

**Canadian Nuclear
Safety Commission**

**Commission canadienne de
sûreté nucléaire**

Public hearing

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Le 2 octobre 2019

Lac du Bonnet Community Centre
Lions Hall
25 McArthur Avenue
Lac du bonnet, Manitoba

Centre communautaire de Lac du Bonnet
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25, avenue McArthur,
Lac du Bonnet (Manitoba)

Commission Members present

Commissaires présents

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Dr. Sandor Demeter
Dr. Timothy Berube
Dr. Marcel Lacroix

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Mr. Denis Saumure

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Lac du Bonnet, Manitoba / Lac du Bonnet (Manitoba)

--- Upon commencing on Wednesday, October 2, 2019
at 9:05 a.m. / L'audience débute le mercredi
2 octobre 2019 à 9 h 05

Opening Remarks

THE PRESIDENT: Good morning and welcome to the public hearings of the Canadian Nuclear Safety Commission.

Mon nom est Rumina Velshi. Je suis la présidente de la Commission canadienne de sûreté nucléaire.

I would like to begin by recognizing that we are holding this hearing in the Sagkeeng traditional territory.

Je vous souhaite la bienvenue and welcome to all those joining us via webcast.

First of all, let me, on behalf of the Commission, tell you how delighted we are to be here for the next two days.

We enjoy the opportunity to hold hearings in the community and provide citizens with the chance to participate by intervening or observing the hearing.

Thank you very much to all of those who

have made our presence here possible and to the staff of the Lac du Bonnet Community Centre for helping us in terms of accommodating our needs.

I would like to introduce the Members of the Commission that are with us today.

On my right is Dr. Sandor Demeter; to my left are Dr. Marcel Lacroix and Dr. Timothy Berube.

As we are starting two days of Commission proceedings in a facility and environment that is new for many of us, I would like to focus today's safety moment on a few basic safety considerations.

Please take note that in the event of an emergency there are exit doors at the main entrance as well as fire exit doors at each corner of this hall. So look around and make sure you know where they are.

In the event of a medical emergency, I would like to know by a show of hands if there are any medical doctors in the room. Okay, we have one.

Are there any First Aid or CPR qualified folks in the room? Oh, excellent. Look around and see where we can seek help, which I hope isn't necessary.

And I understand there is a defibrillator in this facility. Anyone know where -- ah.

UNIDENTIFIED SPEAKER: [Off microphone].

THE PRESIDENT: Excellent. And you know how to use it?

UNIDENTIFIED SPEAKER: [Off microphone].

THE PRESIDENT: Okay. Well, let's make sure we find someone here who knows how to use it.

So let's have a safe and productive hearing.

Also with us on the podium today are Mr. Denis Saumure, Senior Counsel to the Commission, and Monsieur Marc Leblanc, Secretary of the Commission.

I will turn the floor to Mr. Leblanc for a few opening remarks.

Marc...?

M. LEBLANC : Merci, Madame la Présidente.

The Canadian Nuclear Safety Commission is about to start the public hearing on the application by Cameco Corporation for an amendment to its Waste Facility Operating Licence to allow for the removal of 20 properties at the Beaverlodge Project from its licence.

During today's business, we have simultaneous interpretation. For the hearing this morning we have interpretation in Dene, English and French.

Dene is on -- well, we have to verify the channel -- I believe it's channel 1, and the French version

being on channel 2 and the English version on channel 3, but please verify if this is the case.

For the hearing on the Whiteshell Laboratories this afternoon and tomorrow, interpretation in Ojibwe will also be available.

Please keep the pace of your speech relatively slow so that the interpreters have a chance to keep up.

Transcripts will be made of this proceeding. They should be available in about 10 to 14 days. To make the transcripts as meaningful as possible, we would ask everyone to identify themselves before speaking.

I would also like to note that this proceeding is being video webcast live and that the proceeding is also archived on our website for a three-month period after the close of the hearing.

As a courtesy to others in the room, please silence your cell phones and other electronic devices.

Madame Velshi, présidente et première dirigeante de la CCSN, will preside over today's public hearing.

Ms Velshi...?

CMD 19-H7.A

Adoption of Agenda

THE PRESIDENT: With this information, I would now like to call for the adoption of the agenda by the Commission Members, as outlined in Commission Member Document 19-H7.A.

Do I have concurrence?

For the record, the agenda is adopted.

Before opening the hearing, I understand that Elder Daniel Robillard from the Black Lake Denesuline First Nation will be offering a prayer.

I would request everyone to stand up for this, please.

Elder Robillard, you have the floor.

--- Pause

ELDER ROBILLARD: Good morning. I am going to do an open prayer in my Dene language for today's proceedings. So I will continue with our traditional opening in my language.

--- Prayer and Exchange of Gifts

ELDER ROBILLARD: Thank you.

--- Pause

THE PRESIDENT: Thank you very much.

I have no doubt that this has inspired us all to ensure that we have a respectful and productive proceeding.

We will now commence the public hearing.

Marc, over to you.

MR. LEBLANC: Thank you.

The Notice of Public Hearing and Participant Funding was published on March 25th and a revised notice was published on September 25th to announce the location of the hearing.

The public was invited to participate in writing. Indigenous intervenors are provided the opportunity to make oral presentations in the spirit of reconciliation and in recognition of the Indigenous oral tradition for sharing knowledge.

September 3rd was the deadline set for filing by intervenors. The Commission received 10 requests for intervention. One request was denied as it was filed several days after the deadline.

September 25th was the deadline for filing of supplementary information. We note that supplementary submissions and presentations have been filed by CNSC staff, Cameco and intervenors.

Participant funding was available to intervenors to prepare for and participate in this public hearing. Four groups are receiving funding for this hearing. The funding decision is available on the CNSC website.

We will first hear the presentations this morning by Cameco Corporation and CNSC staff.

After these, we will either take a health break or proceed with one intervention, after which we would take the health break, following the order -- the interventions would be following the order that is set out in the agenda.

Three intervenors are scheduled to present orally this morning. While the presentations are limited to 10 minutes, Commission Members will have the opportunity to ask questions after each presentation. There is no time limit for the question period.

To support the CNSC's efforts in being an environmentally responsible organization, paper copies of the submissions are no longer distributed as they are available electronically on our website.

Your key contacts for the next two days will be Ms Louise Levert and Ms Dominique Ouellette from the Secretariat staff and you will see them going around at

the back of the room. If you need information regarding the timing of presentations or any other information, they are at the reception desk here.

Ms Velshi...?

THE PRESIDENT: Before we proceed with the presentations, I want to note that representatives from the Saskatchewan Ministry of Environment, the Saskatchewan Health Authority and the Ministry of Energy and Resources are joining us by videoconference and Webex.

Thank you all for being available for questions.

I would like to start the hearing by calling on the presentation from Cameco Corporation for their presentation, as outlined in CMDs 19-H6.1 and 19-H6.1A.

I will turn over to Mr. Liam Mooney for this presentation.

Mr. Mooney...?

CMD 19-H6.1/19-H6.1A

Oral presentation by Cameco Corporation

MR. MOONEY: Thank you.

Good morning, President Velshi and Members

of the Commission.

For the record, my name is Liam Mooney, I am Cameco's Vice President of Safety, Health, Environment & Quality and Regulatory Relations.

I am joined here today by:

- Kevin Nagy, Cameco's Director of Compliance and Licensing at our Saskatchewan facilities;

- Michael Webster, our Senior Reclamation Coordinator, who directly oversees management of the decommissioned Beaverlodge properties for Cameco; and

- Kristin Cuddington, our Senior Corporate Responsibility and Communications Specialist, who engages directly with our northern communities and leads our northern strategy.

Also joining us today are Michael Carter and Doug Thomson, representatives of Canada Eldor Inc., which maintains the financial responsibility for the Beaverlodge properties.

We are here today in support of our request to release 20 decommissioned Beaverlodge properties from CNSC licensing and to amend our licence accordingly.

Since 1988 Cameco has been a committed and capable manager of the decommissioned Beaverlodge properties, conducting environmental monitoring and

periodic maintenance activities.

More recently, guided by the Beaverlodge Management Framework and ongoing Stakeholder Engagement, Cameco developed and has been implementing our Path Forward Plan. The plan includes additional remedial activities that are expected to support the natural recovery of the decommissioned properties as well as to ensure their long-term safety and security.

As a result, the 20 decommissioned properties subject to this request are safe, secure and stable and pose minimal risk to public safety or the environment. These properties are well positioned to transfer into the Province of Saskatchewan's Institutional Control Program that will provide long-term environmental stewardship, or for free release, depending on the presence of historical mining and/or milling activities.

Kevin Nagy will now present to the Commission a summary of our application.

MR. NAGY: Thank you, Liam.

Good morning. For the record, my name is Kevin Nagy.

In this presentation we will explain where the decommissioned Beaverlodge properties are located, outline the framework that we have followed in managing the

properties, detail how we engage with Indigenous and local communities, provide an overview of our application to release 20 decommissioned properties from CNSC licensing, and describe the current condition of the properties with respect to the accepted performance criteria.

Located in the northwest corner of Saskatchewan, Beaverlodge consists of 65 individual decommissioned properties that are divided among the main Hab, Dubyna, Bolger/Verna, Lower Ace Creek and Tailings Management areas, as well as the smaller Martin Lake and Eagle satellite mining areas.

The decommissioned Beaverlodge properties are accessible by road from the northern settlement of Uranium City, which is located just north of Lake Athabasca. Uranium City can only be reached by plane or by boat via Lake Athabasca during the open water season or by an ice road that is operational for two to six weeks each winter.

The closest First Nation is Fond du Lac, which is approximately 80 kilometres by air east of Uranium City.

The Beaverlodge Mine and Mill were operated by Eldorado Mining and Refining Limited, a federal Crown corporation from 1952 to 1982. Decommissioning

activities were carried out at Beaverlodge between 1982 and 1985, following a plan that had been approved by both the provincial and federal regulators.

Upon the completion of decommissioning activities, the Beaverlodge properties were left in a physically safe and secure condition, with the expectation that environmental conditions on and downstream of the properties would naturally recover over an extended period of time.

In 1988, Cameco took over the management of the decommissioned properties, while the financial responsibility was retained by the federal government through Canada Eldor.

Cameco has conducted environmental monitoring and periodic maintenance to ensure that Beaverlodge remains safe, secure and stable.

Following the implementation of the Province of Saskatchewan's Institutional Control Program, five properties were released from CNSC licensing and accepted into the program in 2009.

Our overall goal is to prepare the remaining decommissioned properties for eventual transfer into the Institutional Control Program. To that end, Cameco is following the accepted Beaverlodge Management

Framework and implementing the Path Forward Plan to support natural recovery and ensure the long-term safety, security and stability of the remaining properties.

The Beaverlodge Management Framework was developed by Cameco, with input from the Joint Regulatory Group and local stakeholders. It was presented and accepted by the Commission in November of 2009.

The Framework provides a systematic process by which to assess information, risk and potential remedial options associated with the decommissioned properties. The goals of the Management Framework are to ensure the properties are safe, secure and stable over the long term and to facilitate their transfer into the Institutional Control Program.

To support the implementation of the Beaverlodge Management Framework, Cameco developed the Quantitative Site Model. This model served three purposes:

- first, it acted as the means through which we assessed the residual risks and natural recovery rates associated with the decommissioned Beaverlodge properties;

- second, the model allowed us to assess the potential benefits of various additional remedial options that were under consideration; and

- lastly, it helped us establish environmental performance criteria to aid in evaluating the effectiveness of the selected remedial options as well as the continued natural recovery of the downstream environment.

As part of the Management Framework, remedial options workshops were held in 2009 and 2012. The goal of the workshops was to engage Northern Saskatchewan stakeholders and regulators to help determine what further remedial activities would be reasonable to advance the safety, security and stability of the decommissioned Beaverlodge properties.

Workshop participants included representatives from Uranium City, the Northern Saskatchewan Environmental Quality Committee, or EQC, the Joint Regulatory Group and third-party experts. Local participants also included elders, youth, elected leadership and representation from the Métis Nation-Saskatchewan Local 50.

Information derived from these workshops directly influenced the selection of the actions identified in the Path Forward Plan. Using information collectively obtained through the Management Framework, Cameco developed the Path Forward Plan which was accepted by the Commission

in 2013.

The plan included additional remedial actions expected to support the natural recovery of the decommissioned properties, ensure their long-term safety, security and stability, and prepare the properties for transfer into the Institutional Control Program.

Cameco has been working to implement and monitor the effectiveness of the Path Forward Plan activities throughout the current licence term.

The performance objectives for the decommissioned Beaverlodge properties is that they be safe, secure, stable and/or improving: safe for general public access; secure with the confidence that long-term residual risks have been assessed by a qualified person and found to be acceptable; and stable or improving such that environmental conditions such as water quality on and downstream of the decommissioned properties are stable and continuing to naturally recover as predicted.

This will facilitate their transfer into the institutional control program and ensure that the environment as well as the health and safety of the public are protected over the long term.

In addition, performance indicators were developed to assess the effectiveness of the path forward

plan and to monitor continued natural recovery.

Where applicable, these performance indicators specify that residual gamma levels on the properties are found to be acceptable, identified boreholes are plugged, mine openings and crown pillars are stable for the long term, the properties are free from any remnant debris, and water quality measured at selected locations on and downstream of the properties is within model predictions.

I will go through each of these indicators later in the presentation as they relate to the 20 properties that are subject to this request.

Under the management framework, we are following a staged approach with respect to transferring the decommissioned Beaver Lodge properties to institutional control. To date, five properties have been exempted from CNSC licensing and accepted into the Province of Saskatchewan's institutional control program. Cameco is here today to request the release of 20 more properties that have met the performance objectives, and we anticipate that all remaining properties will be transferred into institutional control by the end of the licence period.

THE PRESIDENT: Mr. Nagy, can I just interrupt for a moment?

I do want to make a very heartfelt apology. I omitted in my opening remarks to state that we are holding this hearing in the traditional territory of the Manitoba Métis community.

Again, my heartfelt apologies for that oversight, and sorry for interrupting you, but I did want to rectify this as soon as I could.

MR. NAGY: Okay.

THE PRESIDENT: Over to you.

MR. NAGY: Thank you, President Velshi.

Throughout this process, Cameco -- our public engagement efforts helped ensure that local residents were informed of our activities and that they had opportunities to provide input.

Our engagement activities are targeted towards the residents of Uranium City as well as the First Nations and communities in the Athabasca Basin through groups such as the Northern Saskatchewan EQC, the Ya'thi Néné Land and Resource Office, the Athabasca Joint Engagement and Environment Subcommittee and its predecessor, the Athabasca Working Group, as well as the Métis Nation Saskatchewan Local 50.

The primary Beaver Lodge engagement activity is an annual public meeting in Uranium City

followed by a site tour for those interested in attending. Typically, regulators, including representatives from CNSC and the Saskatchewan Ministry of Environment, are in attendance for these events along with northern residents.

In addition to Uranium City residents, the tour this past June included representation from the Northern Saskatchewan EQC, the Athabasca Joint Engagement and Environment Subcommittee and the Métis Nation Saskatchewan Local 50.

The purpose of this meeting is to review the results of any activities completed since the previous meeting and discuss our plans for the upcoming year. This year, our public meeting and site tour largely focused on the 20 decommissioned properties subject to this request and discussed how the applicable performance criteria have been met.

We also took participants on a tour to demonstrate the condition that the properties are in.

Specific to this request, presentations were made to a meeting of the Northern Saskatchewan EQC and meetings were held with representatives from Ya'thi Néné and with the leadership of the First Nations and communities in the Athabasca Basin.

In addition to these engagement

activities, Cameco keeps target audiences and communities with an interest in the decommissioned Beaver Lodge properties informed by, maintaining two-way communication channels to address the questions and concerns of people within our target audience, providing information through regular community engagement such as the community-based meetings and workshops, formally meeting with representatives of the Northern Saskatchewan EQC to provide information, building capacity among residents of northern Saskatchewan to understand the environmental, health and safety aspects of uranium mining and milling, and encouraging youth in communities to understand the opportunities for a safe, healthy and rewarding career, broadly distributing relevant information in the Opportunity North magazine, the community library and our web site and, lastly, we have full-time community liaisons who are members of and work in the Fond de Lac, Hatchet Lake and Lac Lake First Nations.

Through our engagement efforts, we were able to identify and address local questions regarding the safety of consuming traditionally harvested country foods in Uranium City and the surrounding area.

In 2010, Cameco contract a third party First Nations-owned company to complete a two-year

investigation that included surveying local residents regarding their consumption of country foods, collecting samples of vegetation, fish and wild game with the help of community members and analyzing these samples at a third party laboratory.

This study concluded that the consumption of country foods utilized by the residents of Uranium City poses no health risks provided the healthy fish consumption guideline that is currently in place for Beaver Lodge and Martin Lakes is adhered to.

These results were presented to the community and were supported by the CNSC and the Regional Health Authority.

Another aspect of our engagement is the Eastern Athabasca Regional Monitoring Program. This program is jointly funded by industry, the Saskatchewan Ministry of Environment and the CNSC, and includes annual community-based monitoring of country foods and water in the Athabasca Basin First Nations and communities.

The results of this program continue to support the Uranium City country food study, demonstrating that it is safe and healthy to eat country foods.

All this work has led to today, where we are requesting the release of 20 decommissioned Beaver

Lodge properties from CNSC licensing and the amendment of the waste facility operating licence to reflect those changes.

The Saskatchewan Ministry of Environment has indicated that Cameco has met their requirements and obligations with respect to the 20 properties and will grant Cameco a release from decommissioning and reclamation. In addition, the Saskatchewan Ministry of Energy and Resources has indicated their intent to accept the properties into the institutional control program once they have been released from CNSC licensing.

The 20 properties subject to this request have met the performance objectives and will be protective of the environment as well as the public health and safety over the long term.

The 20 decommissioned properties proposed for release from CNSC licensing saw minimal mining and milling activity, and therefore required little to no decommissioning effort once operations ended. The properties are in a physically safe and secure condition.

Previous characterization and ongoing monitoring have demonstrated that any waste rock on the properties have low levels of mineralization and pose low risk to the environment.

To demonstrate that we have met the performance objectives, a review of the applicable performance indicators was conducted for each property.

This table provides an overview of the 20 decommissioned properties subject to this request in relation to the accepted performance indicators. It shows what indicators have been met and what indicators are not applicable to the properties.

For instance, if a property does not have any mine openings located on it, then the stable mine openings indicator is not applicable to that specific property.

We will now go into more detail for each indicator and summarize how the 20 properties meet the applicable criteria.

A comprehensive gamma survey of the reasonably accessible and disturbed areas of the decommissioned Beaver Lodge properties was completed in 2014. Results were compared to the Saskatchewan Guidelines for Northern Mine Decommissioning and Reclamation, which includes a guidelines of 1 μSv per hour above background averaged over a one hectare area.

Where that screening level criteria was not met, a risk-based approach was undertaken to assess the

potential radiological risk to the general public from casual access and use of the decommissioned properties. A door-to-door survey of Uranium City residents was conducted in 2015 to determine how much time people were spending on the decommissioned properties while conducting traditional activities.

The results of the gamma survey and the community interviews were provided to a third party expert, who completed a detailed risk assessment.

This risk assessment concluded that the estimated dose received by a member of the public utilizing the decommissioned properties was well below the public dose criteria.

The 20 decommissioned properties subject to this request have met the acceptable gamma level performance indicator and pose minimal risk to public safety and the environment.

During the licence term, Cameco has continued to locate and permanently seal exploration boreholes. This has involved conducting reviews of historical Government of Saskatchewan records as well as detailed field investigations on the decommissioned properties.

The photograph on the left shows an

exploration borehole that has been located and flagged, while the photograph on the right shows a borehole that has been sealed with grout. This performance indicator has been met, as all boreholes that have been located on the 20 decommissioned properties have been permanently sealed.

Final site inspections have been completed on the decommissioned properties to confirm the removal of any remnant debris. To meet this criteria, a three-year campaign was undertaken with help from Uranium City residents which included detailed walking inspections of safely accessible areas of the properties. Identified debris was flagged and subsequently removed to an approved location for disposal.

Overall, more than 2,400 person hours were dedicated to the inspections and the cleanup. This performance indicator has been met and remnant debris removed from the 20 decommissioned properties.

The next indicator relates to securing mine openings to ensure they are safe and stable for the long term. This involved replacing historic caps and ensuring new cap designs are signed off by a qualified person.

Mine openings were located through a review of historic mine photographs and drawings compared

to recent aerial photographs and detailed field investigation. Remedial options implemented depended on a number of factors, including bedrock stability, the depth of overburden, and previous successes using that particular method. This performance indicator has been met, as all five mine openings located on the 20 decommissioned properties have been sealed using regulatory approved methods.

A site-wide assessment of crown pillars on the decommissioned Beaverlodge properties was completed by a third party expert in 2015. This performance indicator has been met as no areas of concern with respect to crown pillar stability were identified on the 20 decommissioned properties that are subject to our request.

The final performance indicator relates to the stable and/or improving objective and states that water quality at selected locations on and downstream of the decommissioned properties should be within modelled predictions.

No aspect or feature on the 20 decommissioned properties subject to this request are anticipated to have a measurable influence on water quality. As such, this performance indicator is not applicable to the 20 properties. In support of

transitioning the remaining 45 properties into institutional control, Cameco will continue to monitor water quality at Beaverlodge as per our regulatory approved environmental monitoring program.

Cameco has fulfilled the requirements and obligations described in the Path Forward plan for these 20 decommissioned properties, and they meet the performance objectives. Upon release from CNSC licensing, the properties will be eligible for transfer to the Province of Saskatchewan for long-term environmental stewardship under the Institutional Control Program or free-released if not disturbed by previous mining or milling activities.

Canada Eldor will provide funds to the Province of Saskatchewan to provide for ongoing monitoring and maintenance of the 20 decommissioned properties and to address any unforeseen events. And the Government of Canada has provided written confirmation of their commitment regarding the financial guarantee for the decommissioned Beaverlodge properties.

Overall, the current condition of the 20 decommissioned properties demonstrates that the properties meet the established performance objectives and pose minimal risk to public health, safety, or to the environment.

That concludes my presentation, and we are here to respond to any questions or comments that you may have. Thank you.

THE PRESIDENT: Thank you, Mr. Nagy.

I'd like to now move to a presentation from CNSC staff as outlined in CMDs 19-H6 and 19-H6.A.

Ms. Tadros, you may proceed.

CMD 19-H6/19-H6.A

Oral presentation by CNSC Staff

MS TADROS: Thank you and good morning, President Velshi and Members of the Commission. For the record, my name is Haidy Tadros. I am the director general of the Directorate of Nuclear Cycle and Facilities Regulation.

With me today are my colleagues Mr. Peter Fundarek, director of the Uranium Mines and Mills Division, and Mr. Richard Snider, senior project officer within the same division. We also have licensing, compliance, and technical experts with us here in Lac du Bonnet and by videoconferencing to help answer any questions the Commission may have.

We are here to present Commission Member

Document CMD 19-H6, entitled "Request for Release of 20 Beaverlodge Properties from Licensing under the *Nuclear Safety and Control Act*."

CNSC staff are recommending to the Commission the release of the 20 properties from Cameco Corporation's waste facility operating licence in response to a request from Cameco. Nineteen of these properties, which are all low risk, are proposed for transfer to the Government of Saskatchewan's Institutional Control Program, or ICP for short. One of the 20 properties under consideration will not be transferred to the ICP as it is safe for unrestricted use, as explained within CNSC staff's CMD and within this presentation.

As a result of staff's recommendation, we are requesting that the Government of Saskatchewan be exempted from licensing under the *Nuclear Safety and Control Act* for these 19 properties in accordance with legislative requirements.

This presentation will also provide evidence that the licensee, Cameco Corporation, has met the performance indicators and objectives accepted by the Commission. These were established in order to determine when properties are eligible for release from licensing and transferred to the ICP. Detailed information in support of

this request is provided within this presentation and the written CMD which was provided to the Commission and interested members of the public.

In this presentation, we will provide a brief background of the Government of Saskatchewan's ICP and the CNSC's role within this process; a brief overview of the Beaverlodge site and history of Beaverlodge Project, as was already presented by Cameco; background and updates on the established performance objectives and indicators, which have been established in order to determine if properties can be released from licensing. We will cover the locations and a summary of the 20 properties proposed for release, including any long-term monitoring and maintenance requirements for these properties, where applicable. We will also go through engagement activities and participant funding that was available for the proposed request. And finally, we will provide CNSC staff's conclusions and recommendations.

I'd like to now pass the presentation over to Mr. Peter Fundarek to summarize the ICP.

MR. FUNDAREK: Good morning, President Velshi and Members of the Commission. For the record, my name is Peter Fundarek. I'm the director of the Uranium Mines and Mills Division.

Prior to providing information on the Beaverlodge Project and the current request for release of properties and the transfer of properties to the Government of Saskatchewan's Institutional Control Program, I will provide some background information on the ICP. A more comprehensive understanding of the ICP program may be found in the presentation to the Commission in October of 2018, entitled CMD 18-M38, An Overview of the Institutional Control Program for Decommissioned Mine and/or Mill Sites in Saskatchewan. The purpose of the briefing was to provide information on the ICP in advance of any decisions on this matter.

The Province of Saskatchewan is currently the only Canadian jurisdiction with uranium mines and mills that has such a legislated ICP. The ICP has been set up so that it can be used for any former industrial site located on provincial Crown land, that is, for example, northern Saskatchewan, not just former uranium mines and mills.

The ICP was established by the Province of Saskatchewan in 2007, and the first uranium properties to enter into the program were five satellite mine properties from the Beaverlodge Project in 2009. The Commission issued an exemption from licensing, and the properties were transferred to the ICP.

I will now provide a brief summary of the ICP as it pertains to the request as part of this presentation.

The ICP outlines a formal regulatory process for the long-term site management by the Province under the auspices of the Saskatchewan Ministry of Energy and Resources. The transfer of properties or facilities into the ICP will only be considered once mining and milling activities have ended and the decommissioning has been completed following the decommissioning plan, that the post-closure monitoring has been conducted by the licensee and they have demonstrated that the site is safe and stable, and that there are sufficient funds in place to provide for long-term monitoring and maintenance and also provided for unforeseen events.

Once CNSC staff are satisfied that the property is stable and/or improving and the province is ready to accept the properties into the ICP, CNSC staff will recommend to the Commission to amend the licence to remove the subject properties and to exempt the necessary properties from licensing, since they will be transferred to another competent authority.

The following flow diagram shows a simplified summary of the ICP process as it would apply to

decommissioned, stable uranium mine and/or mill sites.

The first step is the licensee applying for release and/or exemption from licensing. The licensee submits an application to the Province and to the CNSC for release from decommissioning and reclamation and requests transfer into the ICP. The Province and the CNSC conduct a detailed review of this application.

In the next step, the Province states that the properties can be transferred based on the following conditions: that the properties are eligible for release by the Saskatchewan Ministry of the Environment, and the CNSC agrees to consider releasing the properties from the licence and issue an exemption to the Province from licensing requirements under the *Nuclear Safety and Control Act* and associated regulations.

In the next step, the Saskatchewan Ministry of the Environmental states their intent to issue a release. If the request meets all of the criteria, the Province notifies the licensee of the intent by the Ministry to grant a release from decommissioning and reclamation, as per section 22 of the *Mineral Industry Environmental Protection Regulations, 1996*.

The next step is the Commission granting an exemption from licensing. In order for this to occur,

the Province must have either granted a release from decommissioning and reclamation or issued a letter of intent and have confirmed that the properties are eligible for transfer to ICP.

At this point, similar to today's proceedings, the Commission is being asked to make a decision to release the properties from the CNSC licence issued to the licensee and exempt the province from the licensor requirements, pursuant to section 7 of the *Nuclear Safety Control Act*.

The final step is the addition of the properties into the Institutional Control Program Registry. The licensee receives approval from the Ministry of Energy and Resources for the properties to be transferred and added to the ICP Registry. The properties are also released from the provincial surface lease and the licensee's mineral rights are surrendered.

The Province of Saskatchewan only accepts decommissioned properties into the ICP if they are either not licensed or are exempted from licensing by the CNSC. This is stated in subsection 3(f) of the provincial legislation, the *Reclaimed Industrial Sites Regulations*.

