkington: At this point we believe we will. We're looking at a number of repair strategies, but given the nature of the corrosion, we believe at this point we will have to complete the defuelling and drain the vessel.

Hon. Geoff Regan: I've heard that if you have to drain the vessel then we're talking about a lot more than three months. Have I heard wrong?

Mr. Bill Pilkington: Again, I cannot give you a timeline until we have the plan.

Mr. Hugh MacDiarmid: I think it would be fair to say that three months is probably, judgmentally, looking optimistic today, but we're very reluctant to give any further guidance until we have—

Hon. Geoff Regan: I guess what I've heard is that if you have to drain the vessel it's a lot longer than three months to start off with. I'm concerned about that, and obviously Canadians will be concerned.

You made it very clear why it's difficult for you to give an exact timeline, but if the minimum you're stating is well understated, that's a concern as well, and I'm trying to gauge that, as you can understand.

Let me go on. These are questions about finding the isotopes that Canada and the world needs.

When the reactor was shut down in 2007, can you tell us how much of the shortfall was made up by other countries?

Mr. Hugh MacDiarmid: I cannot give you a precise number on that. This was in fact before either Bill or I were in our current responsibilities, so I cannot give you any number with precision at that point in time.

Hon. Geoff Regan: I have some questions on the situation with the Petten reactor in the Netherlands. Today the minister announced —and we heard it in committee the other day—that the Dutch have indicated they could increase their production of isotopes by 50%. As I understand it, the NRU at Chalk River has been producing approximately 40% of the world's isotopes. The Petten reactor has produced about 30%. If they increase by 50%, that would be 15% to replace the 40% that's gone, roughly.

Mr. Hugh MacDiarmid: Put it this way: The increase that they're going to be able to achieve, whatever that level will be, is not going to replace the production of the NRU.

Hon. Geoff Regan: My understanding is that the Petten reactor is supposed to begin a six-month shutdown in January, and it has licensing or regulatory limits on ramping up its operations. Can you tell me what those limits mean here? If it has those limits, how is it able to ramp up, and how quickly can it ramp up?

Mr. Hugh MacDiarmid: Frankly, we have been focusing 100% of our attention on fixing our own reactor. We know there are a number of officials who have been actively working with the global supply community. We're only very tangentially aware of that. We certainly do know there is a shorter outage of the Petten reactor that's planned, in fact, for this coming summer, in the next month or two. That will probably exacerbate the supply issues in the very near term.

Hon. Geoff Regan: The estimate is that Petten is shutting down for the month of July—

Mr. Hugh MacDiarmid: Yes, a four-week outage.

Hon. Geoff Regan: —and that another reactor was shutting down this summer, another major reactor perhaps. I forget whether it was in Belgium or France or where it was. These are all very old reactors that we can see more problems with.

Mr. Hugh MacDiarmid: All of which simply points to the urgency of us getting to our job and returning the reactor to service as quickly as we can.

Hon. Geoff Regan: It's difficult to figure out who exactly we should be asking about the situation in other countries, unless perhaps we can get hold of them. But if you can answer a couple of questions about the Australian reactor, my understanding is that they are still six to twelve months away from production and they've never exported any isotopes. They're designed only to supply their domestic market. In fact they've said in the past, I'm told, that to supply more they'd have to build a new processing plant, and that would take three to five years.

Are you aware of any of that?

Mr. Hugh MacDiarmid: I was certainly aware of everything you've stated up until the last point, which I had not personally heard. However, it's entirely possible that in order to be a sustained supplier into the world market beyond their own borders, they would need to build an enlarged processing plant. That timeframe doesn't seem out of line at all.

● (1545)

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

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

[*Translation*]

Ms. Paule Brunelle (Trois-Rivières, BQ): Good afternoon, gentlemen.

Mr. MacDiarmid, how long have you been the President of AECL?

Mr. Hugh MacDiarmid: For 18 months.

Ms. Paule Brunelle: In December 2007, the Prime Minister said he had appointed you to this position in order to have solid leadership. We may well wonder what is going on now: there's been the first isotope crisis, a number of shutdowns, tritium leaks, cost overruns and the current isotope crisis. To say the least, I'd say you haven't been very lucky.

What have you done since your arrival to make the supply of isotopes from CRL and the NRU secure? What concrete action have you taken to ensure that patients can get isotopes?

[*English*]

Mr. Hugh MacDiarmid: Thank you very much for the question.

The first action I took, unfortunately, was not one that headed directly to that goal. We had to take the very difficult decision to terminate the MAPLE reactor program. At the time I arrived, the plan was to move forward with the deployment of those reactors. It became evident that would not be a successful program, after a number of tests were done and a lot of analysis was done.

The first action was indeed to terminate the MAPLE program. I felt it was necessary to take that difficult decision as expeditiously as we could, because it forced us to contemplate other actions, because we were heading down a path that did not have success in sight.

Since that time we have clearly been devoting our attention to ensuring that the NRU reactor can serve as a suitable, reliable production environment for isotopes for the foreseeable future. Indeed, the very strong focus of our organization has been on developing, first of all, a protocol in conjunction with the Canadian Nuclear Safety Commission to understand exactly what would be required to obtain a licence extension for the NRU. We've been working very closely with the officials and are indeed progressing along that path.

We have also worked with government officials to estimate the activities required to fulfill those licensing requirements to extend the useful life of the NRU. Documents are in process, the fiscal 2009-2010 corporate plan of AECL and the budgetary requirements for AECL reflected, as has been reported, in the order of $70 million for isotopes, of which $47 million this year is dedicated to what we're terming the isotope supply reliability program. That is designed to ensure that the NRU is able to perform reliably throughout the next licence period beyond 2011.

[*Translation*]

Ms. Paule Brunelle: The situation strikes me as being very worrisome, to say the least. It may seem, from the point of view of members of the public who are going through some difficult medical situations, that you may have been slow in finding solutions, since we know that our reactor is over 50 years old. In light of the explanations we've just been given, I wonder whether the NRU is even going to start up again one day. Have you thought about this possibility?

MDS Nordion claims we could get the MAPLEs running, that the government made the decision to stop funding them too quickly. What do you think?

[*English*]

Mr. Hugh MacDiarmid: To that very last point, we made the MAPLEs decision based on the best available evidence we had at that time, and nothing has changed in the intervening period. We continue to believe that discontinuing that program was the right thing to do.

I should correct some misconceptions that may have come out in various media reports. The MAPLE reactors are not in hot standby mode. The MAPLE reactors are very close to being put into an extended shutdown state. I can tell you that to the best of my knowledge, even if we were to take the decision tomorrow morning, for whatever set of reasons, to try to return the MAPLEs to service, it would be many years and many hundreds of millions of dollars before those reactors would be licensable and could be put into service. It's just not a realistic option at this time.

We certainly support the decision announced by the minister to form an expert panel. We believe that all the best minds should be applied to finding the right direction to take as a country and globally in terms of providing more diversity and reliability in the global supply chain for isotopes.

My last comment is that we certainly share the sense of urgency you all feel. We're Canadians. We have family and friends who are going to be exposed to the same risks we all are. I can assure you that AECL's employees very much feel the pressure and the responsibility to return this reactor to service as quickly as we can.

● (1550)

[*Translation*]

Ms. Paule Brunelle: Mr. Chair, with your permission, I'd like to give the rest of my speaking time to Mr. Luc Malo, please.

[*English*]

The Chair: You can have one short question, please.

[*Translation*]

Mr. Luc Malo (Verchères—Les Patriotes, BQ): Mr. MacDiarmid, in your opening remarks, you indicated that the production of isotopes for medical purposes is part of AECL's core mission. So it's central to AECL. But, when we've known for many years that the NRU is old, it's having difficulties and there are leaks, how come nothing has been done over the years to ensure that AECL's core mission—as you say—regarding the production of isotopes is maintained? Why are we today in an international crisis caused by Canada's carelessness? Why hasn't the government expended the energy necessary to ensure that this element of your mission is still central to Canada's position in the world? Canada now has a tarnished reputation.

