TRANSCRIPTION/TRANSCRIPTION
NEWS CONFERENCE/CONFÉRENCE DE PRESSE
Transcription prepared by Media Q Inc. exclusively for AECL
Transcription préparée par Media Q Inc. exclusivement pour EACL

DATE/DATE: July 8, 2009 10:30 a.m.
LOCATION/ENDROIT: Toronto Board of Trade, Toronto
PRINCIPAL(S)/PRINCIPAUX: Hugh MacDiarmid, President and CEO, AECL;
Bill Pilkington, Chief Nuclear Officer, AECL
SUBJECT/SUJET: Officials from Atomic Energy of Canada Ltd. hold a Technical Briefing on its Progress in the Assessment and Repair of AECL's Chalk River NRU Reactor and Provide a Revised Guidance on the Timeline for Return to Service.

Operator: Good day, ladies and gentlemen. At this time, all conference call participants are in a listen-only mode. We will conduct a question and answer session at the end of the conference. At that time, participants are asked to press star 1 to register for a question. For assistance during the call, please press star 0 on your touch tone phone. As a reminder, this conference is being recorded. Today is Wednesday, July 8th, 2009. It is now my pleasure to introduce your host, Mr. Hugh MacDiarmid, President and CEO, AECL. Please go ahead, Mr. MacDiarmid.

Hugh MacDiarmid: Thank you, Operator. Welcome, everyone. And thank you all for coming here today. And thanks as well to those who are joining us by teleconference. With me today is Bill Pilkington, Chief Nuclear Officer for AECL who will also be speaking to you shortly.

This is our eleventh update on the activities related to the repair of the National Research Universal, or NRU, reactor at Chalk River, Ontario. This reflects our commitment to broad public communications on matters of material interest, which this certainly is.

Let me begin by reiterating the principles that guide all of our actions. First and foremost, we will never operate an unsafe reactor. This is our highest commitment to our employees, our communities and to all Canadians.

Second, we view the production of medical isotopes as a key element of our core mission. Returning the NRU to service quickly and safely to support the production of medical isotopes for Canadian patients and health care practitioners is our top priority. We have a dedicated team of experts drawn from both AECL and the nuclear industry working very, very hard to achieve this goal. We are acting in lockstep with the Canadian Nuclear Safety Commission, the CNSC, and our regulator, with which we continue to have an extremely positive and constructive relationship.

I assure you that we're very conscious of the impact of an unplanned reactor shutdown and we recognize the concerns and planning needs of the health community, patients and isotope producers. That's why we have invited you here today, to provide you with

more detail on where we are currently and to present an overview of the three phases of activity required to return the NRU to service.

We will show a short video that demonstrates very clearly the technical challenges this repair presents, including where the leak site and repair areas are located in the reactor. The video is narrated by David Cox who is the Director of the Return to Service Project. Then Bill Pilkington will provide you with a more in-depth description of the activities that make up each phase of the project. Finally, we will open the floor and the phone lines to answer your questions.

Based on the most up-to-date information from the ongoing assessment of the NRU condition and the development of a critical path for the various repair options, we're now able to advise that the NRU will not return to service before late 2009. Guidance on the duration of the shutdown continues to be founded on the best evidence available including the most up-to-date analysis of the heavy water leak site, vessel condition, repair strategies and the critical path requirements for restart after a shutdown.

We have identified three phases of our return to service plan and we are currently nearing the completion of the first phase. As you can see on the left hand side of the graphic, phase 1 comprises three distinct streams of activity: a comprehensive condition assessment of the reactor; development and testing of several repair options; and overall planning and critical path development. To date, we have made significant progress in our inspection and analysis of the condition of the NRU and in identifying various repair methodologies. We have also developed a detailed roadmap of the specific work packages involved in implementing the return to service. All of these efforts have been necessary to inform the decision on the preferred repair strategy to pursue in phase 2. We expect to make that decision in the next few weeks.