The CNSC has the legislative authority to issue exemptions in accordance with the *Nuclear Safety*

Control Act. Section 7 of the act authorizes the Commission to exempt a person from the application of the act and regulations, provided that it meets the requirements of section 11 of the *General Nuclear Safety and Control Regulations*.

The request before the Commission today is consistent with the requirements of section 11 of the *General Nuclear Safety and Control Regulations* since there is no unreasonable risk to the environment or the health and safety of persons by the proposed release of the subject properties.

Furthermore, in this instance, the properties proposed for release will still be the subject of regulatory oversight by a competent authority, the Province of Saskatchewan.

For the 20 properties proposed for release today, if the Commission accepts the CNSC staff recommendation, the Province of Saskatchewan will have the sole regulatory oversight for these properties following transfer to the ICP.

Cameco will remain a CNSC licensee for the Beaverlodge site, since there would remain 45 properties on the CNSC licence issued to the licensee. CNSC staff will continue to exercise regular regulatory oversight of these

remaining 45 properties at the Beaverlodge project. CNSC staff is confident that a coordinated and cooperative approach between the CNSC and the Government of Saskatchewan ensures that only sites that are considered safe will be presented to the Commission.

I will now pass the presentation over to Mr. Richard Snider.

MR. SNIDER: Good morning, President Velshi and members of the Commission.

My name is Richard Snider, and I'm a senior project officer with Uranium Mines and Mills Division.

I'll provide you with an overview of the Beaverlodge project, including the location, operating history and recent CNSC licensing decisions. This history is important, as there have been numerous studies undertaken and a path forward developed and implemented in response to Commission requests.

As shown on the figure, the decommissioned Beaverlodge mine and mill site is located in the northwest corner of Saskatchewan and is approximately eight kilometres from Uranium City, which has a year-round population of approximately 75 residents.

The Beaverlodge's licensed areas are

outlined in orange.

Historic mining activities were conducted within the Ace Creek watershed. The lower Ace Creek area is labelled on the figure. Mill tailings were deposited in Fuchs Lake and Marie Lake in the Fulton Creek watershed. These areas are shown in the tailings management area on the figure. Both of these watersheds flow into Beaverlodge lake.

There are five main licensed areas, including: HAB, Dubyna, Bolger/Verna, Lower Ace Creek, and the tailings management area.

There are also three smaller areas, which are the Eagle mining and two Martin Lake mining areas, which have a relatively small footprint. Each of these areas is a compilation of a number of individual properties. There are a total of 65 individual properties currently within the CNSC licence.

Eldorado Nuclear Limited, a federal Crown corporation, operated the site from 1952 to 1982. During the early operations, comprehensive environment protection regulations did not exist. As an example, the site operated for approximately 23 years before treatment of the tailings effluent was initiated. This was similar to other mining and milling operations in Canada during this time

period.

The *Nuclear Safety and Control Act*, and its strong environmental protection provisions, was enacted in 2000.

Decommissioning was completed in 1985 by Eldorado Nuclear, following the plan approved by the provincial and federal regulatory bodies, including the Atomic Energy Control Board. All buildings and surface structures were removed, tailings areas decommissioned, tailings spill sites remediated, and openings to underground working secured.

The approval noted that the site was expected to naturally recover in the long term. Since 1985, the site has been in a state of monitoring and maintenance.

In 1988, Eldorado Nuclear Limited and the Saskatchewan Mining and Development Corporation, a provincial Crown corporation, merged to form Cameco. As a result of this merger, Cameco was assigned the responsibility of maintaining and monitoring the site whereas Canada Eldor Incorporated, a subsidiary of the federal Crown corporation the Canada Development Investment Corporation, was to provide the funding for all site activities.

Cameco's current intent is to transfer the

site back to the province, through Saskatchewan's Institutional Control Program, within the current 10-year licence, which expires in 2023.

This graphic shows important milestones for the Beaverlodge project over the past decade.

In 2009, there were two separate hearings for Beaverlodge. The first was in February, in which the Commission issued an exemption from licensing with respect to five satellite mine sites. At this hearing, the Commission also extended the existing licence by eight months, and requested that Cameco propose a complete plan that gives details and milestones on long-term activities for the proposed three-year licence term.

Cameco provided the requested information at the second hearing, which took place in November and a three-year licence was granted.

From 2009 to 2013, annual updates were presented to the Commission, which provided details on CNSC staff's technical assessments and compliance activities, and Cameco's progress with the development of a remediation plan.

A six-month extension of the licence was granted in December of 2012 to allow time to prepare documentation and for the CNSC to review all documentation.

In April 2013, the final remediation plan was presented to the Commission. Over 20 supporting studies were completed since 2009, which have contributed to the development of the path forward, in which the licensee identified reasonable options to support the natural recovery of the site.

The remedial options selected were considered to be good engineering practices and were expected to result in localized improvements in water quality. However, due to the legacy mining impacts and the size of Beaverlodge Lake, there were no practical remedial options that would be able to meaningfully accelerate the natural recovery of Beaverlodge Lake.

In May of 2013, the Commission accepted the path forward and issues Cameco a 10-year licence to proceed with the remedial work and continued management of the properties.

In response to a Commission request, CNSC staff committed to providing defined performance objectives, indicators and regulatory-acceptance criteria for each property, as explained within this presentation, and also a property-by-property timeline estimate for institutional control transfer eligibility.

This information was presented by CNSC

staff to the Commission on October 2014. The objectives, performance indicators and regulatory acceptance criteria were established in order to evaluate any future submissions for requests for transfer of licensing and the transfer to institutional control.

Now, in 2019, CNSC staff are supporting Cameco's request to have 20 properties released from licensing based on the established objectives, indicators and criteria being met for the 20 properties under consideration.

Background information and updates on the performance objectives and indicators for the Beaverlodge project, that were accepted by the Commission in 2014, will be discussed in the following slides.

The performance objectives for all Beaverlodge licensed properties are that they be safe, secure and stable/improving.

"Safe" means that the site is safe for general public access. This objective is to ensure that long-term safety is maintained.

"Secure" means that there must be a confidence that long-term risks have been assessed by a qualified person and are acceptable. Also, residual radiation has been assessed and remediated as necessary.

For stable/improving, the licensee is to demonstrate that environmental conditions, on and downstream of the decommissioned properties, are stable and continue to naturally recover as predicted.

Performance indicators are used to verify that these broad performance objectives are met. Performance indicators, used to determine if a site is stable and safe, include: ensuring that there are acceptable gamma radiation levels; boreholes are plugged; caps are on mine openings; crown pillars have a low risk of causing surface subsidence; and, the site is free from historical mining debris.

The stable/improving objective is more relevant to monitoring water quality. In order to verify the conditions on and downstream of the properties are stable/improving, Cameco will continue to monitor the water quality to confirm that remedial options are effective in assisting the natural recovery in accordance with model predictions.

Each performance indicator has an associated regulatory acceptance criterium, as explained in the next slides. When all the applicable performance indicators and criteria are met, the property is considered safe, secure and stable/improving.

The performance objectives, indicators and regulatory acceptance criteria for the Beaverlodge site were presented to the Commission in 2014.

Prior to discussing the performance indicators, I will briefly describe some mining terminology in the next few slides.

The figure on the left shows a shaft and a raise. A shaft is a narrow vertical hole used to access the underground mine. A raise is a vertical or a near vertical excavation to an underground mine used for ventilation and/or emergency escape.

The figure in the middle shows an adit. An adit is an entrance to the underground mine which is horizontal or nearly horizontal.

The right-most figure shows a crown pillar, which is the rock mass above the upper-most mine working -- between the upper-most mine working and the ground surface. One of the risks associated with former underground mines is the collapse of this crown pillar, which can cause a surface subsidence.

The first performance indicator is acceptable gamma radiation levels. In 2014, it was stated that Cameco would complete a site-wide gamma survey which would indicate where additional material may need to be

applied to cover existing waste rock or tailings. Following the application of the cover material, a final survey was to be completed of the remediated areas, verifying that the cover was adequate.

The Regulatory Acceptance Criteria are: Reasonable use scenario demonstrating gamma levels at the site are acceptable.

Cameco performed a site-wide gamma scan in 2014 and prepared both a report, with their survey results (in 2014), and also prepared and submitted a Gamma Radiation Risk Evaluation Report in 2015. In support of the risk evaluation, a study on the use of the Beaverlodge site by Uranium City residents was undertaken. The reports were accepted by CNSC staff.

Within their submissions, in support of the request for the release of properties, Cameco provided figures showing the gamma scan results. The figure, as shown on the slide, shows the results for the JO-NES property.

For each property the gamma scan results were compared to the criteria identified in the Saskatchewan Guidelines for Northern Mine Decommissioning and Reclamation, i.e., average gamma radiation level of less than 1 $\mu\text{Sv/hr}$ above background over a 1 ha area. If

any properties were above this, a risk evaluation was completed to verify that public exposure would remain below 1 mSv/year.

The gamma radiation levels at the entire Beaverlodge site, including the 20 properties under consideration, do not pose a risk to the public, are below the public dose limit of 1 mSv per year, and are in keeping with the ALARA principle.

The next performance indicator is the plugging of exploration and/or mining drill holes. The performance objective was developed in order to reduce the potential for groundwater outflow that may have elevated contaminant concentrations to the surface.

In 2014 it was stated that Cameco would plug all identified boreholes on the site to prevent groundwater outflow to the surface.

The Regulatory Acceptance Criteria are: All boreholes have been plugged at the time of transfer to institutional control.

Thorough inspections of the properties were completed and all boreholes identified to date have been sealed.

CNSC staff will continue to verify that all boreholes on the properties remaining within the

licence are sealed during compliance inspections.

In order to ensure the long-term safety of the site, a performance indicator of stable caps on vertical mine openings was established.

The 2014 description was that the current concrete caps on the vertical mine openings would all be replaced or covered with new engineered caps with established designs to improve the long-term safety of the site.

The Regulatory Acceptance Criteria were: Caps have been replaced and signed off by a qualified person.

Please note that the 2014 performance indicator was limited to caps on vertical mine openings. However, in coordination with Cameco, CNSC staff have broadened this performance indicator to include all mine openings, including adits, and therefore, this performance indicator has been revised from "stable caps on vertical mine openings" to "stable mine openings".

Cap installation, if required, has been completed on the properties currently under consideration. The majority of the stainless steel caps on vertical mine openings for the remaining properties were completed in 2019, with the remaining cap installations to be completed

in 2020. In most instances the stainless steel caps have been installed over existing concrete caps. CNSC monitors cap installations through compliance inspections and review of documentation and this will continue to occur on all remaining applicable licensed properties.

One of the risks associated with former underground mines is the collapse of the crown pillar.

The associated Regulatory Acceptance Criteria are: Crown pillars assessed, remediated if required, and signed off by a qualified person.

In CNSC staff's 2014 CMD it was stated that: Based on the surface subsidence in the Lower Ace Creek area, a crown pillar assessment will be completed for the four areas that have mine workings close to the surface, including Hab, Dubyna, Bolger/Verna and Lower Ace Creek. Cameco was to complete the crown pillar assessment in 2014.

The surface subsidence which occurred in 2013 in the Lower Ace Creek area, which was the Ace stope, was remediated as shown on the photo in slide. The remediation included backfilling the subsided area and covering the entire area of higher risk with waste rock to mitigate any future crown pillar failures.

A crown pillar assessment of the entire

site was also completed. The risks from crown pillar collapse were assessed and the recommendations from the assessment were used to develop a monitoring program for those areas where monitoring was suggested.

All of the 20 properties currently under consideration are considered low risk for crown pillar collapse (if there is underground mine workings present), as described in staff's written CMD. CNSC staff will continue to review inspection results and inspect remaining licensed properties to ensure the risk of crown pillar collapse remains low.

The final performance indicator under the objectives of safe and secure is the performance indicator of site free from debris.

In 2014 it was indicated that: Inspection and removal of any residual debris would be completed prior to exempting the properties from CNSC licensing and accepting them into the ICP.

The Regulatory Acceptance Criteria are: Site free of former mining debris at the time of transfer to institutional control.

A site-wide inspection program was conducted from 2015 to 2017 to identify and remove debris at each property. Cameco, in their closure report

submissions, have provided evidence that the inspections were conducted at each property. The figure shown on this slide, as an example, shows the Hab 2A property GPS inspection log. Refer to the dashed lines for what portions of the areas were inspected.

CNSC staff, as well as staff from Saskatchewan Ministry of Environment, also inspect the properties to verify the removal of debris.

CNSC staff reviewed the closure report submissions and conducted inspections to verify information provided in these closure reports.

For completeness, the performance indicator of "water quality within modelled predictions" is presented here.

In 2014 it was noted that: Trends established from past and future water monitoring would be compared to modeled predictions to verify that remedial options expected to result in localized improvements are having the desired effects and also that natural recovery on and downstream of the decommissioned properties is continuing as predicted.

The Regulatory Acceptance Criteria are:
Water quality data is stable/improving.

A Quantitative Site Model was developed in

2012 and model predictions have an upper and lower water quality bound. If the measured data is found to be within the predicted range or lower, they will be considered stable/improving. If the monitoring data trends fall above the predicted range, CNSC staff will require Cameco to complete a reassessment of the site risks and conduct additional remediation (if necessary) depending on the risk.

The example provided is the uranium water concentration predictions for the outlet of Ace Lake, which flows into Ace Creek. For illustration purposes, the actual measured data and the trend line has been included to show how the monitoring data trends fall within a predicted range over time.

CNSC staff will continue to monitor how the water quality trends compare to model predictions and review annual compliance reports. Staff also review Environmental Performance Reports and Environmental Risk Assessments on a five-year cycle to confirm that the water quality risks are managed.

It is important to note that the proposed properties to be transferred to the ICP do not affect water quality at the established water quality monitoring stations either because the sites are not adjacent to a

water body or, if the sites are adjacent, adequate remediation was completed to limit the releases to surface water. Since Cameco is only requesting the release of sites that have minimal to no impact on any established water quality monitoring stations at the Beaverlodge site, water quality and/or a comparison with water quality predictions is not discussed within the CNSC staff's written CMD or this presentation.

A comparison to water quality model predictions will be made for any future requests for release from licensing in which the subject properties have the potential to directly influence water quality at these stations. Once in the ICP, the Province will monitor these properties, including collecting water quality samples and compare the results with the long-term predictions.

Regular updates on the Beaverlodge Project, including discussions on how water quality compares to modelled predictions, are included in Regulatory Oversight Reports presented to the Commission.

The following slides provide information on the locations of each property that are part of the current request, a brief summary of each property and verification that the properties meet the performance indicators as well.

Further information on each property is provided within CNSC staff's written CMD.

The Beaverlodge site consists of 65 properties, of which 20 are proposed for release from CNSC licensing. These properties are the Hab, Dubyna, Verna/Bolger, Eagle, Martin Lake and Lower Ace Creek areas.

The figure on the slide shows the licensed properties at Beaverlodge in orange, along with each property proposed for release in both green and yellow.

The yellow shaded areas show the properties or portions of properties that will require institutional control. Therefore, all of these properties will require an exemption from the Commission.

The green area shows one property and the portions of properties that do not require institutional control and will be released to Government of Saskatchewan management through their existing land management framework. The green denotes areas that were not disturbed by mining activities or that were reclaimed and pose no risk in comparison to the natural areas around the Beaverlodge Project and thus no institutional control is required, nor any monitoring.

This table, which is continued on the next slide, shows the 20 Beaverlodge properties and the

applicable performance indicators. The table also indicates which properties will be transferred to the ICP. Nineteen properties, or portions thereof, will be transferred to the ICP.

Nine of these properties will be transferred in their entirety and 10 will have portions transferred to the ICP.

One property of the 20 proposed for release will not be transferred to the ICP as there is no need for any monitoring, maintenance or any other institutional control measures.

As indicated earlier in the presentation, the performance indicator for mine openings was expanded to include all mine openings, not just caps on vertical mine openings.

This slide shows the remainder of the 20 properties. Please note that although no boreholes were found on property URA MC, boreholes were located immediately adjacent to the property and were sealed. Thus, the criteria was considered to be applicable to this property. It is important to note that exploration activities conducted prior to mining, such as the drilling of boreholes, is not regulated by the CNSC.

The Hab mining area consists of seven

separate properties and Cameco has requested that four be released.

The figure shows the current licensed Hab properties in orange and the proposed Institutional Control boundary in red.

The property figures provided in this presentation are also included within CNSC staff's written Commission Member Document and this document should be referred to if more information is required.

There was no mining disturbance on the Hab 3 property. However, the underground mine extends under a small part of the property. A portion of the property will be transferred to the ICP and monitoring of the site will be conducted, but no maintenance will be required. The AN-5 water quality monitoring station is located on the property. However, the transfer of the property to the ICP will not affect the ability to monitor water quality at this station.

There was also no mining disturbance on the Hab 6 property. There is a trail composed of waste rock on the property. A portion of the property will be transferred to the ICP. Monitoring will be conducted, but no maintenance is required.

The Hab 2A property has a backfilled raise

with a steel cap. The underground mine extends under the property, but the crown pillar is stable. The entire property will be transferred to the ICP. The property will be monitored and the steel cap maintained.

The EXC 2 property is shown in blue as this property is not proposed for transfer to the ICP. There was no mining disturbances on this property and the property does not pose a risk (in comparison with the surrounding area). As this property is not being transferred to the ICP, no exemption is required.

The Dubyna area consists of two properties and property JO-NES is proposed for release. The areas in orange are the current licensed boundaries and the proposed Institutional Control boundary is shown in red.

The JO-NES property contains a portion of a backfilled open pit, waste rock and an adit, the entrance of which has been backfilled. There are also two ventilation raises with steel caps. A portion of the property will be transferred to the ICP. Monitoring of the property will be required along with maintenance of the caps.

The Lower Ace Creek area consists of 21 properties and includes the Fay mine and mill site. The Verna/Bolger area consists of six properties.

The current licensed properties are shown in orange and the proposed Institutional Control boundary is shown in red. The location of Lower Ace Creek is shown in purple.

The 12 properties that are proposed for release are shown with a red label on this figure. Information on each property will be provided in the next few slides.

The Verna/Bolger area consists of six properties and two are proposed for release.

The current licensed properties are shown in orange and the proposed Institutional Control boundary in red.

The Bolger 2 property contains a backfilled spur pit connected to the main Bolger 1 open pit. There are no underground mine workings on the property. The entire property will go into the ICP. Monitoring will be conducted, but no maintenance will be required.

There was no mining disturbance on the Ace 5 property. However, a portion of the underground mine may extend under the property at a depth of greater than 100 metres. There was also a powerline on the property which was removed. The entire property will go into the

ICP. Monitoring will be conducted, but no maintenance will be required.

This slide shows the two properties proposed for release on the shore of Ace Lake.

There was no mining disturbance on the EXC Ace 3 property. However, a portion of the underground mine may extend under the property at a depth of greater than 91 metres. The entire property will enter into the ICP, but no monitoring or maintenance is required.

There was no mining disturbance on the Ace 2 property, but there is remediated spilled tailings on the southern portion of the property. Also, a portion of the underground mine may extend under the property at a depth of greater than 91 metres. The entire property will enter into the ICP and monitoring will be conducted.

This slide shows two more properties in the Lower Ace Creek area proposed for release.

There was no mining disturbance on the URA 5 property. However, there are remediated spilled tailings on a portion of the property and a portion of the underground mine may extend under the property at an approximate depth of 200 metres. The entire property will enter the ICP and monitoring will be conducted.

The EXC URA 5 property has waste rock on

surface and remediated spilled tailings on the eastern portion of the property. A portion of the underground mine may extend under the property at an approximate depth of 200 metres. The entire property will enter into the ICP and monitoring will be conducted.

This slide shows the three properties proposed for release in proximity to the Uranium City airport.

There was no mining disturbance of the EXC Ace 1 property. However, there are remediated spilled tailings on the southern portion of the property. A portion of the property will enter into the ICP and monitoring will be conducted.

There was no mining disturbance of the Ace 10 property. A portion of the property will enter into the ICP due to the boundary established by the Saskatchewan Ministry of Energy and Resources, but no monitoring will be required.

There were some mining activities conducted on the URA 3 property, which included the development of a raise to the underground workings. The raise has been capped and the underground mine extends under the property at a depth of greater than 45 metres. However, the risk of crown pillar collapse was assessed and

found to be low. A portion of the property will enter into the ICP and monitoring will be required, along with maintenance of the steel cap.

This slide shows the last three properties proposed for release in the lower Ace Creek area.

There was no mining disturbance on the ATO 26 property. The property does include the buffer that has been established around known underground mine workings on the southern portion of the property at a depth of greater than 76 metres. A portion of the property will enter into the ICP. No monitoring or maintenance is anticipated.

The EXC ATO 26 property has waste rock on the southern portion of the property and a portion of the underground mine may extend under the property at a depth of greater than 76 metres. The entire property will enter into the ICP and monitoring will be required.

The URA MC property has waste rock on surface and a portion of the underground mine extends under the property at a depth of greater than 91 metres. The entire property will enter into the ICP and monitoring will be required.

There is one remaining licensed property at the Eagle mining area and this is Eagle 1 and it is

proposed for release. The licensed property boundary is shown in orange and the proposed Institutional Control boundary is shown in red.

The blue outlines shown on the figure show the provincial Crown reserve. These areas were part of the 2009 transfer of other Eagle properties to the ICP.

The property includes a backfilled open pit and flooded open pit with an area of approximately 2000 m² and a depth of 9 metres. There is also waste rock on surface. A portion of the property will enter into the ICP and monitoring will be conducted, which includes water quality sampling of the pit.

It should be noted that there are no water quality objectives for the pit. The concentrations of uranium and Radium-226 are above the Saskatchewan Environmental Quality Guidelines for freshwater aquatic life and guidelines for potable or drinking water. However, the use of this area is quite low, as demonstrated by the land use study for the project. The pit water is also not connected to any nearby water bodies and it is considered unlikely that any fish species will reside in the pit. CNSC staff assessed the risks to the public as a result of the consumption of drinking water from the pit and found the risks to be low.

There are two Martin Lake area properties that are both proposed for release.

The current licensed property boundaries are shown in orange and the proposed Institutional Control boundaries are shown in red.

The RA 6 property includes an adit to underground workings sealed with a steel grate and there is waste rock on surface. The crown pillar between the two properties has been assessed and found to be a low risk of failure. A portion of the property will enter into the ICP. Monitoring will be required along with maintenance of the steel grate.

The RA 9 property includes an adit to the underground mine workings. The entrance has been backfilled with waste rock. There is also waste rock on the surface. A portion of the property will enter into the ICP and monitoring will be required.

Please note that the ICP boundary includes the underground workings that connect these two properties.

An Environmental Protection Review under the *Nuclear Safety and Control Act* and its Regulations was conducted and it was focused on the current request, which is the release of 20 properties from licensing and the transfer of 19 properties to the ICP. The Environmental

Protection Review was incorporated into the main body of the written CMD.

CNSC staff determined that the licence amendment and release of properties from the CNSC licence is not a designated project under the *Canadian Environmental Assessment Act, 2012*, and therefore no environmental assessment under this Act is required. If the proposed amendment and release of properties was proposed after August 28, 2019, it would still not trigger a federal Impact Assessment under the *Impact Assessment Act, 2019*, as it would not be a designated project as per the *Regulations Designating Physical Activities*.

CNSC staff also conclude that there has been and will continue to be adequate provision for the protection of the environment as a result of the release of these properties.

Cameco, in their submissions, have proposed monitoring and maintenance activities for the properties in the long term.

Due to the dates of the submission of the documents, it is expected that a cost adjustment to 2019 values will be required. However, based on the 2018 net present value, the costs for monitoring and maintenance are approximately \$176,000.

The amount for the unforeseen events financial assurance is based on the premature failure of a stainless steel cap, at an estimated cost of approximately \$117,000.

Funds provided by Cameco and the financial assurance will be used by the Government of Saskatchewan as they will be solely responsible for the monitoring and management of the properties once they are in the ICP.

The financial status of the ICP, as well as the properties within the ICP, is published annually and can be obtained from the Saskatchewan Ministry of Energy and Resources website.

Beaverlodge properties are currently inspected on a five-year frequency and the inspection reports from these inspections can be requested by contacting the Saskatchewan Ministry of Energy and Resources contact listed on their webpage.

The following slides provide information on public engagement and the Participant Funding Program.

The CNSC is committed to meaningfully engage Indigenous groups who have an interest in CNSC-regulated facilities and activities.

In support of the licence amendment request, CNSC staff identified First Nations and Métis

groups who may have an interest in the Beaverlodge Project, as shown on the right-hand side of this slide. CNSC staff notified the identified groups regarding Cameco's application and ensured they were informed of the Commission hearing process and PFP opportunity.

CNSC staff also participated in the annual community meetings in Uranium City and have regularly presented information to the Northern Saskatchewan Environmental Quality Committee, or EQC for short, on the project.

Interested Indigenous groups are participating in the licence amendment process. CNSC staff met with interested groups when requested, answered questions and provided additional information to assist with their participation in this hearing and their understanding of the request.

CNSC staff look forward to continuing to build our relationships and ensure that all the interested Indigenous communities are provided with the information they need about CNSC's ongoing regulatory oversight of the Beaverlodge site.

CNSC makes funding available through its Participant Funding Program, or PFP, to encourage participation in our Commission processes. Information on

topic-specific interventions can provide value-added information to the Commission.

Four applicants received PFP funding for interventions at this hearing, as shown on the table. Please note that the list of PFP recipients includes a late applicant and therefore this recipient is not listed within CNSC staff's written CMD.

I will now pass the presentation over to Ms Haidy Tadros.

MS TADROS: Thank you.

For the record, my name is Haidy Tadros. I will close off CNSC staff's presentation with our conclusions and recommendations.

CNSC staff conclude that:

- all of these low-risk properties meet the applicable performance indicators and regulatory acceptance criteria;

- that entry into the Government of Saskatchewan's legislated ICP requires that the CNSC release these properties from licensing and exempt the Government of Saskatchewan from licensing under the *Nuclear Safety and Control Act*;

- the ICP will provide sufficient regulatory oversight by the Government of Saskatchewan, who

are a competent authority for those properties or parts of properties that require long-term monitoring and control; and

- finally, following entry into the ICP, these properties will not pose an unreasonable risk to the health and safety of persons or the environment.

Should the Commission agree to the request to release these 20 properties, there will be 45 properties remaining within the existing CNSC licence. These 45 properties will continue to be monitored and managed by Cameco, with CNSC and provincial regulatory oversight, until such time as requests are made for these properties to be released and transferred to the ICP.

Given these considerations, CNSC staff recommend that the Commission amend Cameco's Waste Facility Operating Licence to remove 20 properties from the figure within Appendix A of the current licence, along with an update of the licence to the current CNSC standard licence format.

We also recommend that the Government of Saskatchewan be exempt from licensing under the *Nuclear Safety and Control Act* for the 19 properties proposed for transfer to the ICP.

This ends CNSC staff's presentation. We

would like to note that in Annex to CNSC staff's presentation we have provided a response to each of the carefully placed recommendations and interventions received. We will not be presenting this Annex, but it is there for information.

Thank you.

THE PRESIDENT: Thank you for the presentation.

Before we move to the interventions, we will take a 15-minute break and resume the hearing at 10:45.

Thank you.

--- Upon recessing at 10:29 a.m. /

Suspension à 10 h 29

--- Upon resuming at 10:49 a.m. /

Reprise à 10 h 49

MR. LEBLANC: Thank you.

We will now move to the interventions.

Before we start, I would like to remind intervenors, as I indicated just an hour and a half ago, appearing before the Commission that we have allocated 10 minutes for each oral presentation and we would

appreciate your assistance in helping us to maintain that schedule. This being said, the question period that will follow each intervention has no time limit to it.

Your more detailed written submission has already been read by the Commission Members and will be duly considered. There will be time for questions from the Commission after each presentation.

To help you in managing your time, a timer system is being used. The light will turn yellow when there is one minute left and turn red at the 10-minute mark.

Obviously, some intervenors will be participating by teleconference or Webex in this particular case. So if ever we go beyond the 10 minutes, I will just inform you that that is where we're at.

Thank you.

Madam President...?

THE PRESIDENT: Thank you, Marc.