You want to make AECL the leading world supplier of nuclear products and services, but I think you've got off to a bad start.

[*English*]

Mr. Hugh MacDiarmid: I think what I really need to do is turn back to some of the comments I just made.

Until the decision was made to terminate the MAPLE program, it was very clear that the investment being made to bring that facility into service was indeed the plan AECL had to continue isotope production. So without question, our world changed when it became evident that we needed to take a different direction from that one.

We have embarked upon what I consider to be the most expeditious plan available to us: first, ensure that the NRU is suitable for service in the near term and the medium and longer terms, beyond its licence expiry in 2011; and second, as was just announced, examine fully all the alternatives that exist for a long-term isotope supply solution for Canada, and indeed the globe.

The Chair: Thank you.

Now we go to Mr. Cullen from the New Democratic Party for up to seven minutes. Go ahead.

Mr. Nathan Cullen (Skeena—Bulkley Valley, NDP): Thank you, Chair.

Thank you for being here, gentlemen.

Mr. MacDiarmid, you mentioned towards the end of one of your comments that you folks have friends and family, and you understand and appreciate the concern of Canadians when they hear the news. There's this element of uncertainty as to what treatment they will or will not be getting in the long term. I think all of us around this table share that concern. It's a tough spot you're in. You have this big reactor we've put a lot of money into, and it's shut down.

You also said that you believe that Chalk River is a secure and reliable supply of medical isotopes. I'm having problems understanding your confidence. After having put so much money into this facility, we now have a plant that's shut down for at least three months. I don't know what the upper limit could be. Some have suggested that it could be forever. I know that would not be your opinion, but it could be a long time, potentially. International supplies are sketchy, simply because this is not like buying a carton of milk off the shelf. In finding another supplier you're in competition with everyone else we've short-supplied.

Do you still feel confident in that statement that Chalk River is a secure and reliable supply of medical isotopes?

Mr. Hugh MacDiarmid: I do. I would not be supporting the efforts we have under way to be taking the steps we are to return this reactor to service if we were not confident that it was the right thing for us to be doing. It is in fact, and we've said it before, a timeless design. The reactor is indeed a fine research machine. It was destined to have a different end-of-life scenario. While the MAPLE project was under way, we were going to be taking the NRU down a path that would see it return to its roots as a multi-purpose research reactor.

● (1555)

Mr. Nathan Cullen: Maybe that's my point then, because you mentioned earlier that MAPLE was meant to seamlessly move in when Chalk River, the NRU, went down. But we cancelled MAPLE in 2006 because it just didn't seem like it was going to work out.

Mr. Hugh MacDiarmid: 2008.

Mr. Nathan Cullen: Excuse me. The decision was made. It seems to me then.... Are we not pushing this reactor? It's an old reactor. It was maybe never meant to go this long.

My question is just sort of a framework question. Are you folks in charge of understanding the national supply of isotopes? Is that one of your roles?

Mr. Hugh MacDiarmid: Supply to Canadians?

Mr. Nathan Cullen: Yes.

Mr. Hugh MacDiarmid: Really it's not our purview, because we distribute into a commercial supply chain through MDS Nordion, and our visibility really ends when we supply to them.

Mr. Nathan Cullen: I just want to know whose job that is then. Who keeps the stock or knows what's on the shelf right now and anticipates shortfalls? Whose job is that?

Mr. Hugh MacDiarmid: Indeed, there's always an opportunity for greater coordination for that, but it is certainly something that we know Health Canada officials are involved with, and NRCan officials.

Mr. Nathan Cullen: Is it Health Canada? I just want to know if there is one agency whose mandate it is to know what we've got, what we need, and anticipate shortfalls. Whose job is that?

Mr. Hugh MacDiarmid: I am reluctant to specify officials in one department versus another, but it seems sensible that Health Canada would be closest to the marketplace.

Mr. Nathan Cullen: It is the Government of Canada, though?

Mr. Hugh MacDiarmid: It is the Government of Canada.

Mr. Nathan Cullen: Maybe there are some coordination issues.

AECL was sued by MDS Nordion?

Mr. Hugh MacDiarmid: That's correct.

Mr. Nathan Cullen: Then the lawsuit is finished? They were successful in their lawsuit?

Mr. Hugh MacDiarmid: No, that's not correct.

Mr. Nathan Cullen: It's ongoing.

Mr. Hugh MacDiarmid: We're going to be vigorously defending it on behalf of the taxpayers in Canada.

Mr. Nathan Cullen: I would imagine. I hope that vigorous defence doesn't cost too much

Mr. Hugh MacDiarmid: So you should be rooting for us.

Mr. Nathan Cullen: Yes.

This $47-million isotope supply fund, is that to go out and buy isotopes?

Mr. Hugh MacDiarmid: No. I should actually let Bill respond to that, because it is indeed a program that is to prepare us for the re-licensing and for the improved reliability of the NRU. Could I ask him to make a couple of comments?

Mr. Nathan Cullen: It's to help the licensing process out, essentially, is that right?

Mr. Bill Pilkington: Licensing and other improvements to make the facility more reliable going into the future.

Mr. Nathan Cullen: So it's not a pot of money that the government has set aside to say let's go buy some isotopes in case Chalk River goes down? There is no such pot of money?

Mr. Hugh MacDiarmid: I'm not aware of one.

Mr. Nathan Cullen: That might be a Health Canada purview as well.

I'm trying to also understand, and Canadians might get confused by this.... The Minister of Natural Resources is both the regulator and promoter of the nuclear industry. Is that correct?

Mr. Hugh MacDiarmid: The Canadian Nuclear Safety Commission is the regulator of the nuclear industry.

Mr. Nathan Cullen: The regulator. And they report to whom?

Mr. Hugh MacDiarmid: I believe they are accountable to the Minister of Natural Resources.

Mr. Nathan Cullen: Okay. So the Minister of Natural Resources is the promoter, the sponsor, the cheerleader of the nuclear industry. The regulator reports to that minister always publicly, or sometimes publicly?

Mr. Hugh MacDiarmid: Frankly, sir, I don't feel that it's appropriate for me to comment on ministerial assignments.

Mr. Nathan Cullen: Sure, we'll do that in the second round.

Do we have an upper limit of how long this thing is going to be shut down? Do we have an outside figure that says if it goes past nine months...? For your average factory, if you turn the lights off for more than seven months, it gets real expensive, and I'm talking about just making widgets, never mind nuclear. Is there an upper limit where after a certain point it gets really dodgy to start her up again?

Mr. Hugh MacDiarmid: I must say that I think it would be very unwise for us to quote an upper limit, because you'll read about it in the newspaper tomorrow morning. I don't believe it would be responsible.

Mr. Nathan Cullen: There isn't an industry standard that says if you leave a reactor mothballed for more than six months, ten or twelve or eighteen...?

Mr. Hugh MacDiarmid: Bill can speak to that.

Mr. Bill Pilkington: I think that's an important point, because at no point are we mothballing the NRU reactor.

Mr. Nathan Cullen: Sorry, I used the term, but I—

Mr. Bill Pilkington: But it's an appropriate term. If you take a reactor out of service and do not maintain it for a period of time, then you're correct: the longer it's out of service, the more challenging it is to put it back into service. However, in the case of the NRU, we're actively repairing the reactor and we're maintaining it in service in a shutdown state through this whole period.

Mr. Nathan Cullen: So here's the question, the one about the MAPLEs. It seems like we put in a lot of money—was it $600 million? What was the final bill on MAPLEs? You closed the program.

Mr. Hugh MacDiarmid: For AECL, we wrote off roughly $250 million in our main estimates last year.

Mr. Nathan Cullen: And that was the total that MAPLE cost, or were there other costs?

Mr. Hugh MacDiarmid: That's what was on our balance sheet.