Phase 2, affecting the actual repair, will take a minimum of two months depending on the method determined, regulatory considerations and further analysis of the extent of the repair required.

The technical challenges posed by the repair will be very evident when you see the video, particularly the distance of the leak site from the nearest access location, which is over nine metres above the leak site, and the restricted 12-centimetre diameter of the access aperture.

Phase 3, restarting and testing the reactor, is estimated to take an additional two months based on AECL's previous experience of refilling, refuelling and starting up the reactor in 1992.

I want to reiterate that our guidance on when the NRU will be returned to service continues to be based on the best available information. All of the evidence supports the view that the NRU will be returned to service with these repairs and that we have the experience and know-how to do so safely and in the shortest time possible.

I'd like to share the video with you now and for those of you on the phone you will be able to hear the audio. You can access the video later at our new dedicated website, www.nrucanada.ca or through Canada Newswire's Videos on Demand. As I mentioned earlier, the video is narrated by David Cox who is Director of the Return to Service Project.

Video: Repairing the NRU vessel is a technically challenged activity. Well, I've heard it described aptly by someone as trying to change the oil in your car from your living room. We're faced with conducting remote investigations in a radioactive environment with high radiation fields, conducting the examinations and inspection through small openings in the top of the reactor and accessing over great distances, down 30 and 40 feet into the bottom of the reactor. So it's technically challenging. We're bringing together corrosion experts, material science experts, welding experts to look at repair options as well as the remote examination combined with the overall safety and radiation protection that needs to be in place.

We've got crews that are operating 24/7 in operations, on non-destructive examination. We've got crews working through the night on equipment development and in engineering, doing 3D models of the reactor vessel so that we can simulate the difficult operation of entering the vessel and articulating in to conduct the remote repair.

So this is a model of the NRU reactor. What we're interested in is the reactor vessel itself, which is this tank inside the reactor core. The vessel's about three and a half metres in height and about the same diameter, so about 12 feet in diameter. The leak site that we're interested in is located at the bottom of the vessel which is made from aluminum.

In order to execute the repair, we're talking about introducing tooling from the upper deck plate here down through narrow openings into the reactor vessel itself. The area that requires repair we've determined to be located at the bottom of the vessel in a region here. The problem we've determined is corrosion. Corrosion has been introduced from this annulus that surrounds the reactor vessel and there's been corrosion into the backside of the aluminium vessel itself. So in order to repair the leak site, we have to introduce tooling down through these openings into the bottom of the vessel and the tooling will deploy out to contact the inside surface of the vessel and execute the repair.

The distance from the top of the reactor down to the leak site is about nine metres or roughly 30 feet and all of the equipment and tooling needs to be introduced through these small openings in the top of the reactor and down through these channels and the diameter there is about 10 centimetres or in the range of four inches, four and a half inches.

So we're looking at multiple repair scenarios in order to bring the reactor back into service. It's technically challenging but the repair methods that we're bringing to bear on this problem are all well developed and have been applied elsewhere. I'm very

confident that we can bring to bear these technologies to repair the vessel at this leak site and any other locations that need to be remediated.

At present, we've defueled and drained the reactor vessel and we're partway through the extensive non-destructive examinations inside the vessel in order to characterize what needs to be repaired. Until we complete those evaluations and determine exactly the extent and the type of repair that will be applied, it's difficult to predict the time frame in which we can execute and return the vessel to service.

Chalk River has a great technical depth in a lot of areas that are applied to the CANDU reactor industry, things like remote inspection and we're applying that here to solve the NRU issue. Corrosion and material science, we have great depth in these areas and we're bringing all that expertise to try and solve this problem. Radiation protection, we're bringing all of these disciplines to apply to this problem and they're part of the strength of Chalk River as a national laboratory.

Hugh MacDiarmid: I'd now like to ask Bill Pilkington to take you through a more detailed description of the project's scope of work. Bill.