The first presentation is by the Athabasca Chipewyan First Nation, as outlined in CMD 19-H6.9.

Mr. Jay Telegdi, are you in the room?

MR. TELEGDI: I am on the phone.

THE PRESIDENT: Oh, via teleconference, okay.

Over to you then.

CMD 19-H6.9

Oral presentation by

Athabasca Chipewyan First Nation

MR. TELEGDI: Thanks so much.

My name is Jay Telegdi, here on behalf of Athabasca Chipewyan First Nation.

I just want to first say thank you for accommodating us this way and allowing us to give our presentation over the phone here.

So I would like to say thank you to the Elder for his wonderful prayer, also to the Canadian Nuclear Safety Commission, Cameco and Saskatchewan for all the work they have done, as well as the work of the other Nations and intervenors.

And if I might, I want to give a special shout out to Adam Zenobi. That guy is the hardest worker in that whole department and I just wanted to recognize him and say thank you.

So I'm just going to go through the letter a little bit that was presented, just hit on some of the high points.

First of all, our submission does not grant or withhold approval for this project from our community, it is just a reflection of what our Elders had to say about it.

So on September 30th, 2019, we held a workshop with our Elders in Fort Chipewyan, Alberta, and we had between 50 and 60 participants. I say between 50 and 60 because it was like an all-day kind of thing and people were kind of coming and going, so about 50 or 60.

So we reviewed two documents that were provided by CNSC. We reviewed the request for release of 20 Beaverlodge properties from requiring licensing under the *Nuclear Safety and Control Act* and we reviewed the written submission from Cameco Corporation in the matter of the Beaverlodge Project Application to amend the Waste Facility Operating Licence to allow for the removal of 20 properties at the Beaverlodge Project from its licence.

So how we did it, we printed off copies of these documents and we had a bunch of different tables and we had facilitators taking the Elders through it. And how we usually started was we would look at a map of the different properties and if an Elder identified an area that was important to them, we would then go into the document a little bit more and look at what Cameco had to

say about that specific area. Most of the things that were identified sort of came out of the descriptions of the certain areas that were provided.

So I'm going to give you a little bit of information on who was present so you understand people's connection to the project and ACFN's connection to this area.

So of the 50 or 60 people who were present, about 20 percent of the Elders said that they had family in the area within the last one or two generations.

Seventeen other families who were not part of the workshop were identified as having ties to the mine area.

An additional 25 percent of the group that didn't grow up there, so this is a different group from the original 20 percent of the Elders that did, so 25 percent of this group said that at least once a year they go to that area to practise their treaty rights.

Four Elders said they used to work in the mine or their families worked in the mine under a previous proponent.

Two Elders said that they hunted and trapped in the area before the founding of Uranium City.

And then also important to note, there are

two families who had lost loved ones either due to cancer or other health issues from working in the mines.

And also important is ACFN has a Reserve right across Lake Athabasca, sort of kitty corner to the mine site, it's called N.22 Reserve, on the south shore of Lake Athabasca on the Saskatchewan side.

So these were the people present. So I would say they had a very good knowledge of the area. They had a good knowledge of mining. They had a good knowledge of impacts to the area, especially the pre-industrial state of the land before it was developed, so they could attest to the effects that have taken place.

So I'm just going to go through a few of the conclusions that were drawn by the Elders.

So we are not here to contest the info provided -- that wasn't the purpose of this exercise -- especially the science. You know, we didn't really get deep into the science, but instead we were relying on their lived experience to provide a different perspective.

So this exercise led Elders to the conclusion that the things that are of concern to our ACFN members were not the same things that Cameco appeared to be concerned with.

So we are not saying the data is right or

wrong, but we are saying there are definitely blind spots and that the picture that the assessment paints is incomplete.

So to put it another way, it struck us as a very settler document, a very settler process and a very settler sort of understanding and lens through this whole thing was viewed. So again, we are not saying it's right or wrong, it's just incomplete.

The other thing -- so I will give you a couple of examples of how this manifested.

So for instance, when you are looking at, say, location Ace 2, it talks about its proximity to road and it measures the desirability or the importance of that site by the proximity to road access. And this shows a gap in understanding that Indigenous people don't just travel by truck on roads. They also take boats, they take ATVs, sled dogs, snowmobiles, and so we are suggesting that you broaden your conception of land use and traditional lifestyle. And if you are missing this, which is really in our opinion quite fundamental and elementary, like these aren't hard concepts, if you are missing this, what else are you missing? So this is a reoccurring concern that kept coming up throughout our afternoon with the Elders.

So talking now about the average time

spent in each area, where it's assessed, you know, a certain number of hours per year, several Elders contested the average assumed time spent in an area. Some areas were assessed as being as low as two hours per year and so this led to a bunch of questions like, "How was this measured, how many people does this include, is this one person, is this the whole community, how did you arrive at this number", because it didn't add up to our numbers. Because in the case of the Hab area for instance, they knew that they spend more than 3.25 hours in that area themselves every year. And that is just one person. So what about other people, right? So how is this number being arrived at? It doesn't add up.

The other thing is, again, the people that you are measuring their land use or their activity in the area, did it include anyone who grew up there or who was there prior to development, who could like understand and attest to the pre-development stage of the land?

So this is particularly important when you start thinking about -- you know, I heard Cameco saying that these gamma levels pose no human -- or no threat to humans. There is a lot of apprehension about this because they were not convinced about the estimated number of hours that were used to make this determination. So if you think

that it's only 3.25 hours and our people are -- and that is assumed to be safe, well, what happens if you are doing double, triple, 10 times that, which some of our members are saying. So there's definitely some concerns there.

Also, there is a concern about cumulative effects. Were the assessments just made on the site, on the footprint of the site or did it include the surrounding area too? If not, our Elders worry that Cameco doesn't have an appreciation of cumulative effects that extend beyond the footprint of their sites. This is a grave concern to our members because in Fort Chipewyan they are downstream from all the oil sands development, all the municipalities that are on the Athabasca or the Peace, all the farms, all the forestry, all that stuff, and of course the mine sites as well. So, you know, it makes us wonder if you are factoring in cumulative effects and if not, why. Because I didn't see a lot of mention of it in the report myself and neither did the Elders and so that was definitely a concern.

So the last sort of thing that they kind of brought up was some areas were dubbed to have no features of interest and so the question was raised, well, features of interest to who, just humans? And they were quite adamant that you can't have a proper understanding of

the area if you are just considering humans, right? Were there features of interest to birds, to animals, to fish, to microbes, right? You can't have a complete knowledge and understanding or appreciation of what is going on there if you are not including all of the Creator's children. So far, all I hear or all I saw was talk about human interests. So our Elders were really concerned about that. So if you want to look at it from maybe a statistical approach, you do not have a complete representative sample if you are only asking one species how they feel about this.

So that was sort of the things that arose from it and, like I said, they saw it as a very settler document that missed elementary features of traditional life and so it makes us wonder what else is perhaps being missed.

So they had a couple of recommendations that I will just go through real quick. There are just four here.

So we want to have future CNSC or Cameco meetings up in Fort Chipewyan. There are people there who are very interested in it and that was one thing they were very clear about.

We want to also have our own

community-based monitoring team do our own assessments in the area to make sure that we are happy and satisfied with the level of the land. We have a very good community-based monitoring team here. We spend about \$1 million a year doing it, measuring in and around the Delta. So great experience, great knowledge, good techniques. They want to be a part of the monitoring in the future.

We also want -- whenever you are doing any of these tours, they want to have people who moved away from Uranium City who have a pre-industrial knowledge of the landscape to be included because, if you think about it, there's a lot of people who lived there, trapped or fished or hunted in the area, then when the mine site came, all the animals were moved away and so these people moved away too. So these are the people that we should have going on these tours, because they can attest to what was there before and they can actually say the extent of the damage.

So that's the three recommendations.

The fourth and final recommendation is they want to test -- I guess they want Cameco to come test the big dock in Fort Chipewyan for radiation. The reason they want to do this is because this is where the barges used to pull up from Uranium City and people worry that

there is still radiation or, you know, some other contaminants there.

So those are the four recommendations. These are the things that our Elders said.

And again, I wanted to thank and recognize everyone for putting this together and allowing us this opportunity to contribute to this.

Marci Cho.

THE PRESIDENT: Thank you very much for your submission, Mr. Telegdi.

I will open this up to Commission Members for questions and, Cameco and staff, you will certainly get an opportunity to express your reaction to what you have heard.

Why don't I start with you, Dr. Demeter, please.

MEMBER DEMETER: Thank you.

I'm not sure if Dr. Irvine, Dr. Zayed or Mr. David Sampson are on the line right now for questions.

THE PRESIDENT: For Dr. Irvine?

MEMBER DEMETER: Yes.

THE PRESIDENT: Dr. Irvine, are you on the line? Is anyone from Saskatchewan Health Authority on the line?

DR. IRVINE: Good morning. It's James Irvine.

MEMBER DEMETER: Oh, excellent.

Thank you very much for the presentation.

The question I have is on the second last page of the intervenor's presentation was concerns about families who have fallen sick to cancer or radiation poisoning. Perhaps you could give us a summary of health status reports relative to cancer rates in the region and this issue of radiation poisoning. I'm not sure, perhaps the intervenor later can sort of help me understand what specific incident they are referring to, but maybe from a public health point of view you may have a first go at it, Dr. Irvine.

DR. IRVINE: Yes. So I am James Irvine, for the record. I am the Consultant Medical Health Officer for the Saskatchewan Health Authority and the Saskatchewan Ministry of Health.

Yes, we have had an opportunity to engage in a number of health status in cancer assessments over the years. Starting in the early '90s, 1992 was our first report for 1967 to '86 cancer rates. That was done at the request of communities. We have had three health status reports since that time and continue to provide information

to communities, based on an electronic web-based health status report now which we update regularly.

Generally with -- oh, the other thing I guess we have done is at the request of Uranium City we have done a bit of a cancer cluster assessment there in 1982 [sic] and then in -- or, sorry, 2002, and in Black Lake we did a cancer cluster investigation at their request in 1996.

So generally, we have found the present situation up until 2004 -- or 2014, sorry, is that the Northern Saskatchewan cancer rate for females is roughly equivalent -- slightly lower but statistically equivalent to the provincial rate. For men, the rate in Northern Saskatchewan is slightly lower than the rate of cancer in the province. However, we have seen over time that the rates in the North have gone from lower compared to the province to now roughly equivalent. And each time we have done a study we have often predicted that the next time it gets done we may see elevation and part of that challenge is the high smoking rates that we see within the North. Right now within the country as a whole and in Saskatchewan the smoking rates in general are about 20 percent. The First Nations Food, Nutrition and Environment survey, which was an excellent survey done over the last few years and

included First Nations in Northern Saskatchewan, showed the smoking rate is 79 percent. So we have predicted that lung cancer particularly, but a variety of others, will continue to increase and in fact we have seen that relative to the province, where the male cancer rate has started to decrease, particularly because of lung cancer reduction, because of gradually reducing smoking rates there, but we haven't seen that yet in the Athabasca. So there is an ongoing concern for cancer there.

We have also had some discussions with the various communities and with the Saskatchewan Environmental Society as it relates to paediatric cancer. Every child with cancer is a very difficult circumstance for family and community. We have done a study over a 25-year period just recently and have compared the rates of cancer for children within Northern Saskatchewan with cancer within Saskatchewan as a whole and in the nation. In Canada the cancer rate for children is about 16 per 100,000. Within Saskatchewan as a whole, it's 14 and within Northern Saskatchewan it's 7. So it's about half the rate of cancer in children compared to the provincial rate, which is good news.

In the discussion as it relates to radiation poisoning, we wouldn't have sort of that specific

information. That would likely be more specifically available through groups such as Occupational Health and Safety, Saskatchewan Labour or maybe CNSC. But in terms of my involvement over the years, since about 1985, I haven't dealt with a radiation poisoning situation there. A better question would be to be placed within Occupational Health and Safety.

MEMBER DEMETER: Thank you very much.

THE PRESIDENT: Staff, did you have anything to add to what Dr. Irvine has said around the health status reports or health studies?

MR. RINKER: Mike Rinker, for the record.

So we do have the Health Science staff available, but I think we work collaboratively with the province and what Dr. Irvine has presented is fulsome.

MEMBER DEMETER: Thank you.

THE PRESIDENT: Thank you very much.

Dr. Berube...?

MEMBER BERUBE: This question is for the intervenor. I'm just curious. You know, we are looking at your -- you are looking at historical land use in this particular area and I'm just curious. If these properties are actually shifted over to the ICP program, what would be your intended use of these particular properties going

forward?

MR. TELEGDI: So thank you for that. You know, that is something that we have to ask the Elders, if they would still feel comfortable going back to those areas. I know some of them already use the areas, but the kind of stuff that is done is hunting, trapping, fishing, recreating. You know, the peaceful enjoyment of treaty rights is being out on the land.

In terms of a specific site, I don't have the information where, you know, one individual is like, hey, I want to go to Hab or something like that, right? So I think that they would just continue -- they would want to continue to use the land as they always have.

THE PRESIDENT: Dr. Lacroix...?

MEMBER LACROIX: Thank you. I would like to hear the reaction of Cameco concerning the four recommendations made by the Chipewyan Nation.

MR. MOONEY: It's Liam Mooney, for the record.

I would suggest that Kristin Cuddington could provide some more context in relation to the first recommendation and that relates to further engagement activities with ACFN.

With respect to community-based monitoring

in the area, we do have a great deal of community involvement in the current monitoring programs that are in place in the area, those outlined in the presentation but included the Eastern Athabasca Regional Monitoring Program as well as the community-based monitoring program that is a product of the collaboration agreement that we have with the three First Nations in the Eastern Athabasca. So that would be my response in relation to the monitoring side.

On the tour, I think that would fold into Kristin's response in relation to further engagement.

And with respect to the dock in Fort Chipewyan, we have no record of Beaverlodge uranium being shipped to that dock, so we think that there may be some further information that we would need to gather and potentially discuss other producing properties that uranium may have made its way through there and determine what further needs to be done in relation to that particular recommendation.

But I will turn it over to Kristin on some further discussion on engagement.

MS CUDDINGTON: Good morning. Kristin Cuddington, for the record.

So we would be open to talking more about their concerns and from there determining the steps forward

for engagement.

Engagement looks to promote a broader understanding of the properties and the potential effects to the area.

Engagement has been designed and is evolving to ensure that relevant questions and concerns are elicited and responded to in a meaningful way.

I'm just going to talk a little bit about how we communicate or how we engage. So a combination of communication methods. We use two-way communication, face-to-face whenever possible, to address questions and concerns raised in a timely and clear manner through regular community engagement meetings, workshops, town halls, site tours. We encourage questions and discussion to learn about stakeholders' interests and values and then, in turn, respond or -- in turn, which this would inform site activities.

We have updated the Northern Saskatchewan Environmental Quality Committee and the Athabasca Joint Engagement Subcommittee where the Athabasca communities are represented. Broad dissemination of info through web site magazines with pan-northern distribution.

In addition to that, our community liaisons that are located in all the First Nations, and these individuals help community members learn about

opportunities with the industry and respond to specific concerns.

They're also a link to -- for the community members to industry, and they oversee key aspects of our northern strategy, namely, recruitment and training, community investment and community engagement.

THE PRESIDENT: So Mr. Mooney, I would just like to follow up on your statement that there is, in your opinion, already adequate involvement of the community when it comes to monitoring.

Is the ACFN actively involved in the monitoring currently?

MR. MOONEY: It's Liam Mooney, for the record.

What I was attempting to outline was the nature and depth of the already in place community-based monitoring programs that we have worked over many years to develop. In that space, ACFN is not part of those programs. A great deal of that goes to the Athabaskan monitoring -- working group and the monitoring that had been done that shows by the time we get to Cracking Stone Bay in Lake Athabasca that the water quality returns to the -- within Saskatchewan water quality guidelines.

Cracking Stone Bay is about 170 kilometres

away from the Fort Chip Reserve, so in that conversation we were really focused on the three Athabasca First Nations that you'll hear about later today.

That's not to say, as Kristin was alluding to, that there's an opportunity to share some of that information, make sure that there's awareness of the involvement of these other First Nations in those various programs, and we would take advantage of that opportunity to communicate with them in that regard.

THE PRESIDENT: Thank you.

Dr. Demeter.

MEMBER DEMETER: Just a question for AMERCO.

There was a lot of discussion about land use and you talk about your land use survey for your documents and your presentation.

Maybe you can tell me what the methodology was. How did you choose the participants? Because the intervenor suggests that perhaps potential users of the -- they weren't represented in the land use survey because they didn't represent their potential time on the land.

So maybe tell us how you chose your participants for the land use survey.

MR. NAGY: Kevin Nagy, for the record.

The land use survey did focus on Uranium City residents. They are the closest community to the decommissioned properties, located approximately eight kilometres away, and would be expected to spend the most time on the decommissioned properties.

So we made an effort to contact and interview people from all the active households in the community. We had a good response for this kind of survey; in excess of 62 percent. And the third party expert that put all that together for us did conclude or note that the survey results represented a good cross-section of community land users and included key land users such as trappers and local elders.

The other thing I'll also point out, there was some discussion about road access. So the people in Uranium City include First Nation individuals, Métis individuals, other people as well. And they do utilize quads, other all-terrain vehicles, boats, skidoos. So it's not just trucks and roads that people are utilizing to practise their traditional activities.

The dose assessment that was done using the information from the gamma survey did include conservative assumptions, conservative scenarios, so they did take the maximum time an individual said they were

spending on properties, took the highest measured dose from the properties and used that to come up with an estimated dose for all the 65 properties.

In every case, the result was well below the public dose criteria.

In addition, they also did a cumulative scenario which assumed, basically, you had a person that went to all 65 properties, spent the indicated time and got a conservative dose. And again, that individual would be well below the public dose criteria.

So I think the work we've done and the assessment that was completed is robust and conservative enough that it would apply to any land use user on the decommissioned Beaver Lodge properties.

MEMBER DEMETER: Thank you very much.

I still feel that the survey is potentially unrepresentative of the community at large because people who live in Uranium City, the likelihood of -- they're not the only ones that potentially use the land.

So I don't know how much of a burden it would have been to have extended invitations to off Uranium City individuals to invite their organizations or their -- whatever structure they have to participate as they saw

fit, but I -- looking at it, I think it's a little bit under-representative of the broader community that might use those lands.

And your dose surveys are based on your maximum time spent there, and from the intervenor it seems that that might not reflect some of the use.

MR. NAGY: Yeah. Again, the -- I think we are open to hearing some concerns and sharing -- I think perhaps a better job of sharing the work that we have done. But we do think that the assessment was robust enough and conservative enough that it would account for, you know, other land users that might not have been included in the original survey.

THE PRESIDENT: So on that, what kind of sensitivity analysis is done by your third party consultant? Do they say if it was double whatever the highest level of occupancy was that would still be well within the dose limit?

MR. NAGY: Kevin Nagy, for the record.

The assessment did include a back calculation, and I don't have that information in front of me right now. But the results did indicate that an individual would have to spend a significant amount of time in a single particular area of the properties, so rather

than hunting, fishing, trapping, they're basically standing still in a small square area. And even then a very significant time would have to be spent on the properties.

THE PRESIDENT: Thank you.

Dr. Berube?

MEMBER BERUBE: Yeah, just a quick question.

You've mentioned that you've actually done tours with First Nations as part of the decommissioning process, but I'd like to get a little more amplification on what that constitutes.

What I'm hearing from all First Nations groups, not just this particular one, but all of them, is there's a level of discomfort from the elders in terms of what -- what they can do here and how they actually, believe it or not, feel about the property.

Have you actually gotten to a point where you're taking these elders, putting on the hiking boots and walking the land before you turn it over? Because I think that would go a long way towards -- towards adding some kind of a continuity and comfort since you're actually giving up licences at this point should that happen.

MR. MOONEY: It's Liam Mooney, for the record. Thank you for that.

I'm going to ask Mike Webster, who has been our lead in relation to the Beaver Lodge properties for over a decade and, in that time, has led a number of those site tours after doing the meetings in Uranium City for some description, and particularly focused on the last one where we were looking at the 20 properties that are the subject of this licensing application.

MR. WEBSTER: Mike Webster, for the record.

So we have annual tours where we go to the community. With that, we have -- we usually invite the EQC and AJEES members which have representatives of the First Nations in northern Saskatchewan. And following our presentation where we discussed the 20 properties that we were planning to propose for transfer, we would -- we would go out to the properties, some of the properties that were representative of what we were -- of our application.

And we provided tours to those individuals from the EQC, from the representatives of AJEES as well as any members of the public from Uranium City that were in attendance at the meetings.

MEMBER BERUBE: I just want to -- I just want to amplify on this. It's just so critical for the elders to actually walk the territory. That's how they

re-establish connection, and so that's a critical part of this.

And I think most Indigenous groups would agree that this is an important part of the passage, if you want to call it that, in order to honour the land.

MR. MOONEY: Liam Mooney, for the record.

Maybe I'll just amplify what Mike was saying, but there was and there has been a concerted effort to get out on the land in relation to maybe not all of the properties, but the areas -- representative areas. And there's hiking boots involved in those efforts, and they do involve the -- all that are physically able to make the trip out to them.

As Mike alluded to, they're not -- some of them are relatively inaccessible, so working our way through that, but that is definitely the intent, is to have a discussion on the technical, but there's also the opportunity to go out and I think that we would say that we've derived a great deal of benefit from those tours and the physical interaction with the land and some of the input that we've received from First Nations and Métis participants in those efforts.

THE PRESIDENT: Dr. Lacroix.

MEMBER LACROIX: Let me ask you a cross

submission question.

On page 23 of CMD 19-H6 document submitted by CNSC, it says that the area AB3 contains a portion of Pistol Lake, which contains elevated radium and uranium.

Let's say that you have an elder from a -- or family from the Chipewyan First Nation that establish a camp for a year near Pistol Lake on AB3. Would they be exposed to excessive radiation?

MR. NAGY: Kevin Nagy, for the record.

I don't have the information to answer your specific question in front of me. What I will say is that the work we've done with the gamma survey and the land use surveys that we've done with the Uranium City residents did show that under reasonable use scenarios, so casual access, recreational, traditional use of the lands, there was no risk of an individual exceeding the public dose criteria. They were well below.

And again, under the back calculation that they did, an individual would have to spend a significant or an unreasonable amount of time to reach the public dose criteria.

MEMBER LACROIX: So if I understand, that means that people living over there, they could fish, hunt, harvest, drink water and it would be safe?

MR. NAGY: Kevin Nagy, for the record.

That's accurate. The intent is that these properties are safe to the public for casual access, traditional use activities with no restrictions on those.

Under institutional control, there would be administrative controls in place so you wouldn't see somebody building a tourist lodge on the decommissioned properties or conducting some industrial activities that might disturb the decommissioned properties.

THE PRESIDENT: Staff, did you have a comment to Dr. Lacroix's question?

MR. RINKER: Mike Rinker, for the record.

Only to add one clarification, that there are some water bodies with a fisheries advisory -- consumption advisory in the case of selenium for selenium intake. So I just want to add that to the record.

THE PRESIDENT: And where there have been higher than guideline levels of surface uranium and radium-226, how high have those levels been or how high are those levels?

I think it's the Eagle area property.

It's on slide 34 of your presentation.

MR. McALLISTER: Andrew McAllister, Director of the Environmental Risk Assessment Division.

So what we have is water quality results from the surfaces of the pit between 1995 and 2015, the uranium concentrations range between 134 micrograms per litre and 856 micrograms per litre, and radium-226 range from 0.29 Becquerels per litre to 0.65 Becquerels per litre. And to put that into comparison, the Uranium Saskatchewan guideline is 15 micrograms per litre and the radium-226 guideline is 0.11 Becquerels per litre.

THE PRESIDENT: So significantly higher.

MR. McALLISTER: So Andrew McAllister.

Yes, significantly higher, but when we put that pit in context in the overall sort of ecological context, there are a number of factors to consider.

First of all, we're looking at a human-made feature in the landscape with a small footprint that's had those concentrations for some time. It doesn't pose -- doesn't represent really habitat for aquatic species. Very steep slope. Very little littoral zone.

There's a lot of I'll call it better aquatic habitat nearby.

Likewise, CNSC Staff -- that notwithstanding, CNSC Staff did do a drinking water assessment for that particular pit and found that it would take quite some time, on the order of six days, to achieve

one-tenth of the public dose limit whereby the usage study shows a much lower use of that area compared to the amount of time to achieve that level of dose.

THE PRESIDENT: Thank you.

Dr. Demeter.

MEMBER DEMETER: I was going to save this question for later, but it's been raised so I thought I'd finish it. It's to deal with the uranium and -- that we were talking about right now.

The -- page 31 of the staff CMD says in order to assess the risk to humans as related to the pit water quality, CNSC calculated the amount of full-time occupancy required to result in a dose of 10 μ Sv and goes on to say it would be approximately six days if that was the sole source of drinking water.

My concern with that statement is that the risk to humans from the uranium in the water is not the radiation; it's the uranium concentration. And you're making it sound like it would be safe to drink this for six days based on the radiation dose. It should also have a calculation in there of what would be safe for a kidney toxic dose because the guidelines are in micrograms per litre based on kidney toxicity, not based on radiation.

I just don't want to -- I want to make

sure that people understand that six days may be safe for the radiation. If it is safe for the kidneys, it should be in there because it's a kidney toxin more than it is a radiation risk.

So if you don't have that analysis, that's fine, but it -- it just makes -- I didn't want to make it sound like it's safe when it may not be because of kidney toxicity. That's my concern with that statement.

I'm not sure if staff have a response to that.

MR. SNIDER: Richard Snider, for the record.

Yes, we did look at uranium toxicity as well, but we just included the radiological risk in the staff CMD.

MEMBER DEMETER: Yeah, because the guidelines for drinking water are considerably lower than -- and that's based on kidney toxicities. Okay.

MR. MOONEY: Sorry. It's Liam Mooney, just coming back in on that.

I think another important piece is that that pit will be subject to the administrative controls when it's in institutional control, so there's that additional guard.

I think that when we looked at the pit, we did take some steps because of concerns about public safety and made some alterations to the access to allow if a person were to fall into the pit, they were able to get out easier, but they're -- otherwise, it's -- it would be subject to those controls once it's in the provincial institutional control program.

THE PRESIDENT: Thank you.

Dr. Berube?

Dr. Lacroix.

MEMBER LACROIX: Yes. This is a question for the intervenor.

On page 6 of your submission, it says that there was a general knowledge that uranium becomes purer the more north you go.

Is it a perception within the community or is it a scientific fact?

MR. TELEGDI: So what is a scientific fact, I'm not sure, but within the community, especially those who had experience working at that mine -- at that specific mine when they -- with the previous proponent, they said that it gets more pure the more north you go.

And so this was confirmed at several -- several times throughout the afternoon.

So to give everyone an idea, we had separated the elders into four different groups where they couldn't hear each other, so they don't know what they were saying, what the other tables were saying.

And so it -- several times it was brought up at different tables by different people.

MEMBER LACROIX: I would like to hear from Cameco.

MR. MOONEY: Liam Mooney, for the record.

Mike Webster did some review of the mine information and the Beaver Lodge, you know, various mine areas, but sort of looked at about a quarter of a percentage point as compared to McArthur River that are between 15 and 20 percent. Again, those are at depth, quite a bit different deposits, so there's geological features within the deposit.

So you can have times within an ore body as you proceed north, but underground it becomes richer.

So I'm not -- I'm not disputing it. I'm just adding it as a basis of comparison that the high grade deposits that we have in southern areas, but again, very different geological structures involved.

THE PRESIDENT: Before I turn to Mr. Telegdi for any final comments, Cameco, did you have any

other comments on the issues and concerns raised by the intervenor that we haven't addressed?

MR. MOONEY: It's Liam Mooney, for the record.

Maybe I'll ask Kristin Cuddington to talk a little bit about how we tried to consider different perspectives beyond the two-legged ones in relation to the decommissioning activities that we've undertaken.

MS CUDDINGTON: So we recognize that there are multiple forms and encourage stakeholder consultation during events like remedial option workshops to try to incorporate a range of world views and knowledge systems into decision-making processes.

It's Kristin Cuddington, for the record.

Information was collected respectfully and incorporated into various assessments involving the decommissioned properties.