Mr. Nathan Cullen: It's pretty expensive. So the government was anticipating MAPLE was going to work out, because everyone said so. MDS Nordion still thinks MAPLE could work out.

All that time, Chalk River is stumbling along, doing its thing, getting into its 50-year anniversary. Did this delay the government? Since the expectation was that MAPLE would pick up, when you made the decision to shut the MAPLE line down, did this invigorate the conversation about what would happen next?

● (1600)

The Chair: Could we have a short answer, Mr. MacDiarmid?

Mr. Hugh MacDiarmid: I believe that all along there had been consideration of many different scenarios and many different options. Clearly, making the decision geared up the process to return the NRU to a longer-term isotope production facility.

The Chair: Mr. Trost.

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

My first question is about communication protocols—how you deal with a problem like this, who you inform, and why you inform them. Could you give me a brief rundown of the timeline, when it happened, who you had to inform, and why you did it?

Mr. Hugh MacDiarmid: I'll have Mr. Pilkington respond to that.

Mr. Bill Pilkington: We have several communication lines for this type of situation. When we have a forced shutdown or an unexpected shutdown of the NRU because of the loss of the off-site power, we have an obligation to inform the Canadian Nuclear Safety Commission immediately.

Mr. Bradley Trost: And you did that?

Mr. Bill Pilkington: We did that. We also have in place a communications protocol, which we put into action. This includes a decision on the apparent severity of the shutdown. That information is communicated to me by the operating staff, from me to Mr. MacDiarmid, and then, depending on the severity, it is communicated more broadly through the government.

Mr. Bradley Trost: And this plan has been revised in the last couple of years. It seems to have worked quite well this time, relative to other periods.

Mr. Bill Pilkington: Yes, we've had some practice with it. It's been in effect now for more than a year. I think it works effectively. The information gets out.

I might point out that we've recently turned our focus to communication with our stakeholders and with the public. We are now getting more information out to the public more quickly than we did in the past.

Mr. Bradley Trost: I think it shows, because this outage doesn't seem to be having as much impact on the general public as the previous one.

Going back to some of the questions you had about the MAPLEs, I was on this committee when it was discussing the shutdown. Contrary to what I've been seeing in the press, I understood that the MAPLEs had unsolved technical problems and that there was no guarantee, no matter how much money was spent, that they would work. There was a problem with the positive coefficient when they were being shut down, instead of a negative coefficient when the power was going down. Is this correct? Were there unsolvable technical problems with no guarantee of success, regardless of money spent?

Mr. Hugh MacDiarmid: "Unsolvable" is an absolute term. Certainly the reactor had technical problems that had defied solution up to that point. When we looked at the possibilities, all of them were highly risky, expensive, and lengthy. It was clear to us that it was not just the existence of a positive power coefficient of reactivity. It was that the actual behaviour of the reactor did not mirror the modelled behaviour of the reactor. For this reason, we were unable to state unequivocally that we knew what was causing the readings we got.

Mr. Bradley Trost: We didn't grasp the fundamental. The engineers and physicists weren't able to get a handle on the fundamental physics to know precisely what was going on.

Mr. Hugh MacDiarmid: In a strong safety culture, you need to know what is happening at the very guts of the device before you put it into service. We could not develop the requisite confidence level.

Mr. Bradley Trost: I'm not a nuclear engineer, and I'm definitely not close to being a specialist in isotopes or the technical things you do, but I would assume that AECL has personnel that won't be involved in the repair of the NRU. Is AECL prepared to use its personnel and expertise to help other reactors around the world to increase production? I don't know if that's possible, or if you engage in that, but are you willing? Is it even a possibility?

● (1605)

Mr. Hugh MacDiarmid: I'll certainly say from a policy level it's absolutely a possibility, and we would be more than willing. I would have to say we would balance that against the obligations we have to return our own reactor to service as quickly as possible. So I think we'd have to put the first priority on our own return to service and then making qualified people available.

Mr. Bill Pilkington: We do have a lot of knowledge and experience in the business, and parts of that knowledge base are critical to getting the NRU back online, and we'll be applying that specifically to the repairs. However, we do have additional expertise in other areas, which, if a request were made, could be available to support another producer.

Mr. Bradley Trost: And I see you've communicated that to all those who may possibly be interested.

Mr. Hugh MacDiarmid: The many government officials involved in this matter have certainly been in touch with us and they are aware we're ready to help if we can.

Mr. Bradley Trost: Just to give you a chance to clarify, you put it in there that there's no threat to the general public. Now, unfortunately, having things in the past like Three Mile Island and so forth, people have an image of nuclear reactors as being incredibly scary things. I think someone said there are 200 and some research reactors across the country, and all sorts of little ones here. Could you clarify why you're so confident there's absolutely no threat whatsoever to the general public?

Mr. Bill Pilkington: We have a highly trained and competent staff, and we have standards on the operation and maintenance of the NRU facility that have to be met that are the highest standards. All our operation is overseen by the Canadian Nuclear Safety Commission. They have inspectors onsite. We report regularly to them, and their mission is to ensure the safety of the public.

At this point, the NRU reactor is shut down. We do need to make repairs. However, the existence of the leak was detected at a very low level, and in itself presents no safety concern.

Mr. Bradley Trost: One hundred percent safe?

Mr. Bill Pilkington: Yes, the public is 100% safe.

Mr. Bradley Trost: Thank you. I believe my time is up.

The Chair: Thank you very much, Mr. Trost. Well timed.

We go now to Mr. Tonks. We will have time for a second round, about two minutes each.

Go ahead, please, Mr. Tonks.

Mr. Alan Tonks (York South—Weston, Lib.): Thank you, Mr. Chairman.

This may not be the question for these witnesses, but I think it's a question that has to be considered. Looking at the extent of the metal fatigue with respect to the reactor, the scenario might be that the ability to repair this in the short term will prevent the meeting of the domestic isotope requirements from a health care perspective. We are told that 100% of the isotopes from this reactor go outside the country and 10% come back. Someone has to look at the technical capacity to take the McMaster reactor and the domestic concern to be served first. And that 10% in the shorter term.... I'm not talking about our international strategy and future marketing and so on, but meeting the needs of Canadians in the shorter term. It comes after Mr. Trost's question about giving help to others. Could AECL ramp up that technology, or are there shortcomings in that reactor similar to the NRU? Could we go into a strategy in the shorter term to meet our 10% domestic requirement by ramping up the McMaster reactor?

The Chair: Once again, a short answer, please.

Mr. Hugh MacDiarmid: As usual in our business, it's a complicated answer, but I'll make it as short as I can.

We have had discussions with McMaster officials. There are some logistical issues that aren't really related to the reactor as much as transporting various materials around the GTA to get them to the processing, which would need to be done at the Nordion facility in Kanata. To the extent it is possible, we're certainly supportive.

● (1610)

The Chair: Thank you.

Thank you, Mr. Tonks.

We go now to Mrs. Gallant, for up to two minutes. You have time for one short question.

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

Did you say two minutes or five?

The Chair: I said two.

Mrs. Cheryl Gallant: The most recent shutdown occurred as a consequence of a power outage. We recently had an issue with getting the second battery backup. With all these in place, why did the reactor still go into shutdown, even though we had the battery backup system?

Mr. Bill Pilkington: Although we have backup power supplies, they are only capable of maintaining NRU safe in a shutdown state. The NRU actually consumes quite a bit of power in its operation, and we do not have electrical backup capability to allow it to continue to operate when we lose off-site power.

Mrs. Cheryl Gallant: It seems that once the reactor had gone into shutdown, we observed a leak. How do we know that the leak wasn't going on prior to the shutdown?

Mr. Bill Pilkington: That's a good question.

Our monitoring for leaks is completely independent of whether the reactor is operating or shut down. We're able to detect leaks by detecting tritium at very low levels. Our systems are very sensitive, and whether the reactor is operating or shut down, we can detect leaks at very low levels. If we have to actually go and do a lot of inspections because there's a leak, then we have to be shut down to do that.