Bill Pilkington: Thank you, Hugh. I'll now review the return to service plan in more detail. We are currently nearing completion of phase 1 of the project's scope of work. This includes the three elements of condition assessment, repair strategy and critical path planning.

The condition assessment began May 15th, as soon as we became aware that we had a heavy water leak in the NRU. The leak was identified through remote video inspection as being at the base of the reactor vessel. As soon as we recognized that the cause was corrosion, we continued video inspection of the full circumference of the vessel to determine the extent of condition, meaning those areas with similar operating conditions that might have the same problem. This allowed us to focus the more lengthy process of non-destructive examination on the susceptible area of the vessel.

In the video clip you just watched, our Director of the NRU Return to Service Project Dave Cox described the challenge to operate the inspection probes at the base of the vessel through a 12-centimetre opening, nine metres from the inspection site. Non-destructive examination can confirm which of the nine areas of interest from the video inspection were also subject to some level of corrosion.

As of today, we have inspected 60 percent of the vessel circumference and eight of the nine areas of interest. So far, three areas will require repair and a fourth is under consideration. All of these areas are localized and can be repaired.

I'll now talk about the repair strategy. As soon as we pinpointed the leak location, we knew a repair was required. We called in experts in materials and in remote inspection and repair tooling. Based on the information we had at the time, we held a workshop June 8th and from that meeting narrowed our repair options. We determined that

external service providers were best positioned to develop repair techniques and work began immediately to demonstrate viable concepts. In parallel, we've been determining the number of sites to be repaired and the repair parameters necessary to prove the vessel fit to return to service.

Then the third component is the critical path planning. And the critical path planning is the third important element to advance this complex development and repair project in the shortest time possible. By identifying and linking every activity, an outage logic and schedule are being developed. This is a living process and is continually updated as new information becomes available.

Close interaction with the CNSC is necessary to avoid delay in providing information necessary for regulatory approvals. To save time, it's important to identify all activities that can proceed in parallel. However, most important is the process to identify those activities, which, if they are delayed, will impede the NRU's return to service. The sequence of these activities forms the critical path to restart.

I'll now move to phase 2 of the project, which is the actual repair process. Work started on the repair options in phase 1 and has continued in parallel with inspections. By the end of phase 1, AECL will select one or more repair processes and identify the number and nature of the sites needing repair. With this information, the repair service provider can finalize tooling design and manufacture. It's important to note that to save time, design started before all of the required information was available and is being refined as the inspection results come in.

The repair phase is now the greatest source of schedule uncertainty. With more complete inspection information available by the end of phase 1, tooling design can be finalized and a more precise estimate of the repair time determined.

The repair tools will go through a qualification testing to prove they can reliably complete a quality repair. The repair process will be carried out many times in the shop and on the mock-up at the Chalk River labs to prove the vessel repair will meet all design requirements. Only then will the repair be carried out on the NRU reactor.

Following the repair process, testing will be carried out to verify a quality repair has been achieved. Once AECL and the CNSC are satisfied, then phase 3 to return the NRU to service can begin.

The nuclear reactor is a complicated machine and the start up is a distinct project in itself. A team is now being assembled to prepare the detailed plan and all of the procedures required for this event. The reactor vessel will be refilled with heavy water and all of the process systems returned to service from their current laid up state. Initial tests will be carried out to prove equipment and systems meet their performance requirements. Physics computer simulations will be carried out to verify the reactor start up parameters. When we are satisfied all of the prerequisites have been met and documented, we will seek CNSC approval to reload the nuclear fuel and return the NRU

to service.

Refuelling alone will take several weeks. The actual startup of the reactor after a long shutdown will be a staged process of gradually raising power and testing the control system and the safety systems. It will take about a week to bring the reactor to stable high power operation. At this point, the reactor will begin producing isotopes and it will take about one more week operating at high power before the first medical isotope delivery.