THE PRESIDENT: Mr. Telegdi, any final words from you?

MR. TELEGDI: Hi. It's Telegdi here, for the record.

Thank you so much to everybody for all of your comments and feedback. I just had a couple sort of final questions because we want to be able to make this

information usable and bring it back to our community so we could make some decisions about, you know, how we govern ourselves and how we use the land.

So my first question is, you know, so Fort Chip is a really -- it's the oldest community in Alberta, and it's only about 1,100 people. So believe me, everybody knows everybody. So my question is who is your community liaison that we can speak to in the community of Fort Chipewyan? So that's one question I have for Kristin Cuddington.

And then also it was brought up about the safe level of dose. So you're saying someone would have to spend six days in a certain spot to get one tenth of a public dose. So I just wanted to say, you know, it is not unnatural for someone to go set up a duck blind and spend a week or two in a single spot waiting for a moose or a duck or something else. So they could be out there I think reaching those levels, especially since they go back it could be every year.

And also you got to think about, you know, these -- I imagine this radiation build-up's cumulative. You've got kids that go out there. So this isn't the case with everybody, but you have people who will take a one- or a two- or a five-year-old into the bush to teach them the,

you know, the way of life. So what's going to happen to that little kid, who's going to be going back there, you know, 60 years, 50 or 70 years or something like that? Will they be at risk of exceeding the safe, acceptable public dose?

So those are my questions.

THE PRESIDENT: Okay. Well, we'll turn to Cameco for the first one. Your community liaison person.

MR. MOONEY: It's Liam Mooney, for the record.

I think we may have been mischaracterized. There are community liaisons in the First Nations of Hatchet Lake, Fond du Lac, and Black Lake that Cameco has worked with. We do not have a community liaison with Fort Chipewyan.

THE PRESIDENT: Is there an individual within your organization that they can contact to get additional information or share their concerns?

MR. MOONEY: It's Liam Mooney, for the record.

Kristin's sitting right behind me, and she would offer her time to understand any follow-up questions and provide information as necessary and work with the CNSC to make sure that all parties involved understand what's

happening in relation to the decommissioned properties.

THE PRESIDENT: Okay, thank you.

And on the second question I'll turn to staff to answer around the safe level of dose and cumulative lifetime dose issue.

MS TADROS: Haidy Tadros, for the record.

My colleagues from the Environmental Protection and Radiation Protection may want to complement this response, but I think from CNSC staff's perspective, our objective is communication at this point, to ensure that the science behind how we put the recommendations together, how we look at the values are clearly understood, an explanation of the background radiation versus the information presented by Cameco.

As noted in CNSC staff's presentation, there are currently 45 properties, should the Commission agree that these properties should be released from regulatory oversight. So with any licensing activity, continuous engagement, continuous communication with the Indigenous communities to better understand their use of the land and to get specifics around where they are, what they do, so that we can help ensure the science behind our information and our oversight is clearly communicated. And we have again multiple venues to do that in from the

Northern Saskatchewan Environmental Quality Council to specific engagement activities one on one with the communities that show an interest in the work that is being conducted.

I'm not sure if our colleagues in Environmental Protection can speak specifically to the values of the dose, so I'll let them.

MR. McALLISTER: It's Andrew McAllister.

Just to speak to some of the things that were raised, the gentleman mentioned about the duck blind for a couple of weeks. This -- our particular analysis is as it relates to the drinking water for consuming from the pit. And certainly that would be, you know, even though the dose was low, certainly, you know, now that that's the kind of knowledge I think that would be useful to the community to be aware of that.

And lastly, his concern about children and toddlers coming on site, those receptors were looked at in the human health risk assessment that has been submitted, and the doses are -- the estimated doses are quite low.

THE PRESIDENT: Okay. Thank you very much.

Mr. Telegdi, again, thank you very much for your intervention.

The next presentation is from the Ya'thi Néné Land and Resource Office, as outlined in CMDs 19-H6.8 and 19-H6.8A.

I understand that Mr. Schmidt will be making the submission with the chiefs. So Mr. Schmidt, the floor is yours.

CMD 19-H6.8/19-H6.8A

**Oral presentation by the
Ya'thi Néné Land and Resource Office**

MR. SCHMIDT: For the record, Garrett Schmidt. Good morning, President Velshi and Commission Members. My name is Garrett Schmidt. I'm the executive director for the Ya'thi Néné Land and Resource Office.

With me here today, I have Chief Coreen Sayazie from Black Lake; Chief Louie Mercredi, to my left, from Fond du Lac. Behind me to my right is Elder Daniel Robillard, who provided the opening prayer for us from Black Lake, as well as behind me to my left is Councillor Paul Denechezhe from Hatchet Lake.

Ya'thi Néné is owned by the seven Athabasca Basin communities, including Camsell Portage, Uranium City, Stony Rapids, Wollaston Lake, Hatchet Lake,

Fond du Lac, and Black Lake. We represent the interests of the communities in regards to land and resource management issues.

In the presentation, I will provide an overview of our submission followed by an opportunity for the chiefs and the representatives here to provide further comment.

Ya'thi Néné participated in a site tour on June 4th with the Athabasca joint environmental subcommittee, the CNSC, Cameco, as well as the EQC members. We've also received and reviewed the various technical documents provided by the CNSC and from Cameco, in addition to requesting additional technical documents that were then provided and further discussed.

We completed our own independent environmental and legal review, and we conducted two engagement sessions with the leaders from the seven Athabasca communities.

In short, Ya'thi Néné agrees with the request to release the 20 properties from the CNSC licence and to amend the waste facility operating licence. However, Ya'thi Néné has the following five recommendations:

1. Provide more than a 30-day period for

the submission review from when the CMD is issued to when intervenors have to submit. Thirty days is simply not enough time for us to receive the technical information, engage with leadership and other community members to provide a comprehensive, meaningful response to the Commission. So that time needs to be extended.

2. All Athabasca Basin communities need to be included in discussion and consultation concerning the properties at Beaverlodge. To date, as we've discussed, primarily Uranium City has been engaged; however, Camsell Portage is 40 kilometres to the west and Fond du Lac is 80 kilometres to the east. All of Athabasca Basin communities, or those interested, need to be further engaged and consulted on these properties or other activities moving forward.

3. Keep all Athabasca Basin communities informed of future monitoring results from the sites transferred to the ICP. This is a process that we're not very familiar with right now. We need to understand who's involved, what is the reporting frequency, and start to develop some of those relationships so we can get involved and we can understand what information is being collected both in the field and how that's being communicated back to community members.

4. Conduct a human health study on the rates of cancer and health issues related to the mining industry in the Athabasca Basin. So through the engagement sessions with community leaders, a number of concerns were identified and community leaders were requesting an independent health study on the impacts of the mining industry on the Athabasca Basin community members.

5. Remediate the legacy buildings in Uranium City that were constructed and abandoned by Eldorado Nuclear Limited, now Canada Eldor Inc., under the federal Crown. There are over 500 properties in Uranium City that require remediation. This includes over 200 super-structures as well as other concrete structures that need to be disposed of properly, in addition to above-ground fuel tanks and underground fuel tanks. The state of this infrastructure, this derelict infrastructure poses a health and environmental risk that needs to be addressed.

Closing remarks.

Ya'thi Néné appreciates the opportunity to participate in the Commission hearing. The communication between the CNSC, Cameco, and Ya'thi Néné has been prompt and professional, and more extensive consultation is required with all Athabasca Basin communities and their

members so their concerns can be better understood and addressed.

I would now like to pass it over to the chiefs for further comment.

CHIEF MERCREDI: Chief Louis Mercredi, Fond du Lac First Nation, for the record.

We have some unresolved issues relating to Beaverlodge mine site. Meaningful compensation for the outstanding damage that it caused to our people. Our way of life has been damaged. Our traditional gathering areas, our sacred area was destroyed due to the mining industry that took place in Beaverlodge. And the lake, we all heard there's contaminants in that lake. We can't even drink from that lake nowadays.

Our future generations will never depend on this area. Our ancestors has thrived on these traditional territories for tens of thousands of years. There were artifacts found in this general area which dates about 18,000 years, and they were Dené artifacts. So that tells us we've been there forever. And we are not going anywhere soon. We are there to stay. But the damage is done to our land.

And there is very little local involvement in these remediations that are taking place in our

traditional territory, Treaty 8 territory. We are the descendants of Treaty 8. We hold the signatory on Treaty 8, Fond du Lac.

They say nature will recover, will take its place to recover the remediated site, but that's not going to happen right away. We don't know what the unforeseens are that will hand us back. That's my concern right now.

I'm going to use a perfect example. Cluff Lake, the tailings, there's an issue there. The tailings cover was done during winter months. Summertime, everything got melted and that -- all it is, is just a floating of material now that was created. The tailings cover took place in winter months when everything was frozen. My understanding, that's a major issue. And that again is within our traditional area.

And the gamma rays, the survey that was done for Uranium City members. How about the surrounding communities? Why wasn't the survey done in the infected communities like Fond du Lac, Black Lake, Fort Chipewyan? Fort Chipewyan lives downstream from the industry, the legacy mines.

And are we also in seeing elevations of uranium in the water quality over the course of the years.

We live downstream from the Rabbit Lake, all the current mines that are happening in Saskatchewan, Black Lake, Fond du Lac, Fort Chip. We live downstream from these industries. We live downstream from an industry that's happening in Alberta, which is another impact for us as Dené people of Athabasca.

And these hearings take place in a place like where we are today. I think these hearings need to be taking place in the impacted communities. For example, in Saskatchewan, we can use La Ronge for an example. Then we can have more participation from our local people.

And for these 19 sites that are going to be handed back to the Province, there's another concern that I want to bring up. There's an open pit that's located in one of these sites as well, and the tailings facility is still there.

And there's very little dollars put on site for the unforeseens. We don't know what's going to happen in the future. Like \$170,000 for unforeseen, I don't think that covers much nowadays. When Orano can give \$3 million to the provincial government for the Cluff Lake project and for these 65 sites that are identified, and we're only -- there's only \$117,000 that's -- correct me if I'm wrong, but you know that's not going to take us

anywhere.

And we need to be a part of the long-term monitoring process as well, as Dené people, the impacted communities of the region.

And the gamma rays we talked about, like the survey was done only -- yeah, I think I'm just repeating myself, here -- was done. What were the exposures prior to the survey? We don't know what the exposure was for our people.

Our people are dying with cancer. Our cancer rate is getting higher. And the people that are affected by cancer nowadays, the age is getting younger. Who's going to represent our people in the future if this rate keeps on climbing? We're going to die off by the exposure. Who's going to represent our people then? How are we going to be representing ourselves when we're crippled? This is a serious issue that we are facing as the original people of Canada.

Thank you.

THE PRESIDENT: Thank you.

CHIEF SAYAZIE: Chief Coreen Sayazie, Black Lake First Nation, for the record.

Chief Mercredi has brought up most of the points that we wanted to bring up. But I thank you for

allowing us to be here. I want to thank our elder for the opening prayer from my community, and to have this opportunity to voice our concerns from our First Nations, from our elders.

What our elders are saying is most of the elders that were born in the '20s and the '30s have all passed away with cancer. And we were just speaking with our elders a few weeks ago about that, saying that we were mentioning many elders. Most of them are gone. It's all cancer.

And we believe in our region our cancer has risen. As Chief Mercredi stated, it's younger and younger generation now. Back when I was young, I remember our elders used to have cancer. But now when I'm getting older, I feel the younger ones are getting cancer, even younger than me, 30-year-olds, in a lot of our communities right now. We have two, three from each of our First Nations suffering with cancer right now. And a lot of them are saying that it's increased as spoken between the First Nations.

But between the health study that was done, not to put anyone down, but I believe the health study that was done was for northern Saskatchewan, meaning La Ronge and up. When we think northern Saskatchewan, we

think of the Athabasca Basin communities as the Far North. That's how we want to be named. The Far North. Not northern Saskatchewan, because northern Saskatchewan means Meadow Lake, La Ronge, and up. But we seven First Nations represent the Athabasca Region. And I wish in the future a study be done for just the Athabasca residents.

And it's important for all our Athabasca communities to be equally engaged as it is all our traditional territories.

And I agree with Chief Mercredi to have these hearings in our region, as we've been travelling provinces for these hearings. This is our second hearing in the past couple of months. So it would better understand -- our people would better understand if we have it in our regions also.

Thank you for allowing me to be here.
Thank you. [Aboriginal language / langue autochtone]

THE PRESIDENT: Thank you very much.

COUNCILLOR DENECHÉZHE: Good morning. For the record, Paul Denechezhe, Hatchet Lake Band, band councillor.

I too support Fond du Lac on their concerns regarding the Uranium City. And there's so many activities going on in the region involved with mining and

new developments and exploration. So we have a lot of concerns too on the Hatchet Lake area.

So we have a lot of concerns with health issues too. We have young people that are on dialysis. Three young, young, young people. One of them is our Ronelda Robillard. So lot of concerns.

So we decided to have an elders gathering last month. And it was our first annual with elders, a climate gathering that took place in September 3 to the 17. We took a lot of elders to give us advice regarding climate change and all these health issues. We invited the Prince Albert Grand Council Health and the university professor and they came in our environment to discuss some of the issues that's relating with -- a lot of the elders were concerned about the wildlife and the berries, you know, the moose, the caribou. We have a lot of issues surrounding our issues. So we -- it was good discussions during that time. And we might have more discussions in the future regarding some of the issues.

And that's mostly the concerns that I wanted to bring up. Merci for that.

THE PRESIDENT: Thank you very much.

Dr. Berube.

MEMBER BERUBE: The first question is for

staff, actually, with regard to Uranium City and the structures that are still in place. Who has responsibility for that at this point? Who's actually overseeing this, monitoring this? Who owns it?

MR. SNIDER: Richard Snider, for the record.

Uranium City is a northern municipality or a northern settlement, so it's the responsibility of the province to maintain it.

MR. CARTER: Michael Carter from Canada Eldor. I just wanted to give you a bit of background on that.

My understanding is that when Eldorado originally started mining in that area, they set up a mine site, which was called originally Eldorado, where people lived. The province later on set up Uranium City as a normal municipality, because there were a number of other mining ventures in the area. Beaverlodge was, by far, the largest, but it was not the only one, so the province built a hospital, a high school, all, you know, the various infrastructure that you have for a town, which peaked, I believe, at 3,000 or 4,000 people.

Eldorado itself closed down its existing site for its people and built some houses in a suburb. At

the time Eldorado shut down the mine, they sold those houses to a local entrepreneur. I think he had ideas to move them somewhere else. My understanding is he went broke later on and those houses became abandoned.

MEMBER BERUBE: Am I correct in stating basically it's a derelict city at this point. Really, the province has control for it and it's just sitting there? Is that correct?

MR. CARTER: Correct.

MEMBER BERUBE: Thank you.

MR. SNIDER: Richard Snider, for the record. I just want to emphasize that it is outside of the boundaries and it is outside of the CNSC licence.

THE PRESIDENT: Dr. Lacroix.

MEMBER LACROIX: My question is to Dr. Irvine, from the Saskatchewan Health Authority. Are you still online?

DR. IRVINE: Yes, I am.

MEMBER LACROIX: Okay. That's great. You've heard the concerns of Chief Mercredi and Chief Sayazie about the cancer rates among the Athabaskan communities, so, once again, could you comment on these cancer rates?

DR. IRVINE: Yes. Thank you very much.

James Irvine, for the record.

We've been involved with the cancer studies that I had mentioned in partnership with the Saskatchewan Cancer Agency, the Northern Inter-Tribal Health Authority and the Athabasca Health Authority. There have been other aspects which are important to bring forward.

Chief Sayazie, Chief Mercredi and Paul Denechezhe have raised that in Canada we see that actually even though some of the rates of cancer may be going down, the number of cancers on a yearly basis have increased because of the larger population and an aging of the population. That is very much accentuated in many first nation communities, which have grown from 600 people to 1,200 people. The average in the number of elders that we see in the communities have increased significantly, so they're correct in the idea that there are increasing numbers of cancer. Our rates we've seen have increased as well.

In terms of the assessment of cancer, I think it's important, from what they've said, that the value of -- the work that gets done on a regular basis looking at air quality, water quality, country food quality in close proximity to the communities is very important

because that is a way of validating and supporting the quality of food that people are consuming.

We've recently released a report of prenatal biomonitoring, which shows the results of over 200 different chemicals in the blood of prenatal women as of several years ago, which included a breakdown of regions within the province, which includes the Athabasca area. In terms of various carcinogens, there was sort of no level in, say, the Athabasca area that was of a greater extent than some of our control areas there, so that was reassuring.

The other thing is we've talked about the challenges that we're facing with cancer and various causes of cancer. Since our meeting that we had with Ya'thi Néné, we've had discussions with the Saskatchewan Cancer Agency for two things: one is working with the Northern Inter-Tribal Health Authority and the Athabasca Health Authority to update the results of our cancer study that, for adults, was up to 2014, most recently, and we would do it a little bit differently.

Our previous studies included the Athabasca Health Authority, which didn't necessarily include Hatchet Lake First Nation, so we would do it slightly different so it would include the Athabasca Health

Authority, plus the Wollaston Lake and Hatchet Lake First Nation, and that we would update it from there, that would be a thing that we wanted to look at, but we'd also do the other areas of the north as well, because we get similar concerns. Similar changes are occurring in many northern communities across Canada, and certainly in northern Saskatchewan, so we'd include the other areas of the north, with some subdivision as well. That's sort of in the works.

I think we need to keep communicating in terms of the factors that make an impact on cancers, and certainly support things like the colorectal cancer screening programs, the breast cancer screening programs, which are so important to reduce the risk of cancer as well, and certainly continue working with communities in terms of sharing information about causes of cancer, ways to prevent cancer, and the quality and nutritious nature of country foods in their area.

I would be happy to answer any further questions.

MEMBER LACROIX: Are there differences from one community to the next among the various communities as far as cancer rates are concerned?

DR. IRVINE: Yeah. The last time we did a

comparison of specific communities was in 1996. Part of the nature of doing an assessment like that, even if you look at the area, such as the Athabasca Health Authority, if you look at a five-year basis over multiple periods of five years of something like cancer, because the numbers of cancers -- even though each individual cancer is significant, the numbers are relatively small, so in one five-year period you might see a rate that's very high, the next five-year period it might be very, very low, so what we end up doing is combining the number of years over 10 or 15 years to get a better assessment of trends.

The same thing will happen if we look at individual communities. One year an individual community of 600 or 400 may have one or two cancers, the next year it may be zero, the next year it may be four, so we need to sort of do that assessment over a longer period of time or for a larger population area.

This is where we try to do it with sort of the Athabasca area as a whole or the north as a whole to get a good assessment of those changes.

MEMBER LACROIX: Thank you very much,
Dr. Irvine.

Chief Mercredi and Chief Sayazie, would you like to reply or anything to add?

CHIEF SAYAZIE: Chief Sayazie, for the record.

As Dr. Irvine just stated, the last study done was 1996, and they've worked closely with the Athabasca Health Authority, that's our hospital in our region, but the Athabasca Health Authority didn't form until after 2000, so we wouldn't mind our own study being done for our own region.

Thank you. Merci.

THE PRESIDENT: Thank you. Dr. Demeter.

MEMBER DEMETER: Thank you very much for the presentations.

I was going to follow up with a comment about drinking water from the lake, so maybe for Cameco first.

Excluding non-natural bodies of water like pits and stuff, but rivers and lakes that are impacted, are there potential potable sources of water that have been impacted that you have advisories for based on historic and current activities, and to what extent is that?

MR. NAGY: Kevin Nagy, for the record.

The official advisories that are in place are just with respect to healthy fish consumption in Beaverlodge and Martin Lakes, which are downstream of the

Beaverlodge properties.

Uranium City gets its water from Fredette Lake, which is upstream and unimpacted by any of the mining operations in the Uranium City area.

Maybe I'll talk a little bit about the Eastern Athabasca Regional Monitoring Program while I'm answering the question. That program does have an annual community-based monitoring component that is done every year in the Athabasca Basin first nations and communities, so all seven communities in the Athabasca Basin. In addition to country foods, that also looks at water quality in and around those seven communities. The water quality there is consistently good quality and well below any Saskatchewan environmental quality guidelines that are in place.

MR. SNIDER: Richard Snider, for the record.

I just wanted to clarify there are additional waterbodies where drinking water is not recommended by the province. This includes the former tailings lakes at the Beaverlodge site. It also includes the nearby Lorado property and the Nero Lake there as well.

MR. NAGY: Kevin Nagy, for the record.

My apologies. I wouldn't have considered

those to be potential potable water sources, being within the tailings management area.

MEMBER DEMETER: Maybe for the intervenor.

We've heard about some areas where there's quotas for fish consumption. What is the impact that you see on your communities relative to drinking water or fishing, aquatic activities? Have you got communications about which bodies of water have fishing restraints, which bodies of water are totally fine or which bodies of water are not fine for other reasons? I'm just trying to understand the impact on your peoples for the drinking water aspect or the fishing aspect.

MR. SCHMIDT: Garrett Schmidt, for the record.

From my understanding, Uranium City has been informed about this, but I will let the other leaders here share their understanding of any restrictions.

CHIEF MERCREDI: Chief Louis Mercredi, for the record.

The presentation and remarks from Cameco say the water on Beaverlodge Lake is not safe for human consumption, not for drinking. It is not safe to drink, but they allow, the province allows, people to eat fish out of the lake, so this just doesn't make sense to us.

That lake, Beaverlodge Lake, if you fly over it in an airplane, you can see the discoloration of that lake compared to the surrounding lakes. Obviously, there is something wrong with this lake because there was two active mines there, the tailings running into Beaverlodge Lake, Eldorado, Lorado, and the creeks end up in Athabasca Lake through the Cracking Stone Peninsula, so the contaminated water is ending up in the lake.

The surrounding lakes, the inland lakes, the elders used to say the best fishing for an inland lake was on Beaverlodge Lake. Way before the industry, it was one of the closest inland lakes for good fishing, but now that's not gonna happen no more for our people.

I don't think there's much marine life in that lake other than fish. There is no algae growing in the lake, on the rocks. That's why the lake is so clean, just like treated water in the mine water treatment plant. I've worked in these mines. I worked in three different mines in Saskatchewan. I know how clean the water is when it's treated. That is what we're seeing in Beaverlodge Lake. It is so clean, you can see through the lake when you're flying over it, and you cannot see through other lakes surrounding Beaverlodge Lake, so there is a water quality issue there.

Thank you.

MEMBER DEMETER: Just for staff. Help me understand the dichotomy. Is it correct that there's a water advisory for Beaverlodge Lake not to drink the water but it's safe to consume fish to a certain level or is the water advisory for other reasons other than the fish advisory?

MR. SNIDER: Richard Snider, for the record.

Just to note as well, the province said it was a fish advisory. Now it's a healthy fish consumption advisory. That was changed in 2016. One of the reasons for that change was to recognize that fish consumption from Beaverlodge Lake and Martin Lake were healthy as long as you limited the amount of fish you were consuming. The limit for fish consumption was based on selenium concentrations and the rationale for not drinking the water was based on uranium concentrations.

MEMBER DEMETER: That helps. Thank you.

THE PRESIDENT: Maybe a question for Dr. Irvine around country food.

We've heard about the fish advisory and drinking water. We also heard concerns around wildlife and berries, and so on. Can you just comment around the

country food study and the level of confidence and comfort with the findings of that study amongst the various northern communities?

DR. IRVINE: Yes. James Irvine, for the record.

Maybe you'll permit me to address a little further the fish advisory and the water advisories that are there after as well.

I think some of the advantages of the country food assessment approach is that there's different groups and different organizations involved in providing those studies, including the Eastern Athabasca Regional Monitoring Program, the Athabasca Joint Engagement Environment Committee, as well as the independent monitoring program at the CNSC. I think the idea of having different groups involved, testing and participating in decisions about those studies is important.

From a health perspective, we utilize that information very specifically. We monitor it to see whether there's any concerns for things like increasing risks of diabetes, increasing risks of cancer from consumption of those foods, but we have not seen that as a major concern. In fact, some of the concerns we have are the transition from country foods to store-bought foods,

particularly the highly-processed foods, because that's where we see more of an issue in Canada's risk concerns for cancer, for diabetes, for heart disease, so the value of doing a country food assessment is important not only for that ongoing monitoring for that confidence of a healthy environment but also I think there would be more damage done if people lost confidence in their country foods and converted to other particularly highly-processed foods.

THE PRESIDENT: Having said that, is the level of confidence in the results of the country food assessment increasing or could more be done?

DR. IRVINE: I think the idea of having a first nation run organization, being one of the contracted groups to be involved with doing the study, is valuable in terms of communication. I think the work that is being done by that organization, as well as your program, is important. The way they do it, is engaging community members in terms of decisions about where testing it occurs, to get some of the samples from community members, and then working toward communicating back the results.

Obviously, when we hear the concerns addressed by Chief Sayazie, Chief Mercredi and Councilman Denechezhe, there's more efforts that could occur in terms of that ongoing communication. There's so many other

sources of information that may not be quite as scientifically-based that may interfere with those communication approaches, so this is where I think more communication, as well as an ongoing, long-term country food assessment, is valuable and important.

THE PRESIDENT: Thank you.

Dr. Berube.

MEMBER BERUBE: This question is for staff.

The intervenor has actually raised a concern with the tailings at Cluff Lake. Would you care to comment on the stability of that particular...?

MR. FUNDAREK: Peter Fundarek, for the record.

With respect to the stability of the tailings at Cluff Lake, we've looked at that area and we're conducting regular inspections of the area. I've personally walked on the tailings and found no difficulty. The tailing cover is secure. There was a sufficient cover in place. It's been evaluated and reviewed, so there's no issue with the tailings cover at Cluff Lake as far as we're aware.

THE PRESIDENT: Dr. Lacroix?

I have questions for the Ministry of

Energy and Resources. There have been some questions raised around the ICP, and particularly around monitoring results and the easy availability and accessibility of that information, as well as sufficiency of funds in case something totally unexpected and untoward happens. Could you please comment on those two concerns?

MR. HUGHES: It's Cory Hughes, for the record, Energy and Resources.

As to the concern about the unforeseen events, the unforeseen events is -- first, I should say that the sites going into the program are stable and assumingly predictable, so we don't anticipate any unforeseen event, but, in the event of one, we did establish an unforeseen events fund. The payment into it is based on a maximum failure event.

Even though the intervenor pointed out what he felt was an insufficient amount, that is also backed up by a financial assurance until those funds grow to a sufficient size, so it's not the amount that is going into the unforeseen events fund, it is backed up by a financial assurance so, should something happen that would be unexpected outside of the decommissioning plan, there are funds available to address that.

And I'm sorry, I missed the first part of

your question.

THE PRESIDENT: It was about the ready and easy accessibility of monitoring results once properties have transferred into the Institutional Control Program to members of the public. So are these results available on your website or does one have to request those results?

MR. HUGHES: Yes, sorry. Cory Hughes, for the record.

So the monitoring plan is established by the regulators and the company putting their property into the program. The results of the assessment -- or of the inspections, the monitoring maintenance inspections are publicly available. Most recently of the sites that are in we had inspections -- or we have inspections scheduled for this year and the results of those will be made available on our website, yes.

THE PRESIDENT: And when you conduct these inspections and monitoring, is the impacted community involved in doing that with you?

MR. HUGHES: We hire a qualified consultant to do the inspection. In all cases to date they have included a local member to participate in that inspection, but the inspections are fairly short. Especially with the sites that we have in right now, they

are not taking a lot of time. So there isn't a lot of community involvement in the inspection itself, to my knowledge.

THE PRESIDENT: Thank you.

I will turn it over to you, Mr. Schmidt, for any final comments or questions.

MR. SCHMIDT: Garrett Schmidt, for the record.

I will pass it over to the Chiefs if they have any other further questions or comments.

CHIEF MERCREDI: Chief Louie Mercredi, for the record.

We have raised similar issues in the past as well and our concerns need to be taken seriously. Our people's lives are at risk, so I'm asking for the Commission to take our concerns seriously. And we are still requiring the independent medical studies done on the survey for the Athabasca Basin communities. Thank you.

THE PRESIDENT: Thank you.

Anything else?

Okay. Thank you very much for your intervention and coming here today.

The next presentation is from the Métis Nation-Saskatchewan, as outlined in CMD 19-H6.11.