Mrs. Cheryl Gallant: Are these types of leaks common among other major isotope-producing reactors?

Mr. Bill Pilkington: I can't exactly answer that. We're somewhat unique, or are at least in a small family, because we operate a heavy-water-moderated reactor. It allows us to be very versatile; however, it also allows us to detect very small leaks. I really can't speak to other reactors, but generally I would say the leaks are not common, but they do occur.

Mrs. Cheryl Gallant: So by virtue of using heavy water—

The Chair: Thank you, Mrs. Gallant.

We go now to the Bloc Québécois, to Monsieur Malo, for up to two minutes.

[*Translation*]

Mr. Luc Malo: Thank you, Mr. Chair.

Mr. MacDiarmid, in the reply you gave awhile ago, you told us that the MAPLE was supposed to replace the NRU for the production of isotopes for medical purposes. When the MAPLE project ended, for all intents and purposes, it meant that within a short time Canada was going to stop being a major world producer of isotopes.

So why didn't you contact your international partners to tell them about the new Canadian position and ask them to produce more isotopes, to find ways of producing more and accelerating the new technology projects, since, if we take a look at the new, future technologies, we see that not one of them is Canadian? Why this silence?

[*English*]

Mr. Hugh MacDiarmid: I would say, first and foremost, our primary obligation is to produce isotopes in the facilities we have at our disposal, and that's what we set about to do. It is not really our place to be out stimulating other production in the context of our commercial arrangements with MDS Nordion. In fact, it would be MDS Nordion that would have the contractual right to be looking for additional sources of supply in the event that we were unable to supply them.

[*Translation*]

Mr. Luc Malo: You say that the production of isotopes for medical purposes is part of AECL's core mission, that the plan was for the MAPLE to make this possible and that the NRU was, for all practical purposes, in its final days.

How can you reconcile all these elements and say that your concern, basically, was people's health, since you've just told us that you were motivated by commercial considerations, and not by the concern to make sure that local people who had to undergo tests had available everything necessary for these tests to be carried out by health professionals?

● (1615)

[*English*]

Mr. Hugh MacDiarmid: I operate within a field of play that is defined by very specific boundaries, and those boundaries are the policy direction of the Government of Canada. They are the regulatory framework we operate within, the funding that is made available to me, and very importantly, the contracts that I have of a commercial nature. When I look within that, that's what guides my behaviour.

I can assure you that our goal, within those constraints, is to be as reliable a supplier of isotopes as we can, and to operate the facilities we have as effectively as possible, while being safe.

[*Translation*]

The Chair: Thank you, Mr. Malo.

[*English*]

We go now to the government side, to Mr. Allen, for as much time as you would like, up to two minutes.

Mr. Mike Allen (Tobique—Mactaquac, CPC): Thank you, Mr. Chair. You're always generous to me. I appreciate that.

Gentlemen, thank you for being here today.

Mr. MacDiarmid, you said in your remarks, “We will return the NRU to service as soon as possible, with lasting repairs and every assurance of safe operation”. I'm always concerned, having some experience in project management, about scope creep. As part of your management of this situation, how will you manage that? As you're looking at the reactor and looking at things, does “lasting repairs“ mean you're going to identify other things, or are you going to go right after these specific issues as part of this project and deal with other stuff later on?

Mr. Bill Pilkington: I will speak to that, Mr. Chair.

We have put a project team together to specifically address the repair and return to service of NRU. They will be selecting repair strategies in order to provide for long-term, reliable operation.

Having gone to the effort of shutting down and the effort that will be required to do the inspections and assessment, we need to have a long-lasting repair. To do a very short-term repair and have to return again in the near future wouldn't make sense.

While we're doing this work and while we're shut down, we will in fact be undertaking other improvements. But our primary mission is to bring the NRU back to service, and we are not going to allow any of the other work that we undertake to in any way lengthen or interfere with the critical path back to operation.

Mr. Mike Allen: If I understand you correctly, then, if it's a necessary repair as part of taking out the fuel and draining the heavy water, that will be done. However, if it's something sort of ancillary and you think we can put that off, you will put that off.

Mr. Bill Pilkington: Yes. We have a lot of improvement work to do in order to renew the operating licence in 2011, so we'll be undertaking some of that work, but at no time will we allow any other work to interfere with the primary repair of putting the NRU back into service.

The Chair: Thank you very much, Mr. Allen, and thank you, Mr. MacDiarmid and Mr. Pilkington.

Yes, Mr. Regan.

Hon. Geoff Regan: Mr. Chair, I wonder if members of the committee would agree to have another round with the folks from AECL. The key questions here for today's witnesses are really surrounding the work of AECL and the NRU. Perhaps committee members may have concerns about the safety issues, and there may be some, but I think the primary concern is the production of isotopes. I wonder if members would agree to that.

The Chair: Mr. Anderson, then Mr. Cullen.

Mr. David Anderson (Cypress Hills—Grasslands, CPC): I'll let Nathan go ahead.

Go ahead, Nathan.

The Chair: Go ahead, Mr. Cullen.

Mr. Nathan Cullen: I have one suggestion that might work. I was finding myself thinking that there's so much connection between the two sets of witnesses today that we do need to hear the presentation from the folks from the CNSC. I'm wondering if we could keep the AECL folks at the table and members could then choose, because there are one or two follow-ups, but there are connections between. We've done this in committees before, when there's an obvious connection between sets of witnesses. Sometimes the answer doesn't exist within one group and you can turn to the other. It helps committee members, and I think witnesses as well, to understand.

I make that suggestion to the committee, to follow up Mr. Regan's suggestion.

The Chair: Mr. Cullen, we have scheduled these witnesses to come here separately today, and we should stick to that agenda. In terms of the time, too, we should stick to the agenda, unless we can get unanimous consent.

Mr. Anderson.

● (1620)

Mr. David Anderson: If these folks want them back again, we can invite them back, but we're on limited time here. We had an agreement that at 5:15 we would go in camera, and I think CNSC is an important witness as well. I think we should hear from them, and if the committee wants to invite these folks back, we can do that later.

The Chair: Okay.

Mr. Cullen.

Mr. Nathan Cullen: Mr. Chair, I don't think anyone's suggesting extended time or anything like that, and we're not suggesting the witnesses, the other ones, go away. I just think there can be easy collaboration. They've just got to shift a couple of chairs over and we can hear the next presentation and go on with it. I don't see any major problem or reason for why not. It doesn't cause any harm.

The Chair: They were scheduled to come separately, and it will remain that way.

Now, whether we extend the time.... Mr. Regan, I think you have something to say on that.

Hon. Geoff Regan: Yes, Mr. Chairman.

Given the importance of this issue to Canadians, it shocks me that the government would want to shut down part of this and limit it. These are critical witnesses on an issue of great concern to Canadians. We've only had them for one hour. We've had a very short time for questions. I'm not looking for a lot more time, but I think Mr. Cullen has made a very reasonable suggestion in terms of how to deal with this, and I can't understand why the government would not agree, unless it wants to shut this down.

The Chair: Mr. Regan, as you would know, I think we have a total of four days left for committee till the end of this session. Various members of the committee invited 30 witnesses to be heard on this issue alone. How do we do that if we don't keep the time they're at the committee to a reasonable length? It's a balance, and it's a tough thing to do.

I think we should stick to our schedule. We've agreed. The notice was for this amount of time. As Mr. Anderson said, we can invite them back.

Thank you very much, gentlemen, from Atomic Energy of Canada Limited. Thank you for your help to this committee and the information you've given today.

We will suspend for just two minutes, if we can make the switch as quickly as possible, and we'll have our next witnesses, from the Canadian Nuclear Safety Commission, come before the committee.

● _____ (Pause) _____

●

● (1625)

The Chair: We will reconvene this meeting.

For the second segment of this meeting, for about 50 minutes, we have, from the Canadian Nuclear Safety Commission, Michael Binder, president, and Peter Elder, director general of nuclear cycle and facilities regulation.