To summarize, this is a complex process. AECL has a skilled and dedicated workforce. We have the right team in place and are confident we will successfully repair the NRU reactor vessel and return it to safe, high power operation to produce medical isotopes.

Through this shutdown, operations staff not required to support the outage continue to prepare for license renewal in 2011 and the continued reliable operation of the NRU.

Hugh.

Hugh MacDiarmid: Bill, thank you very much. Ladies and gentlemen, that concludes our prepared remarks. As you can see, there is still some uncertainty remaining in our scheduling outlook for the project but we certainly remain committed to being fully disclosing with respect to the scheduled durations as the information emerges and we certainly felt that the timing of this announcement was appropriate given the extension of the minimum duration that we see for the outage.

We'd be happy to respond to any questions now. And it would seem logical that perhaps we alternate between those dialling in and those who are in attendance. So perhaps I'll invite the operator to cue the first question from those on the conference call.

Operator: Certainly. Ladies and gentlemen, as a reminder, if you would like to ask a question, please press star 1 now. The first question on the phones comes from Joanna Smith with the Toronto Star. Please go ahead.

Question: Hi. Thanks for taking our questions. Now as I understand it, you still haven't chosen the specific repair method. So why are we now finding out that it's only going to be closed until the end of the year and why until now has it been a three-month time frame?

Hugh MacDiarmid: The process of determining the repair technique is not one that can happen overnight. As Bill mentioned, we convened the first technical workshop in the early part of June and since that time we've been engaged in very intense discussions and interactions with alternative suppliers and looking at these alternatives through many different lenses. So we're literally working this process as quickly as is possible in order to make the best decision to make a lasting repair. So the timing is one that is really going to depend on the ability to develop and define the outage strategy as clearly

as we possibly can.

Question: If I could just have a follow-up, when was it known to AECL that it would be closed until the end of the year?

Hugh MacDiarmid: We really made the decision that we needed to make this announcement last week. We came to that conclusion after putting together all of the critical path planning variables and looking at all of the factors including the length of time involved in the return to service phase 3 which is perhaps longer than we might originally have thought it would be. So it was really only in the last week that all of these threads came together and it became apparent that the time frame would be longer than the previous guidance and that was really what drove us to make this announcement at this time despite the fact that we do not have the precision of guidance that we would all like to have with respect to the outage duration.

Question: Hi. Yes. My name is Mike Drill (ph). I'm with Global National News. Up until about I think it was three weeks ago we've been hearing that August was the date that the reactor would be started up again and now we're hearing that it's the end of the year but when I'm looking at your graphs and listening to what you guys were saying earlier, it says two-plus months for phase 2, two-plus months for phase 3 and there's so many uncertainties and with the last question about how you haven't even decided how you're going to fix it yet, is the end of 2009 optimistic? Are we getting into another situation where we were just three weeks ago where we were saying, oh yeah, by the end of August but in reality it looks like it's going to go even longer?

Hugh MacDiarmid: Well, we never said the end of August. We said the earliest that it could return would be three months. So we have been, I believe, fairly consistent in our messaging that we don't know the ultimate length of the duration but up until this point we had said that it was at least or a minimum of three months. So we're updating that minimum with this presentation and the definition of the three phases. How much beyond that minimum it could extend really does depend on the actions that we take over the next few weeks, the decisions we make and we'll be in a position at the conclusion of phase 1 which currently at 2.5 months indicates the end of July. We're saying that at the end of July we should be in a position to give a more definitive schedule that would include a bracket of most likely, you know, early time, late time.

Operator: We have a question from Christa Ericsson with CBC National News. Please go ahead.

Question: Thank you. Hi there. My question is does the world and does Canada really need the Chalk River nuclear reactor? And I ask that question for a number of reasons. First of all, we've been told by hospitals that they're operating with an average of 70 to 80 percent of supplies and they're able to get by with those for the moment. As well, we've spoken to the European organization that is responsible for scheduling maintenance for European reactors and we've been told that between now

and October there will always be at least one European reactor operating in concert with the South African reactor to produce about 70 percent of world supplies and after October all three European reactors will be operating along with the South African and together they will produce 100 percent of world demand. So do we really even need the Chalk River nuclear reactor?