I understand that Dr. Earl Cook will be presenting this submission.

--- Pause

THE PRESIDENT: Dr. Cook, the floor is yours.

CMD 19-H6.11

**Oral presentation by the
Métis Nation-Saskatchewan**

DR. COOK: For the record, I'm Dr. Earl Cook, I am Regional Director of Northern Region 1, which encompasses Uranium City, and I am also Minister of Finance and Education for the Métis Nation-Saskatchewan.

I would like to thank the Commission for this opportunity to make a few comments.

I would also like to point out that I am quite familiar with the area because of Allen here. I have been to Lorado on a couple of occasions and Gunnar on one occasion and I have been working in the North throughout my life.

The uranium industry does affect my immediate family also. I have a brother currently working in Key Lake who has been a mill operator for over 30 years.

I also have another brother who is an electrician who has been working with Cameco for about seven years. So it has impacted my life.

I also would like to acknowledge one of the CNSC employees because it is important that we have a working relationship with CNSC and that is Adam Levine sitting over back and to my left. He has done an excellent job in engaging the Indigenous people, in particular the Métis.

I also realized the importance of the environment and the science that goes with monitoring that environment. I do come from Cumberland House, Saskatchewan, and we were impacted by a dam that was built 60 miles upstream years ago in the early sixties. We are situated on a freshwater Delta, the largest in North America, and we have had a negative impact by a development, and the Delta itself nowadays is not what it used to be and the water levels are extremely low and it has killed the fishing, a lot of the hunting and so on. So I know the importance of the environment.

The Métis Nation-Saskatchewan engaged some professionals to review the plan and the professionals did not find any difficulty with it, and so the Métis Nation-Saskatchewan fully supports Cameco's request to

enter the Saskatchewan Institutional Control Program.

Because Cameco won't be involved with the properties anymore, we do want to look ahead to the Institutional Control Program and what I would like to recommend -- and I also know it's not your role, but in letting this transfer go, I'm thinking of the welfare of the people in the local area and in particular the Métis and I would suggest that any monitoring that goes on should involve local labour, because it is a region of high unemployment and few opportunities. And so if they could use local labour as much as possible, I think it would be really helpful to our people.

In addition to the people, it would be nice if they utilized some of the local business services to create that level of financial support also.

And in closing, I would like to again thank you for the opportunity to make these few comments and I would like my colleague here, Allen Augier, to make a few comments.

MR. AUGIER: Good morning. For the record, Allen Augier, President of Métis Nation Local 50, Uranium City.

Prior to my presentation, the former Chief Louie Mercredi and Chief Paul Denechezhe, I have known them

all my life -- well, most of them and I grew up with all of them, so they kind of covered a lot of stuff that I wanted to say and we do work closely together and I will just make a little bit of a statement and I will cut it short.

So the state of the environment around Uranium City is important. To me, the land and the water is still the grocery store as we still hunt, fish and gather berries to provide for ourselves. I am supportive of the Beaverlodge site to be transferred into the Institutional Control, or ICP.

The mining company holds public information meetings and site tours. However, I would like to have tours onsite as work is being done, in progress. This would give more confidence to the Métis people and onsite experience.

And further on this note, I would like to also express my concerns involving Fort Chipewyan because they are downstream. I do have family there. I do have family in Fond du Lac and Stoney and they are concerned and they do come over in the summer and in the winter to hunt and fish, as was said before, to hunt for their treaty rights.

And on this note, I would thank you very much and if there are any questions I can help you with,

cheers.

THE PRESIDENT: Okay. Thank you very much.

Dr. Lacroix...?

MEMBER LACROIX: Well, this is not so much a question as a comment. Could Cameco organize a tour with the MN-S?

MR. MOONEY: It's Liam Mooney, for the record. Thanks for your question.

I think I will pass it over to Mike Webster to talk about what our future plans are. For sure there is a desire to make sure that on the tours they are productive and that people can see what's actually being done, which is relatively minimal in the Beaverlodge circumstance. It is a world removed from some of the other remediation projects. We have sort of been at pains to stress that these properties were decommissioned. What we are doing is trying to set them up for Institutional Control with a safe, secure and stable.

So maybe Mike could talk about that and also the degree to which he does involve local contractors and the work that does take place in and around the Beaverlodge properties.

MR. WEBSTER: Mike Webster, for the

record.

As Liam mentioned and I said earlier, we do conduct annual inspections of the sites where we have public meetings and then we engage with locals to take them out on tours of the site. We may be able to look at opportunities to expand that to other groups as well, moving forward.

With respect to employing local contractors, since my involvement in managing the Beaverlodge Project, all of the work that has gone on on the Beaverlodge site is largely focused on giving those employment opportunities to the residents of Uranium City. Without that, you run the risk of Uranium City losing some income source and making it difficult for residents to remain in Uranium City.

So with some of the -- so the installation of stainless steel caps, we have a local contractor that has become very proficient at doing that, so we try to make sure that that work is being done by that local contractor.

With regards to our approved environmental monitoring program, we have engaged with a local contractor -- who I believe is in Saskatoon as well if anybody has any questions for him -- to complete that environmental monitoring program on our behalf. So he goes

out, he collects all of the samples. While he is out and about collecting the samples, we have asked him to be performing cursory inspections and if he notices anything out of the ordinary to contact us so that we can take any action.

But those are the opportunities. And then when we are in the communities, again we are using bed-and-breakfasts and stuff owned by those local people.

MEMBER LACROIX: Do I understand that you are in regular contact with Mr. Augier and Dr. Cook?

MR. WEBSTER: Not with Dr. Cook, but Mr. Augier, we do see him at almost every public meeting that we host and when he is able to he has come out on tours as well.

THE PRESIDENT: Dr. Demeter....?

MEMBER DEMETER: Thank you very much for your presentation.

There is a common theme that runs that seems to be from First Nations individuals and groups that there is a certain level of satisfaction with liaison. We have heard compliments and liaison from both CNSC and Cameco. There is a certain amount of information-sharing. Some feel that it is reasonable, some feel that it's lacking. But the other main theme is sort of on-the-ground

involvement with activities or understanding of what's going on, and this intervention talked about a tour.

From Cameco's perspective, is there any way you can think of that would better involve affected groups around you, First Nations groups, to feel more comfortable? I know you are decommissioning and you are going to Institution Control Program, but there still seems to be a significant amount of discomfort with what is sort of happening on the ground and is there a way to embed or involve individuals or groups to make them feel more comfortable? Is there anything else you think you could do to alleviate some of these concerns of comfort and feelings of safety and risk?

MR. MOONEY: It's Liam Mooney, for the record. I will ask Kristin to add or correct what I say, but she did point out that the nature of engagement is evolving and we are particularly proud of our engagement efforts. We are recognized in Canada for the work that we have done in that area. That being said, there is always room for discussion about what we could do to address concerns that have arisen, whether it be through a formal hearing process such as these. We much prefer it to be in the case of our regular engagement activities to be able to seek that out.

I would say that we have numerous instances where we probably engaged with Uranium City residents, not necessarily parsing whether they are Métis First Nation. The residents of Uranium City have really been the focus for these properties, but there are various constituents that make up that population. So in that respect, I think where we have seen improvement has been some increased rigour around the expectations with the materials and the sharing of materials and making sure that people know where to find the information and then continue to actively push it out.

Mike is a really strong ambassador. He spends a lot of time in Uranium City over the summer between the work that is taking place and supervising the various contract workers, but also through the informal engagement to the bed-and-breakfasts and our staff that are up there helping him too. So there is a good deal of informal engagement that I think helps supplement that and he has been the face of the file for the last 10 years and I think that has helped. But we recognize that we are not perfect and that there are inputs that we have heard today that we can take away and look at our program again with that in mind.

MS CUDDINGTON: Kristin Cuddington, for

the record.

The only thing I want to add is in regards to this is long-term and evolving, it is not a one-stop shop. You know, we are coming back over and over. We know -- we have a good sense of who we are talking to and we are doing our best to respond and to be responsive. So as far as our communication materials, when we're presenting to make sure that if there are questions that we are following that up with subsequent presentations.

THE PRESIDENT: Thank you.

Dr. Berube...?

MEMBER BERUBE: Thanks for your presentation. Thank you for coming, by the way.

Just out of curiosity -- well, not curiosity, I think it is more important to know, how do you intend to use the land? Once it is transferred to ICP, what are you going to do with it? What are you going to do on it?

MR. AUGIER: Well, there's not much we can do on it. It's barren, most of the places, and it's very rugged of course, but we have accessibility to the roads to go hunting and fishing, which is good for us. And also, people -- the majority of people cut wood, so the roads are good to have.

When it comes to the site tour, we are only limited to where we can go. I do have a couple of questions about Beaverlodge because I worked there. My brothers worked there, over at Rabbit Lake and so on. There was a place I know where there's a bunch of core samples that were dumped. I don't know if it's cleaned up. I would like to see -- with past experience, I was appointed liaison to other mines and I was hired under the -- with SRC, I was documenting stuff. I was out there as the work was going and anything that I was not happy with, I would mark it and make sure it was done.

In this case, being with this other company, with Cameco, they don't have someone like us that were born and raised here and are aware of where everything is, and if you have to go outside scope, we know where to find it. I know where most of the stuff is. I was born and raised. I know all the mines and that's still in my head, to say, so is this stuff done. I don't recall if anybody remarked about that, but basically I know where everything is and I have experience with Saskatchewan Research Council. I did a lot of water sampling with them, I know where all the parameters are. I know -- you know, I'm just so full of it, of all this information and I think we should utilize people more. No disrespect to Cameco,

but I think we need somebody like one of us to be on site to document for our sake, okay, we are not happy with this, can you do this. So we have to learn to compromise.

But I understand all the covers that they put on because Cameco -- SRC has done otherwise and put stainless steel covers, so I know what they do and how they do it. And there are times I had disagreements and they actually accommodated me to say, okay, we can do this your way if, you know, that's what you want, it's better. And sometimes they say they have a better idea, then I go with it. We compromise and we are happy. In this case, this is what I would like to see with El Dorado, is to have one of our own to be there on the ground, on that site documenting, say, you missed something, you know, would you prefer to clean that up. That is my beef basically.

And I still have some questions in some areas that I would like to see, but we are not -- we are limited to where we can go on tours.

THE PRESIDENT: Cameco, do you want to comment on that?

MR. MOONEY: Perhaps I will ask Kevin Nagy to address the specific concerns.

We are in a different place than SRC in relation to Gunnar and CLEANS undertaking there for Lorado.

We are in the final stages of moving these properties into Institutional control. The purpose of those meetings and those tours is to elicit that sort of information that Mr. Augier is referring to now. But that being said, there is the opportunity to have, as Commissioner Berube mentioned, maybe some additional focus in the tours to areas that might be of specific concern so that the tours could be augmented again, having regard for safety and those sorts of things. They are relatively inaccessible. So we would be open to a discussion on what we can do in the tour space, but we are not going much further than that, having regard for the state of the properties.

But I will let Kevin address the concern that Mr. Augier referenced about core and core cleanup.

MR. NAGY: Kevin Nagy, for the record.

If there are any specific areas of concern Mr. Augier has, we would like to hear that and be able to answer that specifically.

With respect to drill core or exploration core that have been stored on the decommissioned Beaverlodge properties, those were identified during the comprehensive site inspections that were done on all the Beaverlodge properties over the last few years. Those were removed from those properties and with regulatory approval

we did dispose of those within decommissioned open pits on the properties. So those have been cleaned up and disposed of, with approval.

Regarding those inspections, we did utilize Uranium City residents. They were part of the inspections. They were out there walking the long days on all the decommissioned properties, so they did play a role in that activity for sure.

THE PRESIDENT: Thank you.

Dr. Lacroix...? Dr. Demeter...?

Dr. Berube...? Okay.

Thank you very much, Dr. Cook and Mr. Augier, for your intervention.

This concludes the oral presentation by intervenors and before we move to the written submissions, we will break for lunch and resume at 1:35 p.m.

Thank you.

MR. LEBLANC: So this also means that the hearing for the Whiteshell licence renewal will be delayed accordingly. I don't have a time estimate, but it is probably between 2:30 and 3:00 for those interested in that file.

Thank you.

--- Upon recessing at 12:49 p.m. /

Suspension à 12 h 49

--- Upon resuming at 2:33 p.m. /

Reprise à 14 h 33

MR. LEBLANC: Good afternoon. We will resume with the written submissions in the Beaverlodge matter.

CMD 19-H6.2

**Written submission from the
Saskatchewan Mining Association**

MR. LEBLANC: The first submission is from the Saskatchewan Mining Association, as outlined in CMD 19-H6.2.

I would ask if there are any questions from the Commission Members on this submission.

I note that there are no questions on this submission.

CMD 19-H6.3

Written submission from Dean Classen

MR. LEBLANC: So the next submission is from Mr. Dean Classen, as outlined in CMD 19-H6.3.

Any questions from the Members on this submission?

--- Pause

MR. LEBLANC: Any questions, Dr. Lacroix?

MEMBER LACROIX: No.

MR. LEBLANC: No. Thank you.

CMD 19-H6.4

Written submission from Canada Eldor Inc.

MR. LEBLANC: So the next submission is from Canada Eldor Inc., as outlined in CMD 19-H6.4.

Are there any questions from the Members on this submission?

I note there are no questions.

CMD 19-H6.5

Written submission from Orano Canada Inc.

MR. LEBLANC: The next submission is from Orano Canada Inc., as outlined in CMD 19-H6.5.

Any questions from the Members on the submission from Orano Canada?

Thank you.

CMD 19-H6.6

**Written submission from the
Saskatchewan Environmental Society**

MR. LEBLANC: The next submission is from the Saskatchewan Environmental Society, as outlined in CMD 19-H6.6.

Any questions from the Members on this submission?

--- Pause

MR. LEBLANC: Monsieur Lacroix?
Dr. Lacroix? Merci.

--- Pause

CMD 19-H6.7

**Written submission from the
Athabasca Joint Engagement and Environmental Subcommittee**

MR. LEBLANC: The next submission is from the Athabasca Joint Engagement and Environmental Subcommittee, as outlined in CMD 19-H6.7.

Any questions from the Members on this submission?

--- Pause

MR. LEBLANC: Dr. Demeter...?

MEMBER DEMETER: I'm just curious about the -- and maybe Cameco knows -- the composition of this group and to get a sense of representativeness of the community at large.

MR. MOONEY: It's Liam Mooney, for the record.

I will ask Kristin Cuddington to provide some further detail there, but it is a -- the AJES is a product of a confidential collaboration agreement that we signed with the seven northern communities, three First Nations and four northern settlements or towns, and she can provide further details about it and its relationship with Ya'thi Néné.

MS CUDDINGTON: Kristin Cuddington, for the record.

So the AJES, and its predecessor the Athabasca Working Group, was, as Liam mentioned, part of the collaboration agreement. So the AJES subcommittee, with representation from the Athabasca Basin, the First Nations and the municipalities, it consists of six members: one rep from Cameco, one rep from Orano, the Executive Director of the Ya'thi Néné Athabasca Land and Resource Office, two from the Athabasca First Nations and one representative from the communities, so Uranium City. They meet four times a year to discuss operation-specific activities, project proposals, environmental monitoring and other matters of concern to the members in their respective communities. So they are asked to, you know, discuss with the community, with their leadership to understand concerns and to bring that to the table so that we can better understand the values and the interests and then respond accordingly.

MEMBER DEMETER: Thank you.

MR. LEBLANC: Any further questions, Members? No.

CMD 19-H6.10

Written submission from the

Northern Saskatchewan Environmental Quality Committee

MR. LEBLANC: So the next submission is from the Northern Saskatchewan Environmental Quality Committee, as outlined in CMD 19-H6.10.

Are there any questions from the Commission Members on this submission?

--- Pause

MR. LEBLANC: So there are no questions for the NSEQC.

Madam President, the floor is back to you.

THE PRESIDENT: Okay. This concludes the written submissions, so we will go through our final round of questions, starting with you, Dr. Berube.

MEMBER BERUBE: This one is actually for the Saskatchewan government regarding the transfer of these properties potentially. The question is quite open and easy. It is: Are you prepared to actually take these properties on at this point in time?

Do we have anybody from the Government of Saskatchewan?

MR. HUGHES: Cory Hughes, for the record.

Yes. We have indicated to Cameco that the government, if they meet the requirements, is satisfied and would accept these properties into the program.

THE PRESIDENT: I would just like to follow up on that.

So besides Cameco telling you that, you know, we think these are safe, secure, stable, the CNSC staff having done their assessment -- maybe a two-part question.

One is to the Saskatchewan Ministry of Environment. What kind of assessment do you do and, you know, what is your process for making recommendations to the Ministry of Energy and Natural Resources?

And then the second part is to the Ministry of Energy and Natural Resources. Before acceptance into the Institutional Control Program, do you get any third party to do any independent surveys or assessments?

So maybe start with the Saskatchewan Ministry of Environment first, please.

MR. MOULDING: Good afternoon. For the record, Tim Moulding with the Saskatchewan Ministry of Environment. I manage Uranium and Northern Operations.

The work of the Ministry is in many ways

similar to the work that the Commission staff has done. We review the reports that are submitted by the proponent, in this case Cameco, do a thorough review of that information. We have an Environmental Protection Officer assigned to the file that completes inspections similar to the CNSC staff. So a lot of the work that is done is similar to that.

With respect to our compliance and enforcement requirements around the *Environmental Management Protection Act* and specifically the *Mineral Industry Environmental Protection Regulations* here in Saskatchewan -- and just to be clear, the Ministry of Environment is satisfied that the agreed-to work has been completed for these 20 properties that have been noted and the Ministry has indicated its intent to release these 20 properties from the decommissioning and reclamation requirements as per the *Mineral Industry Environmental Protection Regulations* should the CNSC see fit to exempt these properties from their licensing requirements.

THE PRESIDENT: Thank you very much.

And the second question, please?

MR. HUGHES: So it's Cory Hughes, for the record.

So Energy and Resources role really is managing the properties once they are into the program. So

we take the advice of the regulators, including CNSC and Sask Environment, to accept the property.

The one thing that we would do when you talk about third-party assessment, we don't look at third-party assessment on the regulatory component but we do when a company comes to us with their anticipated monies that would be required to monitor the site -- monitor and maintain the site into perpetuity. We do a lot of comparisons to current market values based on either talking directly to consultants or looking at what -- in this case, because we just did inspections -- or we just scheduled inspections and awarded contracts, we have a very good idea what market values are. So we do comparisons to that. We do look at the life span of some of the engineered structures and have discussions on those as well.

So our most important role is that it is in everybody's interest, is we want to be sure that we have enough money in the program to fulfil the requirements of the program, which is monitoring those sites into perpetuity.

THE PRESIDENT: Okay. Thank you very much.

Dr. Lacroix...?

MEMBER LACROIX: Thank you,

This is a question for Cameco.

In your submission CMD 19-H6.1, on page 18, concerning the property HAB 3, the expression "no indication of subsidence" is used.

On page 24, for the JO-NES property, the expression "low likelihood of subsidence" is used.

And on page 34, concerning property RA 6, the expression "no immediate subsidence" is used.

On a scale of 1 to 10, where 1 is solid as a rock and 10 is a collapse, can you scale these different expressions?

MR. NAGY: Kevin Nagy, for the record.

No, I can't, but what I will do is I think basically it's just different ways of describing the same level of risk. So we did have all the crown pillars on the decommissioned properties inspected by a qualified person, a professional geotechnical engineer, and what they found was that the crown pillars associated with these 20 properties, there was a low level of risk of crown pillar failure or subsidence.

MEMBER LACROIX: So all these expressions mean the same thing essentially?

MR. NAGY: Yes.

MEMBER LACROIX: Okay.

MR. NAGY: Yes.

MEMBER LACROIX: And the geotechnical engineers, how do they come up with these conclusions? Is it based on data collection? They gather data? What do they measure onsite?

MR. NAGY: Kevin Nagy, for the record.

I will speak in broader terms because they assessed all 65 properties, not just the 20.

So they did a comprehensive desktop review, they called it. So they went back, looked at the historical mine records, drawings, that sort of information, and then based upon that review they targeted some areas in the field they wanted to further investigate. So those field investigations, they utilized ground-penetrating radar to measure down through the ground to the mine workings, the competency of the material in between, and then based on those results they did some targeted diamond drilling as well. So at a few of the properties they actually did some -- drilled some boreholes and used that information.

I would have to look at the actual crown pillar report, but it is based on a standardized process and internationally recognized scale. So they applied that

information to that scale and came back with their conclusions.

MEMBER LACROIX: Thank you.

THE PRESIDENT: Dr. Demeter...?

MEMBER DEMETER: Thank you.

I guess this is a question for CNSC staff.

So through the Institutional Control Program, there is a shifting of authority and responsibility and jurisdiction over these properties once they're over. In the event that there is a significant policy shift within the Province of Saskatchewan and they no longer want this responsibility or burden to look to this, is there a mechanism, a mechanical mechanism to repatriate these properties back to CNSC or what is the scenario if the Province of Saskatchewan changes its policy and changes its mind?

MR. FUNDAREK: Peter Fundarek, for the record.

In the event that situations arise where the safety of the properties is called into question or, as you state, the policy changes within the province, the CNSC, under the *Nuclear Safety and Control Act*, the Commission has the authority to revisit its decision, make a redetermination and once again bring those properties

under licensing if the need arises. So there is the mechanism already in place provided by the *Nuclear Safety and Control Act* to bring those properties back in should the situation arise or the need arise to bring them back in.

MEMBER DEMETER: And then would the licence remain with the original licence applicant? Right now it's between Cameco and the province if it moves over.

MR. FUNDAREK: Peter Fundarek, for the record.

In that case we -- it would be on a case-by-case basis. We would have to look at the situation that exists at the time, but the Commission could, under its authority, issue a licence to any person, and that could be the Province of Saskatchewan in whole, or to some other entity if that exists that would be a suitable person under the law to take ownership of that licence.

MEMBER DEMETER: Thank you very much.

THE PRESIDENT: Dr. Berube...?

MEMBER BERUBE: Just a couple of questions on the technicalities for the transfer criteria.

In particular I'm looking at the gamma survey. How was that completed? Cameco, can you give me some detail on how you went about that?

MR. NAGY: Kevin Nagy, for the record.

So a detailed walking survey modelled the decommissioned properties so areas that had been previously disturbed by mining activities could be safely accessed. So there was a grid set up and trained personnel from Cameco, and as well I think we involved -- Cameco staff and third-party expert staff conducted the surveys, took a number of readings I think and those were averaged over a 10-metre by 10-metre grid, and then based on that they did the math to come up with how it compared to the screening level criteria in the provincial guideline. So that was 1 μ Sv above baseline over a 1 hectare area. Any areas that met that criteria, those were deemed to be safe and the risks were as low as reasonably achievable. And then any that were above, we progressed to that risk assessment that we had talked about earlier with a reasonable land use scenario if there was any risk of an individual exceeding the public dose criteria and even the conservative or the cumulative scenarios were well below the dose criteria.

THE PRESIDENT: Dr. Lacroix...?

MEMBER LACROIX: Still concerning your submission, on page 26 you talk about "waste rock has a low potential for acid generation." Could you explain what is acid generation, please?

MR. NAGY: Kevin Nagy, for the record.

Generally, ores associated with sulfide-based minerals, you would have some sulfide material in the waste rock and depending on the amount of sulfide material versus any base material in the waste rock, it might have a potential to generate acid over time with oxidation from water or air.

The Beaverlodge ore was primarily carbonate-based, so we wouldn't see those sulfide minerals present. There were -- there was work done at decommissioning and again some targeted work done by Cameco sampling the waste rock to confirm that and the results that we got showed again that we wouldn't expect that material to generate acid. And, in addition, we have been monitoring these facilities for 34 years now and there has been no indication of that happening.

THE PRESIDENT: Dr. Demeter...?

MEMBER DEMETER: Thank you.

I just had a methodology question for your gamma surveys. The granularity, so over what patch of -- is it one reading per hectare, is it one reading per square what? I just want to get a sense of how sensitive it is, the grid, over the areas involved.

MR. WEBSTER: Mike Webster, for the

record.

When they were conducting the survey, it was a continuous reading machine. So they would have had their -- they would have set out a grid where they would have either been walking or driving on a quad if it was an area that allowed them to do that, and then -- so however many readings that was collecting over a second and then they would average those readings and then they -- so in the end when they were compiling the data, they put all of that information into a weighted average for the 10 x 10 metre grid square and then when they were doing the 1 hectare average they took the readings that were 1 hectare around at that point and then averaged it out. So that was how that was completed.

MEMBER DEMETER: And how large -- you get all these averages. Did you get a sense of any -- like did you have a mechanism to deal with significant ranges, where you might have a very high reading in a very specific location that wouldn't really get noticed when averaged in? Was there a way of managing particularly hotspots?

MR. WEBSTER: So we were able to identify locations where we saw elevated readings or readings that were background level, but our intention was to see if we were meeting the provincial guideline requirement, which

was an averaged value over 1 hectare. So we do have the details of where specific readings were collected, but it was -- in the end it was averaged.

THE PRESIDENT: Dr. Berube...?

MEMBER BERUBE: Just another technical question on turnover criterion.

With regard to the borehole plugging, did you actually fill them up completely or just put a plug in the top end of it?

MR. WEBSTER: Mike Webster, for the record.

When we started plugging the boreholes, we were -- the aim was to plug the boreholes 30 metres below and then backfill that with grout. So where we have been plugging boreholes, that is wherever we have been able to do that. Sometimes we would have run into kinks or something in the borehole that had not allowed us to get that deep, but generally 30 metres is the depth that we seal the boreholes to.

MEMBER BERUBE: The grout you use, what is the expected lifespan of the grout, do you know?

MR. WEBSTER: I don't have that information.

MEMBER BERUBE: No idea, okay.

THE PRESIDENT: Dr. Lacroix...?

MEMBER LACROIX: Again, a question for Cameco, a technical question.

Concerning property URA 5, you talk about a "tailings pipeline". What do you mean by a tailings pipeline?

MR. NAGY: Kevin Nagy, for the record.

During operations, tailings from the Beaverlodge Mill were cycloned and the coarse fraction was placed back underground and that was over the life of the facility about 40 to 42 percent of the tailings. The fine fraction was disposed of in a series of impoundments within the tailings management area. So there was a combination of steel or wood and stave pipelines that were used over the life of the facility to pump those tailings to the impoundments for disposal.

MEMBER LACROIX: These are actual pipes, right?

MR. NAGY: That is correct, yes.

MEMBER LACROIX: Okay.

THE PRESIDENT: A very quick question. The properties or portions of properties that you are proposing get transferred to the Institutional Control Program, would they be demarcated in any way so someone

would know that they are now under a different authority?

MR. WEBSTER: Mike Webster, for the record.

No, they are not to be. We have had those discussions with the Province of Saskatchewan and they have indicated that they -- it becomes a maintenance issue once the properties are in institutional control. The intention of the properties going to the IC program is that they will be open for traditional use, with no risk. So there has been -- I don't want to say an unwillingness, but there has been a desire to not sign them.

THE PRESIDENT: Thank you.

Okay, we will do one last round.

Dr. Demeter...?

MEMBER DEMETER: Just an example question. A number of times, Cameco, you have talked about areas that maybe need administrative controls, with Eagle, the pit there as well. Can you give me some examples of what you physically mean by administrative controls in the sort of low populated area? Is it signage, is it fence, is it -- give me some examples of administrative controls that you might utilize.

MR. NAGY: Kevin Nagy, for the record.

I will try to answer, but I think as well

maybe the representative from Saskatchewan Department of Energy and Mines -- or Energy and Resources might be able to add on as well.

So administrative controls, again, the properties are safe and acceptable for casual access, recreational, traditional activities, but provincial regulations, land disposition regulations/requirements, you know, may be necessary to prevent things such as residential subdivisions, commercial developments, industrial developments on those properties.

THE PRESIDENT: Dr. Berube...?

MEMBER BERUBE: Yes. This one is for CNSC staff.

As it pertains to crown pillar stability determinations, how did you verify and validate that what Cameco gave you was accurate?

MR. SNIDER: Richard Snider, for the record.