Thank you very much, gentlemen, for coming this afternoon. I'm looking forward to what you have to say and to hearing your answers to the questions.

Go ahead.

Dr. Michael Binder (President, Canadian Nuclear Safety Commission): Thank you, Mr. Chairman.

[*Translation*]

I am happy to be here to discuss with you the role of the Canadian Nuclear Safety Commission, especially with regard to Atomic Energy of Canada Limited, since the recent shutdown of the National Research Universal reactor.

[*English*]

This is the third opportunity I have had to appear before this committee in less than a year, the most recent previous occasion being on February 24, 2009, to discuss a heavy-water leak from the NRU in December 2008.

I am sure that by now members of the committee are quite familiar with the CNSC, but I would like to take this opportunity to remind members of a few key points.

The CNSC is Canada's only nuclear regulator, and nuclear regulation is exclusively a federal jurisdiction. The CNSC is an effective and independent regulator. It is a quasi-judicial administrative tribunal that operates under the Nuclear Safety Control Act. Its mandate is very clear: it regulates for the protection of health, safety, and security of Canadians and the environment, and as well it respects Canada's international commitments on the peaceful use of nuclear energy.

The commission's decisions are final and binding. They are subject to review only by the Federal Court, and not by the government. When making its decisions, members of the commission take into account all relevant factors without compromising safety.

The CNSC's regulatory scope stretches from nuclear power reactors to uranium mines and mills, from fuel fabrication facilities and waste management to nuclear substances and radiation devices, and to many other facilities and activities in between.

How good Canada's nuclear regulatory framework is and how well we are doing as a nuclear regulator is currently being assessed by a team of 20 international experts from 13 countries, under the auspices of the International Atomic Energy Agency. These experts arrived in Canada last Sunday and will wrap up their activities on June 12. They will be visiting many sites across Canada during their stay. They will release a publicly available, comprehensive report sometime in the fall.

Let me turn to the ongoing outage of the NRU. To quote Mr. Richard Meserve, the chairman of the International Nuclear Safety Group and the former chairman of the U.S. Nuclear Regulatory Commission, “Guarding against the rare but possibly catastrophic accident requires eternal vigilance and a never-ending fight against complacency”. This is what the CNSC does.

CNSC staff are located and work on-site at Chalk River Laboratories and oversee all licensed activities that AECL conducts with respect to the NRU. These activities include the import of nuclear material to CRL, which is irradiated in the NRU, then removed and processed to extract molybdenum-99. The CNSC also oversees the transport of the moly-99 from CRL to MDS Nordion in Kanata, Ontario.

With respect to medical radioisotopes, the CNSC issues licences for the production, processing, transport, import, export, and possession of medical isotopes.

Health Canada regulates the use of biologics, which include radioisotopes and radiopharmaceuticals. CNSC staff is ready to consider and respond quickly to requests from licensees for licence amendments to possess increased quantities of alternative radioisotopes, such as thallium-201.

It is important to understand that CNSC is not responsible for making sure that there is a sufficient supply of isotopes. The CNSC is, however, responsible for making sure that, whatever isotope is being produced, it is done in a safe way.

Following the tripping of the reactor on Thursday, May 14, 2009, the CNSC was informed by AECL on May 15 of signs of a heavy-water leak from the NRU. AECL decided to keep the reactor shut down, and CNSC agreed with this decision.

Later in the day, AECL reported to the CNSC and posted a bulletin on its public website regarding the presence of a small heavy-water leak, indicating that the reactor was safely shut down and that the leak posed no threat to workers, the public, the environment, or nuclear safety.

● (1630)

AECL also noted that the heavy-water leak rate was approximately five kilograms per hour and that virtually all heavy water was being captured and stored in drums. However, a small amount of that heavy water has evaporated and continues to evaporate, resulting in releases of tritium to the environment through the NRU ventilation system. These releases have been and remain well below CNSC regulatory limits and do not pose a risk to the health or safety of the public or our environment.

I would like to note that AECL demonstrated an adherence to good safety culture practices by keeping the NRU safely shut down until the source of the leak was identified. As AECL determines the course of future action regarding the leak, the CNSC will exercise our mandate and oversee AECL's activities, in the interest of protecting health, safety, and security of the public and our environment.

Turning toward the future of the NRU, CNSC and AECL have a formal protocol for the 2011 licensing of the NRU that defines the regulatory requirements, including a schedule of submissions. The first major submission from AECL will be an integrated safety review intended to identify the necessary improvements to the NRU to support an application for a further possible ten years of operation. This submission, planned for March 2010, will include a complete assessment of safety-related equipment and components in the NRU, including the reactor vessel. AECL will then submit an overall safety case for the re-licensing of the NRU in January 2011, and the commission will hold public hearings in the second half of the year to consider such an application.

In our previous appearance before you, both CNSC and AECL promised to review and improve the release of public information. This was demonstrated by the proactive information disclosure by both organizations about this current event.

AECL has continued to keep the CNSC, the government, and the public informed, throughout the investigation process and now as it prepares to respond. The CNSC has made available on our website all relevant information on the NRU going back to November 2007. Let me assure you, our interest is clear: making accurate information available as broadly as possible and as quickly as possible.

As per our regulations, this leak is a significant event, and as such it must be reported to the commission. Further, AECL is scheduled to appear before the commission on June 11, 2009, at a regularly scheduled public hearing. CNSC staff and AECL will present a significant development report to the commission at that time, including the most recent information on the NRU. That meeting will be broadcast on our public website. If members of this committee aren't able to make it to 280 Slater Street to attend the meeting in person, I encourage you to take it in virtually.

To conclude, the shortage of medical radioisotopes is obviously of great concern to Canadians. As far as the CNSC is concerned, the self-imposed safe shutdown and continued outage of NRU by AECL as a result of a heavy-water leak represents a strong adherence to good safety culture. CNSC is ready and able to consider any proposal for the safe return of operations of the NRU or any other isotope-producing facility.

Thank you.

● (1635)

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

We'll go now directly to the questioning, to Mr. Regan for up to seven minutes.

Hon. Geoff Regan: Thank you, Mr. Chair.

Thank you, Mr. Binder and Mr. Elder, for coming today.

Mr. Elder, were you here before?

Mr. Peter Elder (Director General, Directorate of Nuclear Cycle and Facilities Regulation, Canadian Nuclear Safety Commission): No.

Hon. Geoff Regan: Mr. Binder, it's nice to have you here again.

I want to ask about the MAPLE project. Obviously you were following it and were involved with overseeing that development. It's not by any means clear to me what went wrong and what should or shouldn't happen in relation to the MAPLEs, but I certainly think it is the responsibility of MPs to ask questions about this.

They were, as I understand it, designed to provide basically 100% of world supply of isotopes. My understanding is that MAPLE-1 actually did make isotopes, but they had not been extracted when it was shut down. Is that accurate?

Dr. Michael Binder: Not to my understanding. Again, I just arrived early in 2008. My understanding is that it never did actually succeed in producing isotopes.

Hon. Geoff Regan: My underatnding is that some people would say producing would mean the extracting part. Right? I think maybe that's where the distinction is.

Mr. Elder wasn't there earlier? Can he not answer this question?

Mr. Peter Elder: I wasn't directly involved in the MAPLE reactors at that stage, but had been involved earlier. To my knowledge, they had never actually put in the targets that produce the medical isotopes. It was just the driver fuel, the normal fuel that had been tested for commissioning tests.

Hon. Geoff Regan: All right.

My understanding is that the U.S. National Academy of Sciences has suggested that if AECL can't fix the MAPLEs, maybe they should bring someone else in. You're following this; you have expertise at the CNSC. Is it your sense that AECL might lack the expertise to make the MAPLEs work in a predictable fashion?

Dr. Michael Binder: As I'm trying to explain, our mandate is just to make sure whatever they do is done in a safe way. They were experimenting with the MAPLE and tried to make it work and every step of the way our goal was to make sure that whatever experimentation they were conducting was according to standard and being conducted in a safe way. We were not involved in their decision eventually to abandon the project.