Hugh MacDiarmid: I think it's important to distinguish between what can be produced in an emergency situation for a relatively short duration of time versus what type of sustainable capacity needs to be available to reliably meet the world demands. These are products that have, as you know, a very short shelf life, no ability to inventory and they're very critical to the health care community. So it only makes sense that there be diversity of supply, redundancy of supply and additional capacity available to deal with unexpected outages. So it's very clear that, for instance, last year we increased the production of our reactor by 40 percent for a six-month period to respond to an unplanned shutdown of the Petten reactor in The Netherlands. And the NRU and the Petten are really the two major productions in terms of the size of their capacity, the two largest reactors. So indeed the Petten reactor will be going down for a short outage this summer and we will see additional pressure on the supply chain, production change. So and an ongoing basis at this point in time until additional production reactors come on stream from other locations it is indeed important that the NRU be in reliable production mode in order to have a consistent supply to patients around the world.

Question: Sharon Halluck (ph) from the Globe and Mail. It seems that what you're outlining today is your best case scenario and it seems that there's a number of hurdles to overcome. Aren't you concerned that this is just going to create more uncertainty in the nuclear medical field about, you know, Canada's ability to supply these critical isotopes?

Hugh MacDiarmid: It's always a difficult choice as to what you communicate, when you communicate it. We feel a very strong obligation to transparency and to providing the community with the best information we have when we have it. And so, yes, indeed, this is – I wouldn't characterize it as best case but we've said that we believe right now it is the minimum likely duration of the outage and we want to as quickly as we can make the decisions that are necessary to give more precision and to give an outer boundary in terms of when we think the outage will end. But it's always a difficult trade-off of when to come forward and we felt in this particular case that when we came to the conclusion that the minimum duration was going to be on the order of what we've presented here, that was materially longer than the previous guidance and that it was important to make it known publicly even though it is perhaps uncomfortably early with respect to giving precise guidance on the duration.

Operator: Your next question comes from David Akin with Canwest News Service. Good morning. I've got just two quick ones. Just one's about the timing thing but, separately, as you know, Minister Raitt has this process underway to examine

all proposals for future isotope production and I just wonder if you could tell us at this point, the deadline is the end of this month, whether or not AECL will in fact be submitting a proposal and hopes to be considered by the government as part of this process as a long-term isotope producer.

Hugh MacDiarmid: David, at this point in time we're going to wait for the expert panel to convene and to get its process up and running. We understand a number of proposals are intending to be submitted by a variety of parties. Some of those might even involve the possibility of use of our facilities. So we're going to wait and see what the expert panel's deliberations where they lead them and we'll be prepared to be responsive and to contribute our ideas if asked.

Question: Okay. And I just wanted a quick follow-up. People have been sort of talking about this idea about the timing. Earlier you said the reason you gave us at least three months guidance was because that was the earliest it could return would be three months you said. And just a minute ago you said this is minimum likely durations. So the way I figure that, that means someone in your organization said, "Hugh, when you talk to the press, there's a chance we could have had that thing up and going again in three months." I can find no nuclear scientists in this country or outside the country that all they needed to know was the leak rate and the fact that there was a leak who said there's no way in hell they're getting that thing up in three months. Can you tell us how on earth you are able to tell people we have a chance to get this thing running in three months because that goes to your credibility of how the heck you think you're going to get it done by the end of the year because I can't find a scientist outside your organization that'll think you can do it by the end of the year? Who's telling you this stuff?