So Cameco submitted the information to CNSC staff. Those are reviewed by our specialist to confirm the results and we did support the conclusions in there that these 20 properties do present a low risk and do not require follow-up investigations on the properties -- sorry, geological specialist. And these properties as well

were inspected to confirm that there was no visual signs of instability of those areas.

MEMBER BERUBE: Would you care to elaborate?

MR. McALLISTER: It's Andrew McAllister, Director of the Environmental Risk Assessment Division.

When Mr. Nagy walked us through the methodology, just to confirm that that is accurate, that the approach used has been in place for 30 plus years and certainly our recommendation was the continued visual inspection that they made reference to and then we examined those reports and stuff to confirm that indeed they remain stable.

THE PRESIDENT: Dr. Lacroix...?

MEMBER LACROIX: This question is for staff.

On page 31 of your submission concerning the flooded pit at Eagle 1, CNSC staff has calculated the minimum six-day dose that would require for any person to receive a dose of 10 μ Sv. Now, in spite of the fact that Dr. Demeter pointed out this morning that the issue here is essentially chemical toxicity as opposed to radio toxicity, CNSC Staff calculate this dose.

Now, I'm curious; how did you come up with

this number? Is it an internal dose? Is it dependent on the type of radio nuclides such as uranium and its progeny? Is it dependent on the type of energy, type of radiation, alpha, beta, gamma? Does it account for the half life -- biological half life? And is it target to certain internal organs?

So could you elaborate on this matter, please?

MR. RINKER: Mike Rinker, for the record. I'm the Director-General for the Directorate of Environment and Radiation Protection.

So your specific question I'm going to direct to our subject matter expert in Ottawa, but first I want to put the question in the context and add some information to Dr. Demeter, who asked the question earlier.

The six days is the time that would be required to receive a dose of 10 μ Sv, so it's basically *de minimis*. It's not -- it's not the public dose limit, and so that is the limiting -- the limiting situation.

If we're taking into account uranium toxicity, you could, for example -- that is more limiting in general from a toxological perspective, but it's more like you could stay -- you could drink water for seven to 50 days, right.

So I'll pass the question to our radiation protection specialist.

MS PURVIS: Caroline Purvis, Director of the Radiation Protection Division, for the record.

With respect to the calculation that was undertaken, I can confirm, first of all, that yes, it's due to the consumption of the water, so that's how the calculation was done. So an internal dose to a representative person.

It would be based on the nuclides of interest that, in this case, I believe were uranium and radium.

Our specialist would have used an internal dosimetry software which would take into account the nuclides and their distribution in the body to the various critical organs in the calculation of the exposure.

And for certainly uranium and radium, the half lives are long, but the models will take into account the half lives in the calculations as well.

Please let me know if I didn't answer all your -- your --

MR. RINKER: Mike Rinker, for the record. Excuse me. I wasn't able to finish my answer earlier. Sore throat.

But in general, it is correct that uranium toxicity through the kidney is more limiting, but when we're looking at not the dose limit of 1 mSv but more of the *de minimis*, that's an area which is even more limiting.

So I think the statement is correct that six days is where you would receive something that's observable from a dose perspective, but in general I think this water is not water that we would recommend or would say that is safe for drinking. It should be avoided, and that's the key message.

THE PRESIDENT: Thank you.

So before concluding the hearing, I'll turn the floor to Cameco and see if you've got any final words.

Mr. Mooney.

MR. MOONEY: It's Liam Mooney, for the record.

I don't have anything other than I appreciate the questions and didn't get a chance to thank each of the intervenors, but they brought some interesting perspectives to bear and we have more to do in relation to the remaining 45 properties so we can incorporate those as best we can as we move forward.

So thank you very much for hearing our

application and we look forward to your decision.

THE PRESIDENT: Thank you.

Thank you all for your participation.

Marc, the floor is yours for any closing remarks for this hearing.

MR. LEBLANC: Thank you, yes.

So this brings to a close this public hearing. With respect to this matter, it is proposed that the Commission confer with regards to the information that it has considered and then determine if further information is needed or if the Commission is ready to proceed with a decision.

We will advise accordingly.

We will now take a 15-minute break just because we're going to start a new process in 15 minutes dealing with a new set of participants, and in that regard will resume at 3:20 -- 2:20, sorry.

Thank you.

--- Upon recessing at 2:05 p.m. /

Suspension à 14 h 05

--- Upon resuming at 2:20 p.m. /

Reprise à 14 h 20

THE PRESIDENT: Good afternoon and welcome to the public hearing of the Canadian Nuclear Safety Commission on the application by the Canadian Nuclear Laboratories for the renewal of its licence for the Whiteshell Laboratories.

For those who were not here this morning, my name is Rumina Velshi and I am the President of the Canadian Nuclear Safety Commission.

I'd like to begin by acknowledging that we are in the Treaty 1 territory and the land on which we are gathered is the traditional territory of the Anishinabek and the traditional homeland of the Métis people.

Welcome to everyone in the room and to all those joining us via webcast.

I would like to introduce the Members of the Commission that are with us this afternoon.

On my right is Dr. Sandor Demeter. To my left are Dr. Marcel Lacroix and Dr. Timothy Berube.

Mr. Denis Saumure, Senior Counsel to the Commission, and Mr. Marc Leblanc, Secretary of the

Commission, are also joining us on the podium today.

I will turn the floor to Mr. Leblanc for a few opening remarks.

Marc, over to you.

MR. LEBLANC: Merci, Madam la présidente.

So during today's business we have simultaneous interpretation. For the hearing this afternoon and tomorrow, interpretation will be available in Ojibway, English and French is.

Ojibway is on channel 3, la version française est au poste 2, and the English version is on channel 1. Headsets are available at the reception area.

I would ask that you please keep the pace of your speech relatively slow so that the interpreters have a chance to keep up.

The hearing is transcribed, and those transcripts will be available on the web site of the Commission within the next two weeks.

To make the transcripts as meaningful as possible, we would ask everyone to identify themselves before speaking.

I'd also like to note that this proceeding is being video webcast live and that the proceeding is also archived on our website for a three-month period after the

close of the hearing.

As a courtesy to others in the room, please silence your cell phones and other electronic devices.

Please note where the emergency exits are. There's two doors at the back of the room and doors on your right side. The bathrooms are located near the entrance. In the context of a safety moment this morning, we also verified where there was a defibrillator and whether there were some people who had first aid certification and doctors in the room.

The Notice of Public Hearing and Participant Funding 2019-H-03 was published on February 18, and a revised notice was published on September 25 to announce the location of the hearing.

The public was invited to participate in writing and by making oral presentations. September 3rd was the deadline set for filing by intervenors. The Commission received 11 requests for intervention.

September 25th was the deadline for filing of supplementary information. We note that supplementary submissions and presentations have been filed by CNSC staff, CNL as well as intervenors.

We have received some requests a bit in

the last few days, and these will be addressed in the context of those specific interventions.

Participant funding was available to intervenors to prepare for and participate in this public hearing. Five groups are receiving funding. The funding decision is available on the CNSC web site.

This afternoon we will first hear the presentations by CNL as well as CNSC staff.

After that, and probably before a health break, we will reconvene after the presentations to hear some intervenors. We have the Mayor of Pinawa, who is our first intervenor today, but he has to be out of here at a certain time, so that will indicate the timing of the health break this afternoon.

While the presentations are limited to 10 minutes, Commission Members will have the opportunity to ask questions after each presentation. There is no time limit for the question period.

And to support the CNSC's efforts in being an environmentally responsible organization, paper copies of the submissions are no longer distributed, as they are now available electronically on our website.

Your key contact persons will be Ms. Louise Levert and Ms. Dominique Ouellette from the

Secretariat staff, and you'll see them going around at the back of the room or at the reception desk in the back.

Ms. Velshi will be conducting this hearing.

President Velshi.

THE PRESIDENT: Thank you, Marc.

Before we proceed with the presentations, I want to note that Ms. R. Ali and Mr. Duck Kim from Environment and Climate Change Canada are joining us via WebEx to be available for any questions.

Thank you for being available.

I'll now turn the floor to Canadian Nuclear Laboratories for their presentation as outlined in CMDs 19-H4.1 and 19-H4.1B.

I'll turn the floor to Mr. Mike Gull for this presentation.

Mr. Gull, the floor is yours.

CMD 19-H4.1/19-H4.1A/19-H4.1B

Oral presentation by the

Canadian Nuclear Laboratories Ltd.

MR. GULL: Thank you, Madam President and Members of the Commission.

Good afternoon, ladies and gentlemen. For the record, my name is Mike Gull. I am the Vice-President of the Environmental Remediation Management for Canadian Nuclear Laboratories, also known as CNL.

We acknowledge the Whiteshell Laboratories and the location of today's hearing are located on the Treaty 1 and Treaty 3 lands, traditional territories of the Anishinabek, Cree, Dene, Dakota and Oji-Cree Nations and the homeland of the Métis.

With me here today are John Gilbert, who was appointed this summer as a general manager of the Whiteshell Laboratories Closure Project and Site Licence Holder, and Randall Schwartz, Manager, Whiteshell Licensing and Quality Management.

Also joining me and seated in the second row are Shaun Cotnam, Chief Regulatory Officer, Cynthia Williams, Vice President - Health, Safety, Security, Environment and Quality, and Allan Caron, Director, Whiteshell Environment, Safety, Health and Quality.

Other key CNL staff are available in the audience to respond to your questions as appropriate.

Also present and available to answer your questions are representatives from Atomic Energy of Canada Limited.

As this is the first time I've been before the Commission, I would like to describe my background, which includes leading decommissioning and waste projects across the UK and Europe -- northern Europe, our 32 years of experience, starting my career in manufacturing and in delivery of life extension projects on the UK's aging fleet of gas-cooled reactors.

I have held leadership roles -- I have held roles on leadership teams or as a site leader of four reactor sites, safely delivering missions including commercial power generation, defueling, decommissioning and transition.

I have held positions on the executive team of nuclear utilities or businesses for 13 years, completing defueling of Bradwell in 2006, developing the decommissioning and waste management plans for the Magnox reactor fleet and then safely undertaking the work.

After leaving Magnox in 2014, I led a joint venture team that remains a decommissioning delivery partner for Sellafield, taking much of the learning from Magnox to safely remove waste and reduce the risks of legacy ponds and silos at Sellafield.

I have just completed my first year in Canada and have come to know the professionalism of the

industry and the commitment to safety, a solid foundation to continue to reduce liabilities and ensuring safety now and into the future.

We are here before the Commission as part of our application for the renewal of the nuclear research and test establishment developed decommissioning licence for the Whiteshell Laboratory's nuclear site. The application is for a 10-year period, which will commence on January the 1st, 2020.

Our application is based on a track record of solid safety and environmental performance at the Whiteshell site. We seek today to demonstrate that CNL is fully committed to continuing to safely meet the obligations set out to you, our regulators, on behalf of the Government of Canada and the public as we fulfil our mandate on behalf of Canadians.

It is important to understand that we do not do this just because you regulate us, but because we are committed to doing the right thing for our workers, the public and the environment.

The presentation will start with a few introductory remarks. We will then summarize the decommissioning progress made from 2009 to the present.

The CNL plans for the proposed 10-year

licence term will then be discussed as well as some of CNL's safety and performance highlights in terms of several of the 14 CNSC safety and control areas, or SCAs. We will finish with some concluding remarks.

As has been discussed at earlier CNSC hearings and meetings such as the 2018 Chalk River Laboratories licence hearing, in 2015 CNL transitioned to a government-owned, contractor-operated management model, also known as GOCO.

Canadian National Energy Alliance, or CNEA, has been contracted by the Government of Canada through Atomic Energy of Canada Limited, or AECL, to manage and decommission the Whiteshell site.

It is important to review the roles and responsibilities of the organizations in the GOCO management models, and this slide illustrates these relationships.

Natural Resources Canada's role is to set policy with respect to radioactive waste management. The Government of Canada, through NRCan, has put in place a radioactive waste policy framework that specifies that waste owners are responsible for funding and finding solutions for their radioactive waste.

AECL as a federal Crown corporation is the

owner of the Whiteshell site and the associated radioactive waste and decommissioning liabilities.

AECL's mandate is to manage and reduce its liability in order to protect the environment and has contracted CNL and CNEA to do so.

As a main customer of CNL, AECL oversees the GOCO contract performance and CNL's performance. AECL also retains ownership of the sites, facilities, assets, intellectual property and decommissioning liabilities.

CNL is the operator and licensee of Whiteshell. It is and will continue to be in full control of day-to-day operations of the site.

As the licensee, CNL is fully accountable for meeting the regulatory requirements set out by CNSC and other regulators.

One of CNL's three mandates is to reduce the Government of Canada's nuclear legacy and historic waste liabilities. The mandate complements Whiteshell's pre-GOCO vision and mission which are, respectively, to help CNL to be the preferred supplier of decommissioning expertise in Canada through our people, practices and innovation, and to safely and efficiently decommission Whiteshell using sound environmental and waste management practices while optimizing value for the Canadian public.

I will begin by clearly stating CNL's position to the Commission.

CNL has an absolute commitment to safety. Safety is CNL's top priority.

CNL also has an absolute commitment to protecting the environment.

Since decommissioning began in 2003 and for decades before that, CNL and AECL have operated Whiteshell safely. We have made improvements that will continue to enhance safety at Whiteshell and across the company. And building on our established performance, we are well positioned to continue to meet our regulatory obligations during the proposed 10-year licence period.

The Whiteshell Laboratories closure project is safely reducing our nuclear legacy and historic waste liabilities through the decommissioning of Whiteshell, meeting CNL's environmental remediation mandate.

This photo shows an aerial view of the Whiteshell waste management area on the right and a concrete canister storage facility on the left. These two facilities will be the location of a large fraction of the decommissioning activities at Whiteshell during the upcoming licence period to achieve the desired hazard

reduction.

This satellite image shows the location of the waste management area with respect to the main campus of Whiteshell. As you can see, the waste management area and the concrete canister storage facility are located approximately 2.5 kilometres northeast of the main Whiteshell campus.

Whiteshell was established by AECL in the early 1960s and was created around Whiteshell Reactor No. 1, or WR-1, a 60-megawatt organic cooled reactor which was built to perform research into the organically cooled reactor concept.

Whiteshell also had a number of shielded hot cells to support both the reactor and other research projects.

Whiteshell led the development of concrete canisters for the dry storage of irradiated reactor fuels. The nuclear fuel waste management program was another major component, investigating deep geological disposal of spent fuel, including the construction of the nearby underground research laboratory.

The Whiteshell -- the reactor safety research program was a major component of Whiteshell, including experimental facilities such as RD-14M thermal

hydraulics test facility currently being decommissioned, and a large-scale vented combustion test facility which was demolished this past winter.

Additionally, the SLOWPOKE Demonstration Reactor was constructed and partially commissioned in 1985, but never achieved fully operational status and was decommissioned in 2016.

The site is approximately 11,000 acres in size, with a present staffing complement being about 330 highly-trained and experienced employees.

After the acceptance by the Canadian Ministry of the Environment of the comprehensive study reports, which documented the 2002 environmental assessment for the decommissioning of Whiteshell, we received our first decommissioning licence from the CNSC valid from 2003 through to 2008. This licence was subsequently renewed for the period of 2009 through to 2018 and was further renewed for one year under the same terms and conditions and a second decommissioning licence, expiring this December.

In our first application for the renewal of the Whiteshell licence for a 10-year period, starting on the 1st of January, 2020, CNL is proposing to complete Whiteshell decommissioning activities on or before 2027. CNL is requesting a renewed licence until the end of 2029,

as additional time may be needed to complete final documentation, and this will cover schedule risk with respect to the Whiteshell closure.

Please note that CNL's Commission Members Document submission stated physical work was scheduled to be completed in 2026. After a recent re-evaluation of our overall schedule and in consultation with AECL, who oversees our contract, final physical work is now scheduled to be complete in early 2027.

This timeline is an acceleration of the final decommissioning and closure of Whiteshell by approximately 40 years over the date first proposed in the 2002 comprehensive study reports. As the world is learning, and which is quickly becoming best practice, the liability must be addressed now. It is responsible to deal with this now and not leave it for future generations.

It should be noted that the original plan of completing the decommissioning by approximately 2060 assumed that permanent disposal facilities for radioactive waste would be available by that date, thus permitting the disposal of radioactive wastes from Whiteshell directly to the disposal site. The current strategy is to reduce risk now by properly characterizing, storing, disposing, and addressing the liabilities that exist on the Whiteshell

site.

Additionally, CNL is preparing an environmental impact statement, or EIS, for the proposed in-situ decommissioning of the WR-1 reactor. CNL has submitted a draft EIS to the CNSC in September 2017 and is revising this document in response to questions and comments from CNSC staff, other government departments, the public, and Indigenous communities.

Once the final EIS is submitted to CNSC, a licence amendment application will also be submitted, which is to be followed by a separate CNSC hearing process. Therefore, the in-situ decommissioning of WR-1 is not within the scope of the present relicensing application by CNL, nor of this hearing, and will be discussed only in the briefest terms to establish its place within the wider context of the final decommissioning of Whiteshell.

During the current licence period, significant progress has been made in the decommissioning activities and environmental remediation, including the removal or demolition of many redundant buildings and non-nuclear facilities, structures, and buildings.

This slide shows an aerial photograph of the main campus of Whiteshell circa 2014, midway through the licence period. The photo was taken looking towards

the northeast. Please concentrate your attention for a moment to the clusters of buildings or structures within the ellipse.

This slide shows a depiction of the current status of Whiteshell, with most of the buildings within the ellipse in the previous slide having been demolished. In addition, the oil storage tanks and some cold storage buildings at the top right have been removed, plus several other buildings around the site, including some that will be discussed shortly. The three white-coloured ellipses in the slide show the buildings currently being decommissioned.

This slide shows the proposed state of Whiteshell in approximately 2027, pending Commission approval of the application for relicensing before you today. All buildings and most services will have been removed and the site will have been returned to a natural, grassy field.

Also planned to remain after 2027, pending the safety case that will need to be accepted by the CNSC, will be most of the underground trenches containing low-level waste, which are in the present waste management area.

Once decommissioning is complete, areas of

the site will be under institutional control, including ongoing monitoring of, for example, groundwater wells.

I would now like to turn the presentation over to John Gilbert.

DR. GILBERT: Thank you, Madam President and Members of the Commission. Good afternoon, ladies and gentlemen. For the record, my name is John Gilbert. I am the Whiteshell general manager and site licence holder.

Just as Mr. Gull did, I would like to provide you with some background on myself. I have more than 35 years of industry experience participating in and managing a variety of projects in the private and government sectors, including the nuclear, mining, civil, and petroleum fields. I have significant experience in management, oversight, and supervision of large nuclear decommissioning and demolition projects and new nuclear facility construction. Previous nuclear project experience includes senior roles at the San Onofre Nuclear Generating Station decommissioning, Humboldt Bay power plant decommissioning, the Hanford 300 area decommissioning, and at the Idaho National Laboratory, supporting both decommissioning and new nuclear facility construction.

I would like to begin my remarks by providing you with a summary of the decommissioning

progress at Whiteshell during the current licence period, from 2009 to present. Following that, I will provide you with a summary of the decommissioning work planned during the proposed 10-year decommissioning licence and an update on our recent performance in selected safety and control areas.

During the current licence period, significant progress has been made in decommissioning activities and environmental remediation, including the safe and compliant removal or demolition of several nuclear and non-nuclear facilities, structures, and buildings, as Mr. Gull has previously explained.

This slide shows the cumulative footprint area of many of the buildings and structures that have been safely and compliantly decommissioned and demolished during the current licence period. Since 2009, more than 9,000 square metres have been demolished.

During the current licensing period, site heating was changed from the centralized oil-fired hot water system to the heating of individual buildings by electricity or propane, making the demolition of individual buildings easier. This modification eliminated the production of a large quantity of greenhouse gases, as can be seen from the chart on this slide, and enabled the

decommissioning of two large outdoor oil tanks. Greenhouse gas emissions have dropped from an average of approximately 8,200 tonnes per year prior to 2009 to an average of 1,811 tonnes per year over the last three years, for a total reduction of approximately 78 per cent.

This slide shows you the progress made in decommissioning Whiteshell's main research and development radioisotope facility, building 300.

The left photo shows the entire complex with a now-demolished section highlighted. This section of the building comprised half of the floor space of the entire complex, spread over three storeys. Also visible in this photo in the dashed white circle is the RD-14M portion of the building, which is the tall white structure at the extreme left end of the building. This section of the facility is currently being demolished. The Whiteshell shielded facilities are also visible in the top centre of that photo.

The right photo shows the building after demolition in 2016. Decommissioning activities within this nuclear facility were carried out by Whiteshell workers, whereas the demolition was carried out by a contractor. The remainder of this building will be decommissioned in the next licensing period.

This slide shows you the laundry and decontamination centre, building 411, during its demolition in the summer of 2017. This facility was used for the washing of contaminated clothing used in the nuclear facilities on site and for the decontamination of the site equipment and tools. In the left photo is the building prior to demolition. The other two photos show the decommissioning and demolition work in progress. This was the first self-performed demolition of a nuclear facility at Whiteshell.

This slide shows the demolition activities of two non-nuclear facilities, the large-scale vented combustion test facility, which was used for various hydrogen-related experiments, and the central stores and receiving building.

This next slide shows some photos of the decommissioning of the active liquid waste treatment centre, building 200. This building was basically an indoor tank farm for the collection, temporary storage, and treatment of low- and intermediate-level waste. The building is currently being decommissioned and is nearly ready to be turned over to demolition.

The middle photo shows a large storage tank being removed from its vault. The right photo shows

an opening which was made in one of the building's tank rooms for improved decommissioning access. The blue colour is the result of a fixative which has been applied to the walls to prevent the spread of radioactive contamination during subsequent phases of decommissioning.

The next several slides will summarize the CNL plans for the proposed 10-year licence period. As the photo implies, a significant portion of these plans involve transporting radioactive wastes from the Whiteshell site.

This slide gives a high-level schedule for the remaining decommissioning activities at Whiteshell, concentrating on building removal dates. A more detailed schedule is provided in our Commission Members Document.

The key takeaway is that the schedule covers the period from fiscal 2019/2020 to the end of fiscal year 2026/2027, by which time CNL expects that physical decommissioning activities will have been completed. Additional time may be needed to complete final documentation.

Used fuel is being stored at Whiteshell in concrete canisters. The plan for decommissioning of the Whiteshell concrete canister storage facility begins with the retrieval and transfer of the used fuel from the canisters to the newly constructed canisters at Chalk

River.

The left photo is an aerial view of the concrete canister storage facility, which is located immediately beside the Whiteshell waste management area. In the middle photo, Whiteshell workers are shown refurbishing the on-site shielded flask, which will be used to retrieve the fuel from the canisters. The right photo shows a fuel transfer mock-up, which was conducted with the now empty demonstration canisters to prepare for the canister fuel transfers to Chalk River. This work is an important step in the preparation for the actual work which is scheduled for 2020/2021.

This next slide shows the used fuel transportation package, or UFTP. Used fuel, which is stored in cylindrical steel baskets, will be retrieved from the canister with the use of the local shielded transfer flask that was shown on the previous slide and transferred to the UFTP, which CNL has leased from the Nuclear Waste Management Organization. Once used fuel has been transferred into the UFTP, it will then be transported to Chalk River, where the reverse operations will be performed, moving the fuel baskets into the Chalk River canisters. The Whiteshell canisters will then be demolished. We are anticipating 46 trips of the UFTP from

Whiteshell to Chalk River.

Low-level radioactive waste is stored in a variety of ways at the Whiteshell waste management area. The top two photos of this slide show the shielded modular above-ground storage building, or SMAGS, where the waste was stored in steel boxes. All waste which was previously stored in the SMAGS has been removed and is being transferred to Chalk River in order to repurpose this building into a staging area for waste retrieved from the standpipes and intermediate-level waste bunkers. The facility will be renamed the "cask loading facility."

The bottom photos show one of six above-ground bunkers, also used for the storage of low-level waste. As you can see, waste is stored in drums, wooden crates, and in bales of compressed soft waste material such as mop heads, gloves, and laboratory wipes. These bunkers will be opened up and the waste retrieved, repackaged, and transferred to Chalk River, after which the bunkers will be decontaminated and demolished. The first of these bunkers was emptied this past summer, with the waste presently being characterized and repackaged before being shipped to Chalk River.

This slide shows an aerial view of the waste management area, which contains 25 in-ground

trenches, used primarily to store low-level waste. Most of the trenches are located in the green space circled in the photo. At a later date, CNL is planning to put forward a safety case to the CNSC per the comprehensive study report for the in-situ decommissioning of most of the 25 trenches while remediating the remaining trenches whose contents are not appropriate for in-situ decommissioning. Work is underway to finalize which of the trenches will need to be remediated and which are to be part of the safety case submitted to CNSC for its in-situ decommissioning.

Whiteshell waste is stored in standpipes and intermediate-level waste concrete bunkers at the waste management area. The right photo shows an aerial view of the standpipes and bunkers area, which is located in the southwest corner of the waste management area, adjacent to the concrete canister storage facility.

Historically, before the advent of the dry storage of irradiated reactor fuel in concrete canisters in the mid-1970s, such material as well as quantities of intermediate-level waste, such as HEPA filters, was stored in vertical in-ground structures called standpipes. Whiteshell's standpipes are similar to Chalk River's tile holes.

The left image shows a schematic of a

typical standpipe. A hundred and seventy-one standpipes were constructed of various designs, with 95 built with poured-in-place concrete caps and the remaining 76 with removable plugs. All standpipes are located below ground and are assumed to have been infiltrated with some amount of groundwater. Additionally, 69 standpipes contain variable amounts of fissionable material. There are also seven bunkers containing intermediate-level waste.

To handle the standpipes' and bunkers' wastes, CNL has commenced a major design/build/remediate project to safely recover, sort, and repackage these wastes as required, and prepare the waste for shipment to Chalk River.

This slide shows a couple pieces of equipment for the remediation project. A separate system will remotely and safely enter and retrieve contents of the standpipes and bunkers. These contents will then be sent to a shared sorting, characterization, and repackaging unit. Next, the waste will be placed in a temporary transfer flask and moved to the cask loading facility. Here the waste will be assayed in a lower background area and placed in a licensed road container for transport to Chalk River.

As Mr. Gull explained at the beginning of

this presentation, the primary focus for the establishment of the Whiteshell Laboratories in the early 1960s was the WR-1 organically cooled research reactor. The left photo in this slide shows the WR-1 reactor building, building 100, with the ventilation exhaust stack visible on the right. The right photo shows the interior of the main reactor hall, pointing out the locations of the reactor core, which is located below the shielded flask, the primary heat transport system equipment room, and the floor of the reactor hall located at ground level.

As approved per the 2002 comprehensive study report on the decommissioning of Whiteshell, the option selected at that time is to fully dismantle the reactor. As previously, mentioned on slide 9, the in-situ decommissioning proposal for WR-1 is not within the scope of the present relicensing application by CNL, nor of this hearing.

As already mentioned, the process of transferring radioactive waste to Chalk River has commenced. The photo shows bags of low-level contaminated soil being loaded onto a transport truck for shipment to Chalk River in 2018. As of July 2019, 172 shipments of low-level waste, or a total of 780 packages with a volume of 3,557 cubic metres, have been shipped. In addition,

three shipments of intermediate-level waste, with a volume of 18 cubic metres, have been transferred to Chalk River since 2017. All together, these shipments have totalled over 335,000 kilometres travelled with zero incidents or accidents and with zero non-compliances.

CNL anticipates that an additional approximately 1,500 shipments of low-level waste, 500 shipments of intermediate-level waste, and the aforementioned 46 shipments of high-level waste -- that is, the baskets of irradiated reactor fuel from the concrete canister storage facility -- will be transferred to Chalk River during the completion of the Whiteshell closure project over the proposed licence period.

I will now move on to discuss Whiteshell's safety performance against selected safety and control areas, or SCAs, that the Commission and CNSC staff use to categorize the licensees' performance. In particular, I will discuss Whiteshell's regulatory performance during the current licence period from 2009 to the present against these six SCAs plus our Indigenous community engagement program and public information program.

With respect to our management system, CNL has established an up-to-date, compliant, and transferable framework through which it manages and operates Whiteshell

and all sites and locations across CNL. Major revisions to the management system documents were implemented in 2017 to capture the requirements of the new GoCo management model. The management system documents apply to all CNL activities, ensuring delivery against commitments within appropriate accountabilities and controls, resulting in safe, effective, efficient conduct of work across all CNL lines of business and at all CNL locations, while continuing to ensure regulatory compliance.