Hon. Geoff Regan: As you can imagine, we look to people who have expertise in this area, and clearly you're one of the organizations in this country that does have expertise in this area. That's why I would be posing those questions to you.

Dr. Michael Binder: But our expertise is really based on safety culture and safety cases. It is not really on actually producing, if you like, isotopes.

Hon. Geoff Regan: But it's nuclear safety, and you're very involved with what happens with the nuclear reactors across the country.

Is it true that one of the problems here was that it was designed to have a negative power coefficient and when it was operated it ran with a slightly positive power coefficient? As I understand it, it's true that some CANDU reactors actually do operate with a positive coefficient, but the issue is the predictability. Is that right? Could you comment on that?

Mr. Peter Elder: The issue is not whether, necessarily, there's any problem with a positive coefficient. It was a mismatch between the predicted in their safety case in the computer codes that said it should be negative and the actual measurements in the reactor that turned out to be positive, which means there was something in those computer codes that was not modelling what was really happening in the reactor.

It is very important, certainly in a production reactor like the MAPLEs were, that you fully understand the neutron physics of what's going on all the time through the process. So it wasn't the fact that it was positive or negative. It was the fact that there was a difference between the prediction and the actual.

● (1640)

Hon. Geoff Regan: I must tell you, I would have liked to have asked those questions to the folks from AECL, because there's no reason for me to think they lacked the expertise to deal with that, and those are important questions to ask.

Thank you, Mr. Chairman.

The Chair: You still have two and a half minutes, if anyone else from the Liberal Party would like to ask a question or two.

Mr. Tonks?

Mr. Alan Tonks: Thank you, Mr. Chairman.

Mr. Binder, thank you and your colleague for being here.

Looking at the degree of the metal fatigue in the NRU, have officials been to also parallel the investigation AECL is carrying out on the NRU?

Dr. Michael Binder: Absolutely. We have staff on site who monitor and participate in practically every inspection and every review. In addition to that, the licences are awarded for five years, and every time the licence is up for renewal, review is required. So in 2006 there was an extensive review.

Mr. Alan Tonks: From the experience of the regulator, on first observation with respect to the extent of this metal fatigue, would you venture that this is beyond a reasonable time response? This looks to a layperson like very serious base metal fatigue. Is it possible this is beyond the reasonable time with respect to repairing the damage?

Dr. Michael Binder: Let me respond by saying that I keep hearing people referring to an aging, creaky, leaky NRU production, but there is no real set time for some of those reactors. If you look at what's happening in power reactors, they're being refurbished and put in place. Some of them are running for 60 years, and people are arguing that they may run for 100 years.

The way to do it is to continue to improve safety. If there is any problem, you replace it. That's exactly what AECL will have to determine, the extent of.... It's not the aging; it's a corrosion. There's some real reason for this particular corrosion, and they have to determine the extent of this corrosion.

Mr. Alan Tonks: I suppose it's not a fair question to say that it's not comparable to making a decision about getting on an airplane with a wing that was corroded.

Dr. Michael Binder: That's right. If I saw a wing that was being corroded, I wouldn't go on that airplane.

Mr. Alan Tonks: Okay.

Thank you, Mr. Chair.

The Chair: Thank you, Mr. Tonks.

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

[*Translation*]

Ms. Paule Brunelle: Thank you.

Good afternoon, gentlemen.

Mr. Binder, it was a power outage that revealed the reactor's operating problems. A closer examination revealed more serious problems yet. Why did you grant a licence for the NRU reactor?

Are there permanent personnel from the Canadian Nuclear Safety Commission at Chalk River to check the reports and facilities? Tell me how this works.

Dr. Michael Binder: Eight people live and work there to provide all necessary supervision.

Ms. Paule Brunelle: How do you explain that no one saw what was happening? The corrosion is very extensive, after all. Does this make you think you should change your checking procedures? Does it cause you to ask yourself any questions about your work?

Dr. Michael Binder: You must understand that it is not easy to get into the reactor to do checks. It's not like a car.

Ms. Paule Brunelle: It's very energizing.

Dr. Michael Binder: It's far. The work must always be done from a distance. It's hard. Still, from time to time, we tried to check whether each part of the reactor was operating properly. Occasionally we found things that needed improvement.

● (1645)

Ms. Paule Brunelle: In terms of communications, you say you want to provide accurate information, as extensively as possible, as quickly as possible, but it seems to me, as my mother used to say, that an ounce of prevention is worth a pound of cure.

Could you take more measures from now on so that the reactor doesn't deteriorate to the point where it has to be shut down for a few months? We don't even know whether we might have to shut it down for good. Can this sort of thing be foreseen, given the reactor's age?

[*English*]

Dr. Michael Binder: It's important to remember that in 2006, when AECL came to ask for a licence renewal for five years, we had done a comprehensive review of all the components and all the safety. You will remember those upgrades and those backup powers. They all came from that review.

We are continuously trying to improve this facility to make sure that it is working as safely as possible, so the answer is yes, we are trying to do this. When they have to come for the new renewal in 2011, they'll have to show us all the things that need to be improved in order for us to agree that it's safe to allow them to operate beyond 2011.

[*Translation*]

Ms. Paule Brunelle: Do the extended shutdown of the reactor and all the work involved cause you to reconsider the renewal or extension of this licence? If I represented the Canadian Nuclear Safety Commission, I'd be asking myself a lot of questions.

Dr. Michael Binder: We're going to look at a good number of questions. We've signed a protocol. A lot of projects and information are going to be submitted in August, and these will have to comply with all the required conditions. Public hearings will then be held, and this will enable a lot of people to ask questions.

Ms. Paule Brunelle: Do you use a procedure that allows you to specify that the seriousness of a situation is level 2, 3, 4 or 5, for example? How do you measure the situation at Chalk River? Do you use codes that indicate that the situation should be checked or is very alarming, for example?

Dr. Michael Binder: Yes. Every time there's a cause of action, we examine each part, each stage, very carefully.

Ms. Paule Brunelle: If I understand your answer correctly, you believe that this whole situation at Chalk River does not require you to change your procedures. You think that they are perfectly all right and you're not afraid of future heavy water leaks or other major problems.

[*English*]

Dr. Michael Binder: No. Right now we have discovered this corrosion issue. Now AECL will have to determine the extent of the corrosion. If they come up with a solution on how to repair the vessel, they'll have to come to us and prove to our satisfaction that they can power it up safely. We will be working with them to make sure that they understand what we need to make sure that whatever they do will run safely. So yes, there's a lot of work to do right now to convince us that they can restart it safely.

[*Translation*]

Ms. Paule Brunelle: Thank you.

Do I still have time?

[*English*]

The Chair: You have two minutes. Actually, no, you have one minute and ten seconds.

Go ahead.

[*Translation*]

Mr. Luc Malo: Good afternoon.

In your presentation, you said that the heavy water that evaporated and that continues to evaporate does not really constitute a danger for the population, since these are minute quantities that are involved. Have you ever observed times in the past when large quantities of heavy water escaped that might have been a threat to public health and the environment? In view of the events we are going through at present, do you consider that a reactor that is over 50 years old can still remain safe in the long term?

● (1650)

Dr. Michael Binder: In answer to the second question, the answer is yes, as long as were convinced that all the improvements that should be made are really going to be carried out.

Mr. Luc Malo: For the time being, you're not convinced.

Dr. Michael Binder: Absolutely not.

[*English*]

We will not prejudge the outcome. They will have to come to us with an extensive safety case that says that continuing with this machine is safe.

Just so everybody understands, if we for one second believe that this machine is unsafe, we will shut it down. Just so everybody understands, that's our mandate. Our mandate is purely safety. If they cannot come up with a safety case, our responsibility is to shut it down. So what they have to do is worry about how to satisfy the commission that they are doing everything possible to keep the machine running.