Hugh MacDiarmid: Well, David, I will remind you that the original guidance that we gave on the minimum three months was at a very early stage in the project. We had not at that time yet made the decision to remove the fuel and the water from the reactor. We did not know fully the extent of the repair that would be required and we've made the commitment that we're not going to speculate, that we're only going to release and base our guidance on information that we can rely upon. At that time, not having made the decision to remove the fuel and the water, we felt it was still conceivable that a repair technique could be effected that would allow us to return to service in as little as three months. Once the decision to remove the water and the fuel was made, it was clearer it was going to be longer than that and we've taken the steps necessary to update you.

Question: Okay, Sebastien St. François, French CBC. A quick question about the state of the whole thing because you guys have just said that there are three other zones that appear to be thinning on the receptacle and to my knowledge this is the first time that you've said something about that. Would it be fair to say that the whole thing is in worse shape than what you thought at first?

Hugh MacDiarmid: I think I'll let Bill respond to that.

Bill Pilkington: Yes, and this is evolving information but I need to point out that it's evolving information that is focussing in on the areas of concern. We started out with a hundred percent video inspection around the circumference of the vessel and we identified a total of nine areas that we were interested in further inspection, including the leak site. And so in looking at – we've currently looked at eight of those nine areas and of that we have found three that we know we'll need to do repair and one that we have not yet made a determination. So as we've continued the inspection, we've been focussing in on the areas that are of concern to us and we're getting the facts on what in fact – what repair we need to carry out.

I might point out that roughly 95 percent of the amount of the vessel we've inspected indicates that it is in good shape and in fact the vessel is not degraded and is not significantly aged.

Hugh MacDiarmid: That's really what I wanted to add was that at the same time as you uncover that there are two or three, now three areas, we also have confirmed that of the original nine, that five to six of those will not require any direct treatment.

Question: A quick follow-up. But then what I'm getting from you is that your answer to my question is yes, the whole thing is in worse shape than it was at first, than what you thought it was at first because you need to make more repairs than what was assumed at first.

Hugh MacDiarmid: Again, I think I'll come back and say that we've been very clear that we're not going to engage in speculation. We're not going to make guesses. We're going to go through a systematic professional approach and we're going to report the information based on what we have. At that time we said if there was only one site the minimum duration, and we could repair it without removing the fuel and water, it might be three months. We're now saying that it is more sites and we've removed the fuel and the water. So, yes, we've gathered more information. It is not – I wouldn't characterize it as necessarily worse than what it could have been.

Question: But it's worse than what you thought at first because ---

Hugh MacDiarmid: We didn't have – we had no basis. You can't say it's worse than what we thought because we didn't know. We had to do more investigation. We had to do more research and analysis in order to draw a conclusion. And that's where we are right now.

Operator: The next question comes from Peter Zimonjic, Sun Media. Please go ahead.

Question: Hello. Perhaps Hugh can answer this question. In early January I believe the Petten reactor's going off for an extended period of time. We say

– I've heard today that the earliest possible period the NRU reactor could come back is the end of the year. Would it be unrealistic, would it be crazy for me to suggest that the reactor might not come back until the middle of 2010 or even later than that based on the fact that the option you're presenting to us today is the early possible scenario?

Hugh MacDiarmid: We're not going to respond to that kind of speculative question. We are going to provide you with information based upon the facts and the evidence as we have it and the evidence as we know it today is minimum Q4, late in 2009.

Question: So what happens if the Petten reactor is not – is offline while the NRU reactor is offline? Is there any contingency plan with AECL to meet up – meet this isotope shortfall?

Hugh MacDiarmid: We are bringing the NRU back into service on the shortest possible time frame, consistent with doing so safely and effecting lasting repairs with high quality and so in that respect our outage plan, our return to service plan isn't really affected by other factors because we're going to have this reactor back in service as fast as humanly possible. We clearly though are mindful of the intentions, the expected one-month outage of Petten reactor this summer and very mindful of the intention right now that the Petten reactor would be brought down for perhaps six months in early to mid-2010. So that, certainly from a perspective of coordination and maintaining the maximum possible supply of isotopes globally, we understand how important it is for us to return the NRU to service before the Petten outage begins in 2010.