The CNL management system aligns with CSA's N286-12 management standard. The Whiteshell laboratories decommissioning quality assurance plan aligns with and is compliant to the CSA N286.6-98 decommissioning standard as well as the N286-12 standard.

CNL, and before it AECL, has undertaken company-wide surveys several times over the current licence period to support staff engagement, to drive the company's safety culture initiatives, and to reinforce management expectations. Six of the top 10 positive responses in the 2018 employee survey related to questions about workplace safety, showing CNL's safety culture is working and remains successfully integrated into daily work and operations. The management system has and will continue to evolve to align with changing regulatory and standards requirements.

This leads me to the human performance management, a safety and control area that is closely tied to occupational or conventional health and safety.

At CNL, our human performance program has built a strong safety culture, promoted safe work practices, and reinforced the use of human performance methodology through training, communication, and observation.

During the current licence period, CNL strengthened relative processes, developed training to nurture a healthy safety culture, and encouraged organizational learning based on strong human performance principles and personal accountability. Also, the number of unplanned situations and events at Whiteshell has decreased recently. This is a trend that we intend to build on. CNL will continue to apply human performance tools to improve our safety performance at all times.

CNL's radiation protection program provides an overall framework for ensuring that exposure to ionizing radiation is kept as low as reasonably achievable, or ALARA, for all CNL employees, visitors, and contract workers.

CNL has implemented a number of improvements to the radiation protection program, including

redesignation of radiological areas to better optimize the provision of protection and the continuing changes as decommissioning work advances at Whiteshell. Other examples include the introduction of enhanced personal protective equipment and clothing, new contamination monitoring equipment, the procurement and implementation of remotely operated tools and equipment for higher dose rate activities, optimizing the types and usage of immobilizing agents, improved cutting methods and tools, and improvements to pre-job planning for high hazard work.

Successful implementation of the radiation protection program has ensured that no regulatory dose limit was exceeded during the current licence period. This chart shows the maximum whole body dose versus the whole body dose action level and regulatory limit. As you can see from the data presented, the regulatory limit is 50 mSv per year, and the Whiteshell action level is 6 mSv per year, whereas the maximum dose that any Whiteshell worker received over the past 10 years is 1.65 mSv, just over 3 percent of the regulatory limit and one-quarter of the action level. The site-wide average dose is approximately 1 percent or less of the action level over those 10 years.

As provided in the chart, the doses received vary from year to year depending on the

decommissioning work that is performed during that year. For example, the increased individual whole-body doses for 2017 and 2018 were expected due to activities carried out, such as the radiological characterization and decommissioning activities in Building 200 and WR-1, and the hot cell damper and manipulator repair work in the shielded facilities.

This slide summarizes Whiteshell's lost time injury rate through the current licence period. The green bars show the frequency rate of lost time injuries in a year, while the red bars show the severity rate of those injuries. These rates have been significantly lowered in recent years, thanks to an increased management emphasis on safety in the workplace and increased vigilance by CNL employees, as previously discussed.

This slide presents a comparison of Whiteshell's injury statistics for the last two calendar years versus several United States Department of Energy sites over the period from 2019 of January to 2019 of June. The total recordable case or TRC rate used at the DOE sites from the U.S. Occupational Safety and Health Administration was calculated using the same methodology that we use to calculate the frequency rate. You will see that Whiteshell's statistics compare quite favourably with most

of the U.S. DOE sites. With like entities, Whiteshell is above average. We note that we want to be at the bottom of this chart, as that is what good looks like.

CNL's environmental monitoring and environmental protection programs flow down from the CNL environmental policy, which states our commitment to protecting the environment and establishes the overall principle for the environmental responsibility and performance expected of all employees.

The Whiteshell Environmental Management System is registered to ISO 14001:2015, and Whiteshell has maintained its ISO 14001 registration since 2010. As an ISO 14001-certified site, Whiteshell goes through internal audits, as well as annual external environmental management system audits. These audits are required to verify the effectiveness of the system and to strive for continual improvement of CNL's environmental performance.

The Whiteshell environmental protection program is comprised of three components, effluent monitoring, environmental monitoring and groundwater monitoring. Together, these three components comprise contaminate pathway monitoring at Whiteshell, enabling the tracking of possible contaminants throughout the different compartments of the geosphere and biosphere.

Environmental monitoring includes the measurement of ambient gamma radiation, as well as a sampling and analysis of drinking water, river sediments, soil, fish, vegetation, including garden produce, and wild game. All components of the monitoring program are designed to confirm that air and liquid releases remain as low as reasonably achievable. Overall, many thousand samples of river water, groundwater, soil, animal flesh, vegetation and air particulate are collected and analyzed as part of the environmental monitoring program. There are more than 200 sampling locations, and some samples are analyzed for multiple constituents. Over 10,000 chemical or radiological analyses are performed annually and are reported to the CNSC. Some of these locations have been continuously monitored since Whiteshell was established in the mid-1960s, such as the Winnipeg River locations, where all surface water samples and/or river bottom sediment samples are collected. Overall, Whiteshell has collected over 50 years of environmental data.

This slide summarizes the result of Whiteshell's radionuclide effluent monitoring program throughout the current licence period. The results are presented as percentages of the approved limits for Whiteshell's airborne and liquid emissions.

Please note that the vertical scale on the chart is logarithmic, showing the order of magnitude of the effluents.

The green bars on the chart show the amount of airborne radionuclides in air effluents from Whiteshell over this period. The blue bars show similar data for liquid effluents. It should be noted that the limits were reviewed and revised to meet CNSC requirements and have changed over time. The data have been normalized to the latest limits. The airborne and liquid emissions are not only small percentages of the approved limits shown in red but are also trending lower as a function of time as decommissioning progresses. The maximum liquid effluents are just greater than 1 percent of the limit, while the airborne values are less than one thousandths of 1 percent of the limit.

I would now like to take a moment to discuss some of Whiteshell's current and recent improvements in the field of site security.

We note that many details about security may only be discussed in a closed session and we are prepared to do that if so requested by the Commission.

During the recent licence period, Whiteshell upgraded the main access gate to the site to

provide a more robust deterrent to forced entry to the site, and the main security reception desk was also relocated.

Additionally, the site's radiocommunication system was upgraded to a digital system for clearer transmission and the Whiteshell security operating system was upgraded. As well, the site card access system and intrusion detection on entry portals were also installed.

To assist in the increased activity planned for the standpipes and intermediate level waste bunker area of the waste management area, the protected area around that region has also been expanded with new fences and other security features.

Recent initiatives by CNL have resulted in increased participation of offsite RCMP responders, and exercises and drills to familiarize RCMP staff with Whiteshell in case they should be required to attend to the site.

In summary, since 2018, CNL has implemented significant security changes that improve Whiteshell's capabilities to detect, deter, delay and respond to security threats.

CNL recognizes the importance of engaging

Indigenous communities and has a strong desire to continue to build relationships with both first nations and Metis. Through this, we have the ability to learn from one another to ensure that our activities continue in a way that protects people and the environment. That is our first priority in all aspects of our work.

CNL has engaged with five first nation communities near Whiteshell Laboratories and the Manitoba Metis Federation, presenting on activities related to the decommissioning of Whiteshell, with recent communication efforts focused on the in-situ decommissioning proposal for the WR-1 reactor. The five first nation communities are: Sagkeeng First Nation; Brokenhead Ojibway Nation; Hollow Water First Nation; Black River First Nation; and, Wabaseemoong Independent Nations. Site tours, community visits and participation in community events, involvement with environmental monitoring, Industry Day, and a first nation community-specific newsletter, are some of these activities.

Additionally, in 2018, CNL hosted a visit to Hallam, Nebraska for both Indigenous and municipal leaders to visit an in situ decommissioned reactor.

To support Sagkeeng First Nation and the Manitoba Metis Federation, formalized participation and

funding were provided through signed contribution agreements.

I would like to discuss CNL's public information program, which seeks to build public awareness, understanding and support for the work we carry out on behalf of Canadians. This program is an established platform that sustains open and honest communication with stakeholders. This is done through a number of vehicles, including our corporate website, community meetings, conventional media, recruitment materials and special events.

In recent years, CNL has also developed a social media strategy to better engage online stakeholders with nearly 5,000 followers on its platforms, including Twitter, Facebook, YouTube and LinkedIn.

We continue to publish a bilingual newsletter, Contact, that is mailed to approximately 8,000 homes in eastern Manitoba periodically. This is to inform readers on all activities undertaken at Whiteshell.

CNL participates in and provides funding for regional economic regeneration initiatives to look for economic opportunities for the region once Whiteshell decommissioning has been completed.

Taken together, these outreach initiatives

work to stimulate stakeholder engagement on all of our programs.

CNL recently hosted a very successful public open house on June 8, attracting over 300 visitors. CNSC and AECL staff were also present to engage the visitors. Presentations, displays, bus tours of the site, a children's program and a luncheon were all features of the open house.

In closing, I would like to clearly state our position to the Commission in echoing Mr. Gull's comments from earlier in the presentation.

Canadian Nuclear Laboratories has an absolute commitment to safety and the environment. The Whiteshell site has been safely operated, and improvements have been made that will continue to enhance the safety of the operation.

In building upon our established performance, we will continue to meet all regulatory obligations during the proposed 10-year licence period. Our application is based on a track record of solid safety and environmental performance, with trends of improvement in many important areas. This performance is based on mature programs that are built upon decades of experience, with an injection of international best practices

introduced through the GoCo model.

CNL has laid out a 10-year vision and a plan for the Whiteshell site that will see decommissioning activities complete, transitioning the site to institutional control.

CNL is fully confident that we will continue to safely decommission the site under this proposed licence period.

I would now like to turn the presentation back over to Mr. Mike Gull for some concluding remarks.

MR. GULL: Thank you, John.

I would like to summarize what work we do at Whiteshell during the proposed 10-year licence period if our application is approved by the Commission.

All physical decommissioning work will have been completed. The decommissioning will have been performed to accepted end states and end state documents will have been written and submitted to CNSC staff.

The only things remaining on the site will be the in situ decommissioning of the WR-1 reactor pending future Commission approval, the low-level trenches in the former waste management area pending CNSC acceptance of a safety case, as per the comprehensive study report, as well as environmental monitoring stations and some services,

such as site access roads.

During the upcoming licence period, CNL will prepare for a transition to an institutional control state, with an appropriate licence application or applications to the Commission.

In closing, I would like to direct your attention to the rendered photograph in this slide, showing what the Whiteshell waste management area should look like at the end of the proposed licence period. In a moment, you will see a similar rendered photograph of the main campus.

Understandably, the focus of some interventions is the protection of the environment and, in particular, the preservation of this body of water, the Winnipeg River, seen on the left side of the photo, so I want to be clear. The protection of the Winnipeg River and the surrounding environment is also important to CNL and its employees. We share this important value. We are working to learn more, including the importance of ceremony, and acknowledging the impact of past actions.

As Elder Dave Courchene has said, the issue of nuclear energy on this land has brought this opportunity for us to work together.

CNL staff work and play beside the river.

Their families and their children swim in the river, boat in the river, fish, drink the water that comes from it. It's part of their daily lives. That's why we're working to make it even safer for the future. The whole basis of this project is to reduce the impacts on the people, the environment, the earth, and protect the future. This is why we are doing this work.

With that, I would like to thank you for your time today, Madam President and Members of the Commission.

This concludes our prepared remarks. We would now be pleased to answer any questions you may have about our application to re-licence the Whiteshell Laboratories for 10 years.

THE PRESIDENT: Thank you, Mr. Gull and Mr. Gilbert.

I'd like to move to staff for their presentation, as outlined in CMD 19-H4, 19-H4.B and 19-H4.C

Ms Tadros, over to you.

CMD 19-H4/19-H4.B/19-H4.C

Oral presentation by CNSC staff

MS TADROS: Thank you.

President Velshi and Members of the Commission, good afternoon.

Once again, for the record, my name is Haidy Tadros. I am the Director General of the Directorate of Nuclear Cycle and Facilities Regulation.

With me, for this file, are my colleagues Ms Kavita Murthy, Director of the Canadian Nuclear Laboratories Regulatory Program Division, and Mr. Kevin Ross, a senior project officer within the same division. We are joined by our colleagues and subject matter experts on this file.

Our presentation today will discuss CNSC staff's assessment of CNL's application to renew the site licence for the Whiteshell Laboratories.

In its application, CNL is requesting authorization for continued decommissioning of the Whiteshell Laboratories site for a period of 10 years, ending December 31, 2029.

Our presentation, identified as CMD 19-H4.C, provides a summary as well as highlights from CNSC staff's written submissions found in CMD 19-H4, CMD 19-H4.A and CMD 19-H4.B.

Additional information related to security is contained in CMD 19-H4.A, submitted to the Commission.

That CMD contains confidential information related to site security and will not be discussed in the public portion of this hearing.

Supplementary CMD 19-H4.B contains information on CNSC staff's recommendation for a licence condition related to security. I wish to note, the draft licence attached to the supplementary CMD 19-H4.B should have included the text of the new facility-specific licence condition. CNSC staff's response to concerns raised through public intervention is also found in the staff supplementary CMD.

This slide is a roadmap of our presentation today.

Our presentation will highlight CNSC staff's review of the licence application submitted by CNL and summarize CNSC staff's assessment of CNL's performance over the last 10 years, from 2009 to 2018.

We will close our presentation with CNSC staff's conclusions, and provide our recommendations to you for your consideration.

The purpose of hearing. CNL's licence renewal application was submitted to the CNSC in October 2018. In their submission, CNL has requested that the Commission renew the Nuclear Research and Test

Establishment Decommissioning licence for Whiteshell Laboratories for a period of 10 years, carrying over activities that have already been approved in the current licence. We wish to underscore, for the record, that this application for renewal does not include the proposed in situ decommissioning or ISD of the Whiteshell Reactor 1.

The next few slides will provide an overview of the Whiteshell Laboratories and discuss the activities carried out at this facility. As much of the site has already been presented by CNL, I will be brief.

The Whiteshell Laboratories site is located approximately 100 kilometres northeast of Winnipeg, near the town of Pinawa, Manitoba.

Whiteshell was established in 1963 by Atomic Energy of Canada Limited or AECL, a federal Canadian Crown corporation. AECL operated Whiteshell Laboratories for approximately 40 years, until 2002.

In 2002, AECL applied for and was granted a decommissioning licence by the Commission.

In October 2014, the Commission approved the transfer of the licence from AECL to Canadian Nuclear Laboratories. Since then, the site has been operated by CNL, but is still owned by AECL.

CNL is the licensee responsible for the

site today and is the entity that has applied for renewal of this site licence.

CNL's current licence authorizes a broad range of facilities and activities at Whiteshell Laboratories. Under this licence, CNL is authorized to, among other things, operate facilities and decommission buildings and structures, store and manage waste and construct structures as required to conduct its licensed activities. CNL has carried on these activities safely and in compliance with the regulatory requirements throughout the licence period.

The current licence expires on December 31, 2019.

In its application, CNL has identified four areas of focus during the upcoming licence period. Over the next 10 years, in addition to the management of existing wastes at the Whiteshell Laboratories, CNL is proposing to continue with the decommissioning of buildings and structures across the site. It should be noted that three of the four activities are within the existing licensing basis, which was defined by the Comprehensive Study Report submitted to the Commission in 2002.

Decommissioning of the WR-1 reactor, using the previously-accepted strategy of dismantlement, would be

within the current licensing basis. However, CNL has indicated that this is no longer their preferred decommissioning approach for the WR-1 reactor. As this topic gets a lot of mention in the interventions and needs to be clarified, I will briefly speak to the proposed ISD of the WR-1 reactor.

In April of 2016, CNL submitted a separate application requesting authorization for the in situ decommissioning of WR-1. The proposed approach represents a deviation from the approved licensing basis for the decommissioning of the reactor. It therefore requires both a federal environmental assessment under the *Canadian Environmental Assessment Act, 2012*, and presuming a positive EA decision by the Commission, a subsequent licensing decision under the *Nuclear Safety and Control Act*.

At this time, the project is undergoing an environmental assessment under CEAA 2012, and a licensing assessment under the Nuclear Safety and Control Act. Both the EA and the licensing decision would be made by the Commission following a public hearing process. The scheduling of this hearing has not been determined at this time. Therefore, the matter of the ISD of WR-1 is not under consideration for the renewal request before you

today.

Addressing the current application before you, CNSC staff have reviewed and assessed CNL's licence application, as well as CNL's operating performance over the last 10 years. Based on these reviews, CNSC staff recommend that the licence be renewed for a 10-year licence period. The proposed licence and draft LCH have been prepared following the standardized format and wording that has already been incorporated in several Class 1 licences that have been issued following public hearings.

The proposed licence and draft LCH provide clarity and conciseness, while maintaining regulatory rigour and no reduction in regulatory requirements or oversight of the proposed facilities and activities going forward.

Once again, the proposed licence does not authorize in situ disposal of the WR-1 reactor. This will be subject to a future public hearing.

I will now pass the presentation over to Ms Kavita Murthy, Director of the Canadian Nuclear Laboratories Regulatory Program Division.

MS MURTHY: Thank you.

Good afternoon, President Velshi and Members of the Commission. For the record, my name is

Kavita Murthy.

The next few slides will focus on CNSC's regulatory oversight of Whiteshell Laboratories.

The CNSC has a robust regulatory framework in place to ensure the continued safe operation of licensed nuclear facilities. Regulatory oversight is provided by CNSC staff to ensure licensees operate in a safe manner and in compliance with the requirements of the *Nuclear Safety and Control Act* and the associated Regulations, as well as the licence conditions and applicable regulatory documents. The CNSC verifies compliance through site inspections and also by doing desktop reviews of operational activities and licensee documentation.

In addition, licensees are required to report routine operational performance data and unusual occurrences to the CNSC. CNSC staff follow up on unplanned events that occur on the licensee's site.

To complement existing and ongoing compliance activities, we have the Independent Environmental Monitoring Program, or IEMP. CNSC staff collect samples of environmental media and analyze them in the CNSC's analytical laboratory. The results of the IEMP are posted on the CNSC's public website.

CNSC's approach to compliance includes

activities to encourage compliance, verification activities to assess compliance, and graduated enforcement in cases of non-compliance.

As mentioned earlier, the concept of licensing basis is fundamental to how licensees must operate. The licensing basis defines what a licensee must do to demonstrate that they are willing and able to carry out the authorized activity in accordance with the requirements of the *Nuclear Safety and Control Act* and the supporting regulatory framework and it sets the boundary conditions for acceptable performance at a regulated facility or activity.

Documents provided to support the licence application form part of the licensing basis. If the licensee proposes to make changes to their programs that are beyond the licensing basis, they must obtain authorization by the Commission before doing so. The licensing basis, in short, establishes the basis for CNSC's compliance program in respect of that regulated activity or facility.

Part of our regulatory oversight activities is to review the licensee's submissions against the licensing basis to ensure that the activities it is proposing to conduct remain within the licensing basis

approved by the Commission.

Typically, performance history evaluations carried out by CNSC staff in support of licensing hearings only cover the previous licensing period. CNL's current licence was granted in 2018 for a one-year period, which makes the current licence period only 12 months. To provide the Commission with more meaningful trending data, CNSC staff have provided information in CMD 19-H4 dating back to 2009.

Throughout this presentation the term "licence period" will refer to the entire period assessed between 2009 and 2018.

Our oversight of Whiteshell Labs is aligned with the risks associated with the activities conducted at the site. There is no operating reactor at the Whiteshell Labs and the activities at the site have been limited to waste management and decommissioning.

Since 2009 we have conducted 26 onsite compliance inspections at the Whiteshell Laboratories as well as numerous site visits, reviews, meetings and events involving CNSC technical specialists. An additional 18 safeguard inspections were conducted by staff of the International Atomic Energy Agency.

CNSC staff CMD 19-H4 has the environmental

performance review report for the Whiteshell Labs, appended as Addendum D.

The EPR is a comprehensive science-based environmental technical assessment by CNSC staff of CNL's application for renewal of the decommissioning licence for the Whiteshell Lab site.

In addition to CNSC staff's assessment of the documents submitted in support of the licence application, CNSC specialists in environmental protection have also reviewed predictions of radionuclides and hazardous substances in the receiving environment, as presented in the Comprehensive Study Report, and compared these to actual monitoring data. The Comprehensive Study Report is a report prepared under the *Canadian Environmental Assessment Act, 1992*, which was completed by AECL for the decommissioning project in 2001.

The EPRR appended to CMD 19-H4 contains a summary of the Manitoba Métis Federation's Indigenous Knowledge Study submitted to the CNSC as well as the results of IEMP for the site.

And finally, it sets out the components of environmental monitoring program for the next licensing period.

Based on our wide-ranging review of

environmental monitoring program performance, CNSC staff conclude that CNL has and will continue to make adequate provision for the protection of the environment and health of persons. We will touch on the CNL's environmental performance later on again in this presentation.

The next few slides will provide an overview of CNSC staff's performance assessment of Whiteshell Laboratories.

CNSC's regulatory oversight is performed in accordance with the standard set of 14 safety and control areas, or SCAs. SCAs are technical topics used across all CNSC regulated facilities and activities to assess, review, verify, evaluate and report on licensee regulatory requirements and licensee performance. The SCA framework provides a systematic and consistent framework for evaluating the performance of a licensee.

Apart from the technical review topics captured in the SCA framework, CNSC staff also evaluate licensee performance in other important non-technical areas like public information and disclosure program and the programs in place to engage with stakeholders, the public and Indigenous groups.

The table on this slide provides overall ratings for each safety and control area at the Whiteshell

Laboratories. We use four ratings to evaluate licensee performance in an SCA: Fully Satisfactory where licensee performance exceeds requirements and CNSC expectations; Satisfactory where licensee performance meets requirements and expectations; Below Expectations where licensee performance is marginally ineffective and requires improvements; and Unacceptable where licensee performance is significantly ineffective and no plans for improvement have been provided.

With the exception of security in 2018, CNL at Whiteshell Labs has maintained satisfactory performance across all safety and control areas since 2009. CNL's performance and security will be discussed later in this presentation.

To summarize CNSC staff's evaluation of CNL's performance since 2009, CNL's operating performance remains satisfactory; radiation doses to workers and the public continue to be very low and well below regulatory limits; environmental emissions are low and show a positive downward trend. Safety performance is satisfactory in 13 out of 14 safety and control areas. There is no immediate risk to security, but improvements are necessary in the site security program.

We will now go into a discussion of the

licensee's performance by SCA. For this, I will pass the presentation to Mr. Kevin Ross.

MR. ROSS: Good afternoon. And for the record, I am Kevin Ross, Senior Project Officer in the Canadian Nuclear Laboratories Regulatory Program Division.

The management system SCA covers the framework that establishes the processes and programs required to assure an organization achieves its safety objectives, continuously monitors its performance against these objectives and fosters a healthy safety culture.

CNL conducted a gap analysis against the requirements of CSA N286-12, Management System Requirements for Nuclear Facilities. CNL's analysis found that the management system is compliant with the requirements of N286-12. The results of this analysis were confirmed by CNSC staff.

In addition, CNSC staff have reviewed CNL's updates to the Whiteshell Laboratories Decommissioning Quality Assurance Plan. CNSC staff conclude that CNL's management system meets regulatory requirements.

CNSC staff verify on an ongoing basis the changes to the CNL management system are made in accordance with the appropriate regulatory requirements, specifically

the CNL Change Management Procedure.

CNSC staff will provide regulatory oversight to ensure safety culture is maintained throughout the decommissioning of Whiteshell Laboratories.

Next, the human performance management SCA.

The human performance management SCA covers activities that enable effective human performance for the development and implementation of processes that ensure a sufficient number of licensee personnel are in the relevant job areas and have the necessary knowledge, skills, procedures and tools in place to safely carry out their duties.

CNSC staff have verified that CNL has established programs to address human performance management.

CNL has incorporated the requirements of REGDOC-2.2.2 Personnel Training into their corporate level program. During inspections, CNSC staff have verified that CNL employees were provided with training and that training records were maintained.

In 2017 CNL provided the CNSC with a gap analysis and implementation plan for REGDOC-2.2.4 Fitness for Duty Volume I: Managing Worker Fatigue. The

requirements of Volume I have been implemented.

CNL is currently engaged in implementing CNSC REGDOC-2.2.4 Fitness for Duty Volume II: Managing Alcohol and Drug Use.

CNSC staff conclude that CNL's human performance management meets regulatory expectations.

The operating performance SCA includes an overall review of the conduct of the licensed activities and the activities that enable effective performance.

CNSC staff have verified that Whiteshell Laboratories and the facilities onsite are operated safely and in compliance with CNSC regulatory requirements. CNSC staff have reviewed programs and documentation to support the activities carried out at the Whiteshell Laboratories, including the facility authorization documents which describe how individual facility operations are conducted and include operating limits.

CNL has been making reports to the CNSC in accordance with its requirements. This includes both event reports and annual compliance reports.

CNSC staff review all reported events to identify if there are any regulatory concerns and report significant events to the Commission at public meetings. There were no Event Initial Reports, EIR, related to the

Whiteshell Laboratories site presented to the Commission since 2009.

Furthermore, no significant issues were identified during CNSC staff review of annual compliance reports.

CNL's primary activities during the next licence period will be decommissioning, waste management and transport of waste.

CNSC staff conclude that CNL's operating performance meets regulatory requirements.

Next, the safety analysis SCA.

The safety analysis SCA covers the maintenance of the safety analysis that supports the overall safety case. Safety analysis is a systematic evaluation of the potential hazards associated with the conduct of a proposed activity or facility and considers the effectiveness of preventative measures and strategies in reducing the effects of such hazards.

CNSC staff note that the scope, content and detail of the safety analysis for the Whiteshell Laboratories site is not the same as for an operating nuclear power reactor. There is no operating reactor onsite and there are no activities related to fissionable material on the site, other than the storage of irradiated

fuel.

The CNSC applies a graded approach to safety analysis commensurate with the risk of the facility. CNL updates the safety analysis reports over time as operational requirements change. Updates are carried out in accordance with the requirements of the licensing basis. CNL is required to continually update safety analysis to reflect the current operational state of all facilities on the site.

As decommissioning progresses, CNL will continue to carry out safety analysis reports to ensure decommissioning progress and work is performed safely.

CNSC staff will review the safety analysis reports to ensure that all applicable regulatory requirements are met.

CNSC staff conclude that CNL's safety analysis meets regulatory requirements.

Next, the physical design SCA.

The physical design SCA relates to activities that impact the ability of structures, systems and components to meet and maintain their design basis given new information arising over time and taking changes in the external environment into account.

CNL constructed some new facilities such

as the shielded above ground storage building and soil storage compound during the current licence period in support of ongoing decommissioning activities.

CNSC staff reviewed the designs of these new facilities to ensure that appropriate codes and standards were used.

CNSC staff will continue to monitor performance in this SCA. The regulatory oversight activities, including onsite inspections and desktop reviews relative to program documentation and reviews of designs for new or modified facilities.

CNSC staff conclude CNL's physical design meets regulatory requirements.

The fitness for service SCA covers activities that impact the physical condition of structures, systems and components to ensure they remain effective over time. This area includes programs that verify all equipment is available to perform its intended design function when called upon to do so.

The fitness for service program at Whiteshell Laboratories focuses on in-service inspections of the concrete bunkers in the waste management area. CNL is required to conduct annual inspections of the concrete bunkers in compliance with the periodic inspection plan.

Results of these inspections are reported to the CNSC staff in annual reports. CNL also conducts monthly inspections of the concrete canister storage facility, CCSF.

In October 2018 CNSC staff conducted an onsite inspection that confirmed that the CCSF inspections had been performed by CNL at the required frequency and that actions were raised to address any deficiencies identified. CNSC staff also visually inspected the CCSF canisters and visible portions of the bunkers and found them to be in good condition.

CNSC staff will continue to monitor the condition of the concrete bunkers in the waste management area and the canisters in the CCSF until such time as they are emptied of their contents.

CNSC staff conclude CNL's fitness for service program meets regulatory requirements.

Next, radiation protection SCA.