The Chair: Merci, Monsieur Malo.

We'll go to Mr. Cullen for up to seven minutes. Go ahead, please.

Mr. Nathan Cullen: Thank you, Chair.

Thank you, gentlemen, for being here.

I want to sort of go to that last point you made, sir. You report to the Minister of Natural Resources, is that right?

Dr. Michael Binder: I'd like to correct this. I report to Parliament—to you—through the Minister of Natural Resources. She deposits our annual budget and so on, because I cannot do it.

Mr. Nathan Cullen: Is everything you report to the minister made public?

Dr. Michael Binder: All the public information associated with our business is posted on our website.

Mr. Nathan Cullen: You said that when the machine is unsafe, you shut it down. Is that what happened prior to Christmas in 2007?

Dr. Michael Binder: I wasn't here, so that's really difficult in hindsight.

Mr. Nathan Cullen: Yes, but there is....

Dr. Michael Binder: There was a disagreement.

Let me tell you. We did a Talisman report on lessons learned from what happened in 2007 that caused this problem. They came up with 60 recommendations, but you can boil it down to basically three: they said that they didn't have a good tracking record; the licence was not clear, so there was a debate between the licensee and the regulator; and they weren't communicating properly. Therefore, there was disagreement about what the problem was.

Mr. Nathan Cullen: But the regulator of nuclear safety in Canada, you—I don't mean you specifically, but your organization—decided to shut things down in 2007.

Dr. Michael Binder: My understanding, and I wasn't there, is that the AECL shut itself down. The commission has never rendered a commission decision. As a commission, they never issued the decision about opening or not opening it.

Mr. Nathan Cullen: Then the minister at the time overrode AECL's decision or your organization's decision? I'm confused. The regulator comes in and says it has concerns. You are the regulator, your organization. Whenever I say “you” from now on—

Dr. Michael Binder: I understand.

Mr. Nathan Cullen: Don't worry, don't take it personally. Anyway, you suggest you have concerns. AECL shuts itself down because the regulator of safety says there are concerns. The minister then tells you to open back up again.

Dr. Michael Binder: My understanding of what happened was that AECL proposed to reopen, to restart, and there was a kind of a leaning of the regulator towards allowing them to reopen. But how the mechanism of this reluctance was transmitted wasn't formal and wasn't through the normal commission work. You have to understand that normal commission work is a public hearing. We issue a decision in writing, and that's the law of the land.

Mr. Nathan Cullen: It's fascinating. The way we've set things up in Canada is that, although the departments are somewhat separate—you exist separate from AECL and AECL, in some technical terms, sits separate from the minister—in the end it's all in one box. The Ministry of Natural Resources has authority over both the regulator and the provider of nuclear energy and isotopes and is also the promoter of nuclear energy and isotopes—all in one happy little box.

It's interesting that this isn't as formal as one would think. There was a dispute and Linda Keen got fired. The government said to restart because it was life and death, but now it's not, for some reason. With all of that mingled together, and with the government now saying it would like to privatize AECL, it prompts the question: if a little light goes off in Pickering next week, is there going to be pressure on the regulator not to get too excited about it because the government's trying to sell the thing?

● (1655)

Dr. Michael Binder: I have to disagree. I feel very independent, just so you know. I and the commissioners—

Mr. Nathan Cullen: So did your predecessors.

Dr. Michael Binder: —feel very independent. I have absolutely no reason to believe that the government would interfere with our business, because they can't.

Mr. Nathan Cullen: Did they not before?

Dr. Michael Binder: The only thing they can do is remove me from the presidency, but I'm still a commissioner, a permanent commissioner.

Mr. Nathan Cullen: Did they not interfere with Linda Keen's work?

Dr. Michael Binder: I'm talking about the commission business. The commission business is totally independent of the government.

Mr. Nathan Cullen: But the government can fire you.

Dr. Michael Binder: That's right, but I'm only one commissioner out of seven. In fact, in some of these decisions I don't even vote. It's the independent commissioner who actually renders the independent decision, and that stands.

As an aside, the Obama administration came in and replaced the chair of the nuclear regulator in the U.S. and the chair remained as a commissioner.

Mr. Nathan Cullen: Yes, but the Obama administration did not fire that chair in the midst of a shutdown in a life-or-death situation that ended up in the middle of Congress. This ended up in our Parliament.

However, I don't want to spend all my time in 2007. Did you have any concerns before the Chalk River facility shut down this time? Did your agency express anything in memos, in any reports leading up to the leaks and the shutdown?

Dr. Michael Binder: No. We continuously, on a daily basis, monitor activities on site through our staff. Anything untoward is reported instantly.

Mr. Nathan Cullen: So you didn't see this one coming?

Dr. Michael Binder: No.

Mr. Nathan Cullen: That's worrisome.

Dr. Michael Binder: Not really. This is a very complicated machine. The point here is that whatever happened did not have a safety impact on the population, the workers, or the environment.

Mr. Nathan Cullen: This time.

Dr. Michael Binder: This time. And last time.

Mr. Nathan Cullen: But what about next time?

Here's my point: you felt the operation was doing okay, and it shut down again, leaked again, third time in two years, and yet there seems to be a lot of calm and dismissiveness about the idea of losing heavy water at a rate of five kilograms an hour. It's being collected in barrels. Is that correct?

Dr. Michael Binder: Yes.

Mr. Nathan Cullen: What does it do after it goes into the barrels? What eventually happens to it?

Dr. Michael Binder: It's just stored there, until they decide whether they want to reprocess it or dispose of it in any other way.

Mr. Nathan Cullen: And disposal can mean...? The last time, they put it into the river.

Dr. Michael Binder: The last time they went through the normal kind of treatment.

Mr. Nathan Cullen: Which didn't mean anything, because we had them in front of us and I asked them what treatment meant, and it meant hanging on to the stuff for a while—and then they poured it into the river.

Dr. Michael Binder: They don't pour it. It goes through the waste facilities, which make sure that whatever is released in the water is within standards.

Mr. Nathan Cullen: It's heavy water, correct?

Dr. Michael Binder: Yes.

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

Mr. Trost, for up to seven minutes.

Mr. Bradley Trost: I'll be splitting my time with Mr. Anderson.

I just have a couple of basic questions, which I essentially asked of AECL, but which I feel are useful, given our limited time, to get to the very basics.

In your opinion, did AECL handle the matter safely, properly, and in accordance with the regulatory guidelines the CNSC has set down?

Dr. Michael Binder: In this particular last event?

Mr. Bradley Trost: Yes.

Dr. Michael Binder: Absolutely.

We were informed, and our protocol worked. Within hours of this event, even when the operators were suspicious of this particular leak, they were already talking to our staff. They've taken it upon themselves to shut down the reactor and to keep it shut down so they can actually try to find where the leak came from.

Mr. Bradley Trost: Now, as you said, you're not really concerned with isotope distribution; that's more of a health problem or issue. But as far as the safety of the general public is concerned, we just heard the AECL representative say it's 100% safe for the general public. Is that an opinion you and your organization share, that there is absolutely no risk or danger whatsoever to the general public due to the shutdown, the leaks, and all of the things surrounding it?

Dr. Michael Binder: If I understand correctly, if you're asking in general whether AECL is running—

● (1700)

Mr. Bradley Trost: Right now, with Chalk River, the shutdown, and everything involved, was there any risk to the general public? Or has it been handled so it has been 100% safe for the general public?

Dr. Michael Binder: Absolutely.

It is in a shutdown. Normally, by definition, a shutdown is a safer state than when the reactor is running.

Mr. Bradley Trost: Just to elaborate a little bit more, you noted that the communication protocols worked very well. My understanding is that they've been revised in the last 18 months, since the last major shutdown incident. So these are new or revised protocols that have been put in place in the last 18 months, roughly.

Dr. Michael Binder: That is correct. We have put in a protocol for proactive disclosure to try to inform all agencies, us, and the public of any particular issue that would be of concern.