Question: And just lastly could I just ask is it possible the NRU reactor could never return to service?

Hugh MacDiarmid: The evidence we have today suggests that the repairs that we have identified will be effective and that the reactor will indeed be brought back into service and we're confident of our findings – of that opinion based on the evidence to date.

Question: Thank you.

Operator: The next question comes from Christina Spencer with Sun Media. Please go ahead.

Question: Thank you very much. One question and a follow-up. You made the point to another reporter about the difference between producing isotopes in an emergency situation and guaranteeing a sustainable supply over time. Of course over the next many, many months now that we are looking at the NRU not being in service what's the message that you've got for the medical community and for patients? What would you say to them directly?

Hugh MacDiarmid: Well, the message I would give is that we have a particular responsibility, which is to return the NRU to service as fast as we can. We know that our colleagues in the Government of Canada are very active in working with the global

supply chain community both on the production side and on the distribution side in terms of coordinating and bringing forth as much productive capacity as possible, working to reduce and eliminate any inefficiencies in the supply chain such that the maximum possible supply of isotopes reaches the health care and patient communities.

Question: Thank you. And my follow-up to that, you also talked about some of the proposals that are being submitted right now to Minister Raitt to look at alternatives and that you would, if asked, be willing to contribute. Do some of those alternatives involve the Maples?

Hugh MacDiarmid: I don't know. I could imagine that they might. I could imagine that they might involve other facilities that we have or assume that we might cooperate or contribute in some way but we'll have to wait and see what those submissions say and how the expert panel deals with them.

Question: Thank you.

Question: Can I just get you to clarify? You said initially you thought you could repair the leak without draining the fuel and the water and then was it because there's more than one leak that you then had to go to the more extensive process of draining the vessel?

Bill Pilkington: Actually, no. It was because of the nature of the leak and where it's corrosion on the surface of the vessel we were concerned that not knowing the extent of the corrosion that even in order to do a proper inspection we needed to remove the fuel from the reactor.

Question: So can you just elaborate on that a bit, like the nature of the leak, was it – where it's located, how big it is or just —

Bill Pilkington: Yes, it's the fact that it was corrosion on the wall of the vessel. If you have a leaking gasket on a flange, that's one situation. In this case, where we had corrosion, it was at the base of the vessel. We needed to do extensive inspections and we felt that we would end up needing to do a repair that would require the vessel drained, then the best path forward was to remove the fuel and the water as early as possible.

Question: So when the leak was first detected, you didn't know where it was, is that correct?

Bill Pilkington: That's correct.

Question: Okay.

Bill Pilkington: So, for instance, if you have a leak in an instrument line, you treat that differently than you would a leak on the reactor vessel itself.

Hugh MacDiarmid: This has been, as you can imagine, a voyage of discovery and we have been doing our very best to keep current with all of the possibilities but also keep in mind a focussed set of – a short list of options or possibilities that we consider to be the highest likelihood and that is indeed where we are today, where we have three alternative repair techniques that we expect one of those will be the technique we choose and that we will base the balance of the outage plan around that technique.

Any further questions from the dial-in?

Operator: Yes, the last question comes from Steve Rennie with the Canadian Press. Please go ahead.

Question: Yeah, a question and a follow-up. There's been some confusion about whether the Maples ever produced isotopes and there's some suggestion that they actually have produced some isotopes so can you just state definitively whether or not either Maple has ever produced any isotopes?

Hugh MacDiarmid: The Maple reactors have never produced an isotope that could be used for a patient. They have never been licensed to produce isotopes and that's really the relevant question. And from our – and so from that perspective and, as I've said before, including testimony to the Standing Committee of the House of Commons, the Maple reactors were years away from being licensable to produce isotopes to be used for patient care.