Mr. Bradley Trost: I'm very glad to hear things are running much better than they used to, due to CNSC, AECL, and the government all taking proactive steps.

I'll turn the rest of my time over to Mr. Anderson.

The Chair: Thank you, Mr. Trost.

Mr. Anderson, go ahead. You have over four minutes.

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

I'm just wondering if you could explain a little bit more your role in this shutdown. Where do your folks spend their time? What do they do in their role? I understand they're removing fuel rods and they'll be draining the heavy water. Are your people on site? What do they actually do?

Dr. Michael Binder: I'll ask Mr. Elder to elaborate, but they are actually there, observing this and talking to them. They are involved in the various committees that are making decisions, etc. So for anything that's done outside the normal routine, our inspectors are there and involved in it automatically.

Mr. Peter Elder: Just to provide some idea of what they do on a regular basis, one, they observe the inspections AECL has done. As was pointed out, this part of the reactor is very hard to get at; it's done remotely with cameras. We don't put our own cameras in, but we just watch what AECL does and we do our own analysis and detailed review of what comes out of those inspections.

We also do some oversight inspections, making sure that AECL continues to follow the international and national standards that are in their licence. We observe AECL's decision-making process. We sit in on meetings as observers. We're allowed to ask questions. We don't participate in those meetings and don't participate in the decisions, but we do actively ask questions and make sure they are looking at the full safety picture in any decisions they make.

We also have daily meetings, both with AECL management and the technical staff, on future plans. So we are looking at how they are considering repairs; what the repair options are, and if there are any safety issues related to those options; and also the monitoring of the environmental releases. While they remain very low, we are constantly in contact with them to make sure they remain well within the safe area.

Mr. David Anderson: You mentioned the international standards. I did want to ask you a couple of questions about the international assessment that you mentioned in your presentation. They're going across Canada. How many reactors do you oversee?

Mr. Peter Elder: There are twenty power reactors in Canada operating or undergoing refurbishment, and there are five small reactors at universities, plus NRU, plus a number of decommissioned reactors. The team is also looking at how we regulate uranium mining and the use of medical substances, as well as the other processing facilities associated with production of nuclear fuel.

Mr. David Anderson: What standards are they using in their assessment? Who sets those standards?

Mr. Peter Elder: The comparison they're using is the standards set by the International Atomic Energy Agency.

Mr. David Anderson: They're spending some time here, and then they'll be making a report, did you say, in the fall?

Mr. Peter Elder: That's correct. They do quite a detailed two weeks here, then they will present a final report to us some time in the fall.

Mr. David Anderson: How often would they do this in each country?

Dr. Michael Binder: They have now compared, I think, about five countries—France, Germany, Spain.... They're doing the U.S. next year. So it's one of those services that the IAEA instituted to benchmark a regulatory framework, one country against another country, and you learn from each other, which we believe is a positive intervention.

Mr. David Anderson: Thank you.

The Chair: Thank you, Mr. Anderson and Mr. Trost.

There is time for a two-minute round. If any party doesn't use that two minutes, we can get to our discussion on future business of the committee that much earlier.

Starting with the official opposition, Mr. Regan.

● (1705)

Hon. Geoff Regan: Mr. Chairman, I have a quick question and then I'll share my time, if I can, with Mr. Tonks.

Obviously, people are watching this on television, because I've received an e-mail with a photograph that says “MAPLE with targets”, suggesting that isotopes were made in MAPLE. I'm going to show you the picture and see if you can confirm.... Obviously, I can't look at this and say this is proof of anything. It's a nice picture. Let me show it to you and you can tell me what it means to you.

The Chair: Mr. Regan...no.

Mr. Tonks, maybe you could go ahead with some questions.

Mr. David Anderson: Point of order, Mr. Chair.

The Chair: Point of order, Mr. Anderson.

Mr. David Anderson: I don't know what trick Mr. Regan is trying to play right now, but none of the rest of us have seen any of this. I'm sure it's something very important. Maybe he can pass his BlackBerry over here.

Hon. Geoff Regan: I'm not going to pass him the BlackBerry, of course, but I'll show him the picture if he likes.

Mr. Chairman, the question was whether isotopes were made in that, and the answer was they didn't think so. The suggestion is that they were. If they can't confirm this picture indicates that, that's fine. That was my question.

The Chair: From now on, Mr. Regan, if you have something you'd like to show the witnesses, get it to them ahead of time—

Hon. Geoff Regan: Mr. Chairman, as you know, it was e-mailed to me during the meeting. We're talking about modern technology here.

The Chair: Okay, Mr. Regan. That's not the way we handle it.

Go ahead, gentlemen, if you'd like to answer the question. Go ahead.

Mr. Peter Elder: There isn't enough in that picture. It's a picture of the reactor, but you can't tell the details of what fuel rods are in or out. Technically, you could say that as soon as there's fuel in the reactor you are producing isotopes, because medical isotopes, the moly, is produced within the fuel. The real question is can you do anything with that reactor, and the processing facility to remove the moly was never commissioned.

Dr. Michael Binder: Let me be absolutely clear. They did power the machine. Both machines were powered. Every time you turn on a nuclear thing, there are isotopes in there, but it's not the moly that we are talking about now.

Hon. Geoff Regan: There's a predictability—I understand that.

The Chair: Thank you, Mr. Regan.

We go to the government side, Ms. Gallant, for up to two minutes.

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

What impact, if any, will this leak have upon the renewal process for AECL? Will there be an impact on their ability to renew their licence for another five years?

Dr. Michael Binder: First, as you heard from the previous witnesses, they have to assess the extent of the so-called corrosion. That requires testing and they're now talking about actually going inside the vessel and checking all of this. They then have to come to us with a solution that will meet our safety requirement.

There are a lot of ifs here. That's why they are not in a position to give a definitive time, because there is a lot of work to do yet to explore the various options. They're looking and we are helping them, in terms of trying to understand what the acceptable options are for restarting the machine.

Mrs. Cheryl Gallant: Thank you.

The Chair: Thank you, Ms. Gallant.

Are there any more questions from the government side? We have about a minute.

We'll go now to the Bloc Québécois. Monsieur Malo, you have up to two minutes.

[*Translation*]

Mr. Luc Malo: Thank you.

Mr. Binder, can you tell us whether you are currently supervising the work being done to repair the NRU reactor?

Dr. Michael Binder: I'd like Mr. Elder to answer this question, but I first wish to say that a repair plan has to be presented.

Mr. Luc Malo: Does this mean that the people from AECL have not yet submitted a plan to you for the repairs?

Dr. Michael Binder: That's right. For now, they're trying to assess the extent of the problem.

[*English*]

They have not yet found out exactly the extent of the problem. They are now doing all the testing required to ascertain the extent of the corrosion—is it local, is it elsewhere—and the kind of repair one might be able to do.

[*Translation*]

Mr. Luc Malo: If I understand correctly, we're still far from finding a solution.

Dr. Michael Binder: Absolutely.

Mr. Luc Malo: I asked you earlier whether there had been in this reactor, in the past, any leaks of heavy water or other substances sufficiently large to be a threat to public health or the environment, but you didn't answer me. Could you do so now?

● (1710)

[*English*]

Dr. Michael Binder: Within our existing standard, the leak is a little bit above their action standard. It's one one-thousandth of the actual limit they're not supposed to exceed.

[*Translation*]

Mr. Luc Malo: So in this reactor there's never been a leak that could be described as dangerous?

Dr. Michael Binder: Never.

Mr. Luc Malo: Thank you very much.

Thank you, Mr. Chair.

[*English*]

The Chair: You have time for a very short question, if you'd like. That's it? Okay.

We are finished with these witnesses, so we will go to committee business.

Thank you very much, Mr. Binder and Mr. Elder, for coming this afternoon. Your input has been very helpful here.

We will suspend for a minute or two as the witnesses clear the table and as we move in camera for a committee business discussion. We will then resume for about 15 minutes.

[*Proceedings continue in camera*]

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