Question: And as a follow-up, David touched on this earlier but Minister Raitt had mentioned in May that the company would be split up and sold off. I'm wondering how all this going on right now affects your chances of finding someone to come in and privately manage the company. Who's going to want to come in and manage a company that can't get their leaky and aging reactor back online any time soon? Are you worried at all that you're going to have few people looking to come in and take over this?

Hugh MacDiarmid: I am not because people who are well informed about AECL understand the depth of technical and scientific knowledge and expertise that we have in our company. They understand the successful track record that we've built over the last 40 to 50 years in global marketplaces and they understand that we produce very high quality products that produce energy and electricity for customers around the world. And so we are – and I would like to correct the statement you made. The government is not breaking up and selling off pieces of AECL. The government is inviting interested parties who wish to strengthen AECL and help us achieve our goals of being a top tier nuclear reactor supplier worldwide and to continue the excellent work that's been done at Chalk River in providing the nuclear and scientific platform for Canada.

Question: And that's different than breaking it up and selling it off how?

Hugh MacDiarmid: It remains to be seen what our shareholder decides to do but the Minister has been very clear in her public statements that the goal is one of strengthening AECL and looking to invite in public sector expertise, public – private capital and strengthen AECL to allow both portions of our business, the National Laboratory at Chalk River and Whiteshell and the commercial reactor operations based in Sheridan Park to be successful and to ensure that Canada has a strong domestic nuclear supply industry for the foreseeable future.

Question: Sebastien again, French CBC. How out of the ordinary is this problem? You presumably are in touch with people doing the same thing in other countries with other reactors. Can you pinpoint – can you point to another instance of a reactor like that undergoing – having such problems and what does it say about the design of the reactor itself?

Bill Pilkington: Yes, I'll address that. The NRU is a unique design and so the structure of the reactor vessel is unique and so the issue we've got with corrosion is also unique. Having said that, nuclear plants doing repair remotely, doing it in areas where there's high radiation fields, this is work that is done and has been done.

The other thing is that we're not relying on innovation in technology. The challenge we face is with the location that we have to do a repair and with the limited access that we have to that location. The challenge will not be the technology that we use for the repair. That will be proven technology.

Hugh MacDiarmid: Ladies and gentlemen, I think we can perhaps call this to a conclusion or is there one more question? One more question from the —

Question: Redmond Shannon, CBC Newsworld. Can you guarantee the return to service of the reactor completely? And, if not, what would you have to encounter in particular over the next three months for that decision to have to be made that the reactor will not be able to return to service?

Hugh MacDiarmid: We've already made the statement that we believe all of the evidence to date suggests that the reactor can be returned to service. And we're proceeding down a pathway that is based on that presumption, based on the evidence that we have. So we're going to continue to pursue that path.

Question: But if you – what could you possibly encounter? Is there a scenario of something you could find because you haven't inspected every area that you could have to possibly make that decision?

Hugh MacDiarmid: We have completed the circumferential inspection of the reactor vessel and have identified the nine areas of interest and of those we've now come to identify three and possibly a fourth that would need to be treated, as Bill Pilkington said earlier. All of them are ones that are amenable to repair. And so all of the evidence to this point suggests that the reactor can and will be returned to service.

Bill Pilkington: And if I can just add, as we get more information, the information we get is giving us higher confidence at our ability to repair, not lower confidence. So all of the inspections that we're doing are giving information that gives us greater confidence that we will repair and return the NRU to service.

Question: But ultimately it's a great confidence but not a guarantee or what – how would you put it?

Hugh MacDiarmid: I don't really want to respond to that question. It is – there are no guarantees in life. But we have all of the evidence that we've gathered to this point in time allows us to draw the conclusion that we are highly confident that this reactor's going to be returned to service.

Ladies and gentlemen, thank you very much for your interest in this matter and we appreciate your attendance both by dialling in and coming in person. Thanks very much.

-30-