The radiation protection SCA covers the implementation of a radiation protection, RP, program in accordance with the *Radiation Protection Regulations*. The program must ensure that contamination levels and radiation doses received by individuals are monitored, controlled and maintained as low as reasonably achievable, ALARA.

CNL has implemented and maintained a

radiation protection program to control the radiological hazards present in its facilities and to ascertain doses for each person who performs duties in connection with their licensed activities.

CNL's application of ALARA within the RP program includes management commitment and oversight, personnel qualification and training, provision of design features to optimize exposure, provision of protective equipment and clothing, ALARA assessments and reviews for high-risk radiological activities.

During the licence period, over 97 percent of workers received dose levels below the public limit and no worker at Whiteshell Laboratories site received a dose exceeding CNL's internal action levels or the regulatory dose limits. Similarly, no member of the public received a dose that approached or exceeded the 1 mSv annual regulatory dose limit for a member of the public.

This graph shows the average and maximum individual effective dose for workers at Whiteshell Laboratories. Doses to workers have been maintained consistently below the regulatory dose limits throughout the licence period. The maximum dose reported by any worker over the last 10 years is 1.65 mSv, less than 4 percent of the 50 mSv annual regulatory dose limit for

nuclear energy workers.

Dose to the public is estimated using environmental monitoring results of water, food and air, as well as inhalation and ingestion measures by reviewing exposure pathway models. An exposure pathway is the means by which hazardous substances move through the environment from a source to a point of contact with people.

CNL reports annual estimated dose to the public to the CNSC through their annual compliance reports. CNSC staff confirmed that radiation doses to the public are monitored, controlled and maintained ALARA.

As can be seen from this table, doses to members of the public have remained a small fraction of the regulatory limit.

Next, the conventional health and safety SCA.

The conventional health and safety SCA covers the implementation of a program to manage workplace safety hazards and to protect personnel and equipment. CNSC staff confirmed that CNL achieves a high degree of personal safety through good work practices and safe working conditions.

Following a safety-related incident at another site in 2019, CNL conducted a company-wide,

full-day safety stand down across all its licensed sites. The safety stand down was dedicated to raising safety awareness, strengthening work practices and taking immediate action to address emergent safety issues in an effort to improve CNL's performance related to industrial safety. CNSC staff were present as observers at the safety stand down event.

CNL also hosts company-wide themed meetings in response to incidents at any of the CNL sites to increase awareness and incorporate lessons learned. CNSC staff routinely monitor these meetings and, as needed, follow up on corrective actions during inspections.

CNSC staff on inspection routinely observe workers' compliance with requirements related to proper use of personal protective equipment, use of proper signage and barriers, and the general state of worksites.

CNL reports recordable lost time injuries, RLTIs, to CNSC staff through annual reports. RLTIs are injuries that take place at work and result in workers being unable to return to work to carry out their duties for a period of time. RLTIs are a commonly used metric for presenting industry rate data.

In reviewing RLTIs, CNSC staff consider the severity of these injuries and the frequency as they

relate to the size of the workforce. Since 2009, the frequency and severity rates of RLTIs at Whiteshell Laboratories demonstrate a positive downward trend.

CNSC staff conclude CNL's conventional health and safety meets regulatory requirements.

The environmental protection SCA covers programs that identify, control and monitor all releases of nuclear and hazardous substances and effects on the environment from facilities or as a result of licensed activities.

CNL has established derived release limits, DRLs, and action levels at the Whiteshell Laboratories site to ensure that the release of radionuclides from the facility's operations would not exceed the established regulatory limit of 1 mSv per year for a member of the public, and the public and the environment are protected.

CNSC staff conclude CNL's environmental protection meets regulatory requirements.

This table summarizes the airborne releases due to operations at the Whiteshell Laboratories site. The column titled "Releases" provides the maximum and minimum weekly releases to air from Whiteshell Laboratories. The next two columns provide the release

limits established for the site. These limits changed in 2016 in accordance with CSA N288.1-08. The airborne releases remain far below the dose levels established by the Commission.

This table summarizes the release of liquid effluents due to the operations of the Whiteshell Laboratories site. The column titled "Releases" provides the maximum and minimum monthly releases to water from Whiteshell Laboratories. As in the previous slide, the next two columns provide the release limits. As in the last table, these limits changed in 2016 in accordance with CSA N288.1-08. The liquid releases remain far below the dose levels established by the Commission.

Over the proposed licence period, CNL has committed to continue to enhance its existing environmental protection programs through the implementation of REGDOC-2.9.1 and the CSA N288 series standards. The CSA standards cover the requirements for implementing environmental monitoring, effluent monitoring and groundwater protection programs, performing environmental risk assessments and establishing and implementing action levels for releases to the environment from nuclear facilities.

CNSC staff will monitor the implementation

of these requirements by CNL.

The CNSC Independent Environmental Monitoring Program, or IEMP, was implemented to verify that public health and the environment is not adversely affected by releases to the environment around CNSC regulated facilities. The IEMP was implemented to complement ongoing CNSC verification activities. It involves taking samples from publicly accessible areas around nuclear facilities and measuring and analyzing the radiological hazardous substances in those samples.

Each facility has a unique customized sampling plan developed using the information related to the facility's activities, as well as an understanding of the inhabitants in the area so that the results are meaningful to them. For instance, in the previous campaign in 2017 in the vicinity of Whiteshell, CNSC staff worked with the Sagkeeng First Nation to sample a Northern Pike from the Winnipeg River, caught downstream of the Whiteshell Laboratories site. The next campaign is tentatively scheduled for early in the proposed licence period.

The 2017 IEMP sampling plan for Whiteshell Laboratories focused on radioactive contaminants. A site-specific sampling plan was developed based on CNL's

approved environmental monitoring program and the CNSC's regulatory experience with the site.

In 2017 CNSC staff collected air, soil, sediment, vegetation, food and water samples in publicly accessible areas outside the Whiteshell Laboratories site perimeter. As previously mentioned, with the help of the Sagkeeng First Nation, CNSC staff sampled a Northern Pike from the Winnipeg River. CNSC staff will continue to work with Indigenous communities in future sampling campaigns to ensure meaningful results are obtained.

Analysis of the samples indicate that the levels of radioactivity in all the samples were below available guidelines and the CNSC screening levels. No health or environmental impacts are expected at these levels.

Full results of the IEMP are available on the CNSC's website.

The emergency management and fire protection SCA covers emergency plans and emergency preparedness programs that exist for emergencies and for non-routine conditions. CNSC staff have verified that CNL has capabilities in place to respond to credible nuclear and conventional emergencies. CNL has a multidisciplinary emergency response support onsite at Whiteshell

Laboratories and mutual aid partners offsite.

In August of 2019, CNSC staff observed an emergency drill at Whiteshell Laboratories. All findings were of low safety significance. CNSC staff conclude that CNL continues to meet its regulatory requirements regarding the emergency management program.

As decommissioning progresses, CNL will update the response arrangements for their response programs to reflect the changing nature of the Whiteshell Laboratories site. CNSC will continue to monitor CNL's emergency response arrangements to verify continued compliance with the regulatory requirements.

Next, the waste management and decommissioning SCA.

The waste management SCA covers internal waste related programs that form part of the facilities operations up to the point where the waste is removed from the site to a separate waste management facility. This area also covers the planning for decommissioning. CNSC staff have verified that CNL has adequate waste management and decommissioning programs in place and that CNL's waste program meets all regulatory requirements.

An important component of a waste management program is an appropriate characterization and

segregation of waste. CNL's waste management program controls and minimizes the volume of all waste streams of waste generated from licensed activities. Waste generated at the Whiteshell Laboratories site are radiologically screened and segregated at the source.

CNSC staff confirmed through onsite inspections that CNL continues to characterize waste at the various steps in the management of radioactive waste to meet the acceptance criteria of the receiver.

CNSC staff verify licensee compliance with waste segregation and labelling requirements at the Whiteshell site as a standard part of site inspections.

The Whiteshell Laboratories site is undergoing decommissioning in a staged manner. Decommissioning plans are submitted to CNSC staff as separate volumes. Twelve volumes are planned for the entire decommissioning of Whiteshell Laboratories. Volume 1 is the program overview document which describes the overall decommissioning strategy of the site and a general overview of individual facilities.

The subsequent volumes are submitted to CNSC as separate decommissioning plans for each facility on the Whiteshell Laboratories site. Not all volumes of the detailed decommissioning plans have yet been developed as

they are developed when so required by CNL.

CNSC staff will continue to review detailed decommissioning plans as they are developed to ensure compliance with the requirements of CSA N294-09, Decommissioning of Facilities Containing Nuclear Substances, and CNSC Regulatory Document G-219, Decommissioning Planning for Licensed Facilities.

CNSC staff will also review end-state reports as they are available to verify CNL's compliance with approved plans. CNSC staff conclude CNL's waste and decommissioning meets regulatory requirements.

The security SCA covers the programs required to implement and support the security requirements stipulated in the regulations and in the licence.

CNSC staff identified a deficiency in the security arrangements at Whiteshell Laboratories. An order related to these deficiencies remains open. This has led CNSC staff to rate the performance in this SCA for 2018 as below expectations.

Although an action plan is in place to address these deficiencies, they have not yet been resolved. CNSC staff will continue to monitor CNL's implementation of the corrective actions related to this deficiency.

Two supplementary CMDs have been provided on this matter.

The first, CMD 19-H4-A, is a protected CMD provided to the Commission outlining CNSC staff justification for the below expectations rating in 2018.

The second CMD, CMD 19-H4-B, is a public document recommending the addition of a licence condition to the Whiteshell licence.

In response to the BE rating, CNSC staff are recommending a facility-specific licence condition be added to the Whiteshell Laboratories Nuclear Research and Test Establishment decommissioning licence. The implementation plan referenced in the proposed licence condition on this slide contains prescribed information and is therefore not public information. It has been provided to the Commission.

CNSC staff will continue to monitor the implementation of CNL's plan to address the security deficiency through regular meetings, desktop reviews and onsite inspections.

The order will remain open until CNSC staff is satisfied that the issue has been adequately addressed.

CNSC staff conclude that an acceptable

plan is in place to bring CNL security within regulatory requirements.

The safeguards and non-proliferation SCA covers the programs and activities required for a successful implementation of the obligations arising from the Government of Canada and the International Atomic Energy Agency safeguards agreements, as well as other measures arising from the Treaty on the non-proliferation of nuclear weapons and bilateral nuclear cooperation agreements.

CNSC staff have reviewed CNL's safeguards program and confirm that it meets CNSC regulatory requirements to meet Canada's international safeguards, obligations and commitments. CNSC staff confirmed that CNL continues to provide access and assistance to the International Atomic Energy Agency inspectors when requested.

CNL's safeguards program is compliant with regulatory requirements and CNL has implemented reporting using CNSC's nuclear materials accountancy reporting, or NMAR, portal.

The scope of the non-proliferation program for CNL is limited to the tracking and reporting of foreign obligations and origins of nuclear material. This tracking

and reporting assists the CNSC with the implementation of Canada's bilateral nuclear cooperation agreements with other countries.

The import and export of controlled nuclear substances, equipment and information identified in the *Nuclear Non-proliferation Import and Export Control Regulations* requires separate authorization from the CNSC, consistent with subsection 3(2) of the *General Nuclear Safety and Control Regulations*.

CNSC staff conclude that CNL's safeguards and non-proliferation meet regulatory requirements.

The packaging and transport SCA program covers programs for the safe packaging and transport of nuclear substances to and from the licensed facility. CNSC staff confirmed that CNL has implemented a packaging and transport program that meets the requirements of the *Packaging and Transport of Nuclear Substances Regulations, 2015* and *Transportation of Dangerous Goods Regulations*.

In 2018, 303 radioactive transport shipments were safely sent from Whiteshell Laboratories. In 2019, CNSC staff performed inspections at both Chalk River Laboratories, which receives shipments from Whiteshell, and Whiteshell Laboratories itself. All findings were of low risk significance.

CNSC staff conclude CNL's packaging and transport meets regulatory requirements.

Through its public information program, CNL conducts outreach and engagement with its stakeholders and Indigenous groups. CNL reports on its outreach and engagement activities to the CNSC. CNSC staff also attend events hosted by CNL to observe the licensee's interactions and interchanges with the public and Indigenous groups.

CNSC staff have confirmed that CNL's public information and disclosure program meets the requirements of CNSC RD/GD-99.3, Public Information and Disclosure.

CNSC staff verified that CNL continues to comply with the *Cost Recovery Fees Regulations*.

Natural Resources Canada has confirmed that CNL maintains adequate nuclear liabilities insurance under the *Nuclear Liability and Compensation Act*, which came into force on January 1, 2017, and is now administered by Natural Resources Canada.

CNSC staff have confirmed that CNL has a suitable financial guarantee in place for decommissioning the Whiteshell Laboratories.

This completes the performance assessment portion of our presentation.

I will now pass the presentation back to Ms Murthy.

MS MURTHY: Thank you, Kevin.

For the record, my name is Kavita Murthy.

In the next few slides I will summarize CNSC staff's engagement activities in relation to this hearing.

Prior to this hearing, in February 2019, the CNSC posted a Notice of Hearing on the CNSC's public website. The same notice was sent to subscribers and advertised in digital and print media. CNSC staff provided information on the CNSC's licensing process and Whiteshell Laboratories' licence renewal at outreach sessions in Lac du Bonnet, in Pinawa and at the CNL open house held on the Whiteshell site.

Additionally, CNSC staff hosted webinars in both English and French to inform the public on the role of the CNSC on the next steps of the licence renewal process and provided information on how to participate and intervene in today's public hearing.

CNSC staff continued to attend public liaison committee meetings hosted by CNL which are attended by non-governmental organizations, community leaders and elected representatives.

The CNSC is committed to meaningfully engaging with Indigenous groups who have an interest in CNSC regulated facilities and activities. The Whiteshell facility is located in Treaty 1 and Treaty 3 areas and within the traditional territories of the Manitoba Métis Federation.

For the Whiteshell licence renewal, CNSC staff identified First Nation and Métis groups who may have an interest in the Whiteshell facility. They are listed in alphabetical order on this slide.

Based on the information reviewed by CNSC, there are no planned changes to the site and activities originally approved by the Commission in 2002 as a part of the Whiteshell decommissioning environmental assessment, of course with the exception of the proposed WR-1 in situ decommissioning, which we have spoken to before.

Therefore, CNSC staff determined that this licence renewal will not cause any adverse impacts to any potential or established Indigenous and/or treaty rights.

CNSC staff have regular communications and interactions with interested Indigenous groups with regards to the Whiteshell facility, including this licence renewal and the proposed Whiteshell in situ decommissioning project environmental assessment process underway since 2016.

The CNSC is committed to maintaining open channels of communication and engagement with Indigenous groups who have an interest in CNSC regulated facilities and activities, learning about and addressing Indigenous communities' issues and concerns in meaningful and productive ways, supporting Indigenous communities' participation in CNSC regulatory process, strengthening CNSC's relationships with Indigenous groups and developing ongoing respectful open dialogues with these groups.

CNSC staff conducted a number of engagement activities to ensure that interested Indigenous groups could participate meaningfully in this renewal hearing.

For the Whiteshell licence renewal, CNSC staff sent letters of notification to the identified groups in February 2019. These letters provided information regarding the proposed licence renewal decision, the availability of participant funding and details on how to participate. Notification letters were accompanied by an advance copy of CNL's application.

Follow-up phone calls were made to all communities and groups to ensure that they had received the correspondence and to answer any questions that they may have about the regulatory process as well as on how to get

involved in Commission proceedings. CNSC staff engaged regularly with Indigenous groups interested in the Whiteshell site. They had monthly calls with the Manitoba Métis Federation and Sagkeeng, respectively, to discuss CNSC regulated activities, including the Whiteshell renewal and the proposed in situ project.

Community meetings have been conducted with the Wabaseemoong, Sagkeeng, Black River, Hollow Water and Brokenhead with respect to the Whiteshell licence renewal.

CNSC staff also co-drafted portions of the environmental performance review report with the Manitoba Métis Federation and also worked with Sagkeeng to try and develop a section of the EPR on their Indigenous knowledge study.

The CNSC is committed to continuing to work with Indigenous groups on their areas of interest and addressing their concerns related to Whiteshell as well as other CNSC regulated facilities and activities of interest.

The CNSC's Participant Funding Program, or PFP, has been implemented to assist members of the public, Indigenous groups and other stakeholders in providing value-added information to the Commission through informed and topic-specific interventions.

Through the Participant Funding Program, the CNSC awarded \$63,299.50 to the five recipients listed on this slide to participate in the Whiteshell licence renewal regulatory process. All five recipients have submitted interventions and will be making oral presentations in these proceedings.

The CNSC received 11 interventions for this hearing, with five requests for oral presentations to the Commission. The themes from these interventions include, among others, Indigenous consultation, the transportation of waste, concerns regarding the accelerated timeframe for decommissioning at Whiteshell, the storage of waste at Chalk River until a permanent disposal facility is available, and a general opposition to the proposed in situ decommissioning of the Whiteshell Reactor-1.

CNSC staff have provided our disposition of the comments as an annex to CMD 19-H4.B.

I will now turn to Ms Tadros for staff conclusions and recommendations.

MS TADROS: Thank you.

For the record, this is Haidy Tadros.

The last three slides of CNSC staff's presentation provide our summary, conclusions and recommendations.

So in summary, CNL's performance across all safety and control areas is satisfactory, with the exception of security. An appropriate plan is in place to address the security deficiencies.

CNL continues to maintain strong and effective programs that are being improved on an ongoing basis to meet best practices, address emerging issues and meet regulatory requirements.

The proposed 10-year term ensures regulatory certainty of the currently authorized licensed activities and allows CNL to continue safely decommissioning the Whiteshell Laboratories site, while CNSC staff ensure transparency of operation, public engagement and regulatory oversight, including inspections, reviews of reported information and reviews of applications that are submitted.

So in conclusion, with respect to paragraphs 24(4)(a) and (b) of the *Nuclear Safety and Control Act*, CNSC staff conclude that CNL is qualified to carry out the activities authorized by the licence and will, in carrying out these activities, make adequate provision for the protection of the environment, the health and safety of persons, and the maintenance of national security and measures required to implement international

obligations to which Canada has agreed.

We thank you for your time and attention and are available to take any questions the Commission may have.

THE PRESIDENT: Thank you very much for that.

Before we move to interventions, we will take a 15-minute break and resume at 4:25 p.m.

Thank you.

MR. LEBLANC: And, Canadian Environmental Law Association, you will be the next one to present. Mayor Skinner had another commitment, so he will return tomorrow.

Thank you.

--- Upon recessing at 4:09 p.m. /

Suspension à 16 h 09

--- Upon resuming at 4:26 p.m. /

Reprise à 16 h 26

MR. LEBLANC: We will now move to the interventions.

Before we start, I would like to remind intervenors appearing before the Commission today that we

have allocated 10 minutes for each oral presentation, and we would appreciate your assistance in helping us to maintain that schedule.

There will be no time limit to the question period that will follow the presentation. Your more detailed written submission has already been read by the Members and will be fully considered.

To help in managing time, a timer system is being used. The light will turn yellow when there is one minute left and turn red at the 10-minute mark.

The first presentation intervention was to be by Mayor Blair Skinner. This has been rescheduled to tomorrow afternoon.

THE PRESIDENT: So the first presentation we're going to have is from the Canadian Environment Law Association as outlined in CMD 19-H4.5.

Before I turn the floor over to you, Ms. Blaise, I think Marc has some supplementary information to share with everyone here.

MR. LEBLANC: Yes. So I would like to note that CELA, the Canadian Environmental Law Association, filed this morning a ruling request pursuant to Rule 20(1) -- 20, paragraph (1) of the CNSC Rules of Procedure. Given that the request was just received today, there has

not yet been an opportunity for the Commission to address or to seek a response from CNL, nor to review the matter.

Consequently, the Commission will confer regarding CELA's request and will, as appropriate, determine next steps in this matter.

So the purpose was really to acknowledge receipt at this time, and we'll get back to you on the request for ruling. Thank you.

THE PRESIDENT: Over to you, Ms. Blaise.

CMD 19-H4.5

**Oral presentation from the
Canadian Environmental Law Association**

MS BLAISE: Good afternoon, President Velshi and Members of the Commission. Thank you for the introduction, and I am Kerrie Blaise. I'm a lawyer at the Canadian Environmental Law Association.

So CELA, the Canadian Environmental Law Association, we're a public interest law organization founded in the 1970s with the purpose of advancing the public interest in access to environmental justice. We are funded by Legal Aid Ontario and a clinic in the province.

CELA has extensive experience in nuclear

law matters and, in addition to this licensing matter, we did intervene on the one-year licence request for the Whiteshell reactor last year and we are also intervening on the proposed *in situ* decommissioning of the Whiteshell reactor.

And before I start my presentation today, I actually want to raise the request for ruling that CELA submitted prior to the start of this hearing this morning. And the request for ruling for those in the audience who may not have seen it yet, it's not yet posted online, it's requesting that the CNSC actively support, advance and implement the Winnipeg Nuclear Declaration 2018 in respect of the right to nuclear peace and freedom from nuclear fear.

So the Winnipeg Nuclear Declaration 2018 is a declaration comprised of 13 pillars and principles that were agreed to at a recent conference of regional nuclear non-proliferation and disarmament held on the United Nations International Day of Peace last year at the Canadian Museum for Human Rights in Winnipeg here in the Province of Manitoba.

This past weekend, the second -- or sorry, actually, the third annual conference of this group of scholars and academics and presenters was held again at the

Canadian Museum for Human Rights, and it was unanimously consented to that this declaration be brought to the Commissioner's attention and adopted in regard to the -- in regard to this licensing matter.

And so CELA has the honour of bringing this to you, and we do this not only because it's a Manitoba-based initiative. Indeed, every person at the conference was going to take it back to their hometown or province or country and share it with their various levels of government. But we do think it's specifically relevant to the licensing matter before you today.

And given the declaration's requirement that environmental and health effects of peaceful nuclear activities require stringent independent regulatory oversight impact and monitoring, we thought this was squarely within the mandate of the Commission today.

Moving now to our intervention, so CNL has requested a 10-year licence for the renewal of their decommissioning activities.

CELA has reviewed the CMDs from the proponent as well as CNSC Staff, and we have a number of outstanding concerns regarding this licence application, the first of which is discrepancies in the scope of the licence itself. Also, that there's a lack of a final

safety assessment for numerous low level waste trenches on site.

We also identified potential activities which may require an impact assessment pursuant to the federal *Impact Assessment Act*.

We also found there was insufficient alignment with CNSC and international decommissioning guidance documents, and we also found that should the requested 10-year licence be granted, there would be a subsequent reduction in public engagement and access to information.

So due to the limited time, six minutes and 35 seconds, I have before you today, I'm not going to be able to address all of these issues, but they are, again, in our written submission that was filed with the Commission on September 6.

So the first issue of concern that I would like to discuss is that of scope and the basis of this licensing matter.

So as summarized in this slide, the CNSC Staff CMD is clear that this matter does not include the *in situ* decommissioning of the Whiteshell reactor, whereas the proponent's CMD, in their licence application it states that the scope of their document does include the final

decommissioning of the reactor.

So despite CNL's request for a 10-year licence, which includes the final decommissioning of the Whiteshell Reactor 1, CELA submits that the CNSC cannot grant a licence with this scope due to the ongoing federal EA process.

Pursuant to section 6 of the *Canadian Environmental Assessment Act of 2012*, it states that:

"A proponent of a designated project must not do any act or thing in connection with the carrying out of the designated project in whole or in part if that act or thing may cause an environmental effect."

So accordingly, CELA submits it's premature for CNL to be making a licensing request prior to a final decision on the federal EA.

Likewise, we would put to the Commission that they must demonstrate that prior to licensing this matter, the CNSC is satisfied that all activities proposed by CNL, whether in whole or in part, are not in connection with the carrying out of the decommissioning of the Whiteshell reactor.

Our review also demonstrated that CNL's

pending submission of a final safety assessment for a number of low level waste trenches is contrary to the Class 1 nuclear facilities regulations, which requires a safety analysis report as a requirement of licensing.

So in lieu of this, we recommend that the preamble to Licence Condition 4.1 be updated so that the final safety assessment for the low level waste trenches to expressly state that it has not been approved.

We also recommend that the licence should exclude trenches from its scope pending the completion of the safety assessment. And we also submit that the date for the submission of the safety assessment should be expressly set out.

CELA is also of the view that Canada's new environmental assessment law, the *Impact Assessment Act*, is applicable to some of the decommissioning activities that CNL proposes to undertake within this licensing period, and it may require an impact assessment.

So as a bit of background, on June 21st the *Impact Assessment Act* received Royal assent and it was proclaimed into force on August 28th, 2019 and it replaces the *Canadian Environmental Assessment Act of 2012*.

Having reviewed both the CNL and CNSC Staff documents for this licensing matter, CELA is of the

opinion that some of the activities contemplated by the proponent may constitute a designated project, triggering the new IAA.

Specifically, this is in regards to the proposed *in situ* decommissioning of the 25 underground low level waste trenches, and we submit that per subsection 28(b) of the physical activities regulation this constitutes the construction of a disposal facility for waste.

So in specific regard to this legal issue, we recommend that the CNSC opine on whether this constitutes a physical activity under the physical activities regulation and, secondly, we recommend that the CNSC contact the newly-formed Impact Assessment Agency of Canada for clarification.

CELA's review also demonstrated an ongoing gap in the CNSC's regulatory framework for decommissioning. Financial guarantees in decommissioning were *post hoc* licensing requirements that were introduced when the *Nuclear Safety and Control Act* came into force in 2000. Thus, for decades, nuclear facilities were licensed and built and operated absent these considerations.

And CELA submits it's crucial that the CNSC have baseline regulatory guidance and oversight for

decommissioning in place prior to conducting decommissioning and licensing hearings, and we believe this lag between CNSC regulations and the proposed undertakings still exists, specifically with regards to the clarity of the process and future licensing decisions.

The CNSC has a mandate which includes the dissemination of the information to the public and consideration of international obligations and guidance. One such international guideline is the IAEA's GSR Part VI, which requires public input prior to the authorization of post-closure or decommissioning termination reports.

CELA submits that to effectively implement this standard of public input, the end state report should be publicly available and subject to a full public hearing.

In the interests of time, I will be skipping this slide.

Also in our review of the documents, we make the following observations regarding prescribed timelines.

So currently, draft RegDoc 2.11.2, Decommissioning, stipulates that revisions to the detailed decommissioning plan occur on a five-year basis, but we submit there needs to be further clarity to ensure compliance with this five-year timeframe, and we have

suggested an edit to G.3 within the licence.

It's for all of these reasons that we submit that it's premature for the CNSC to be proceeding with CNL's licence request for a 10-year decommissioning licence. We believe that a one-year licence is merited in the circumstances due to the ongoing federal environmental assessment and the high volume of outstanding interrogatories and need for time to address all of these comments.

And this rationale aligns with the findings of the CNSC in its 2018 decision regarding the Whiteshell licence renewal where, in 2018, it decided to only grant a one-year licence for this very reason.

Furthermore, in this instance, we do not feel that CNL has demonstrated why, in these circumstances, a 10-year licence is appropriate when, absent any material change, a one-year extension was sufficient in 2018.

Further, as has been raised by intervenors, including CELA and Greenpeace and Northwatch at previous licensing hearings, a 10-year licence is inappropriate because it reduces opportunities for public scrutiny of licensee operations, access to information, and it effectively eliminates opportunities for meaningful public participation where the public and the Commission

can engage in dialogue.

CELA submits that granting a 10-year licence would also contravene the international law principle, the precautionary principle, which our Supreme Court of Canada recognized in *Spraytech* in the early 2000s, that in order to achieve sustainable development, policies must be based on the precautionary principle and environmental measures must anticipate, prevent and attack the causes of environmental degradation.

As the CNSC does not consider the precautionary principle in any of its materials before us today, we do request that this be analyzed during deliberations, and in a detailed record of decision we would ask that the precautionary principle figure into decision-making and be clearly articulated.

Therefore, CELA's request to the Commission, which was actually put forward to the concerned citizens of Manitoba, who have joined us in the audience today, and has received their support.

Our submission and request to the Commission is that CNL's licence be renewed for a period of only one year after the foregoing deficiencies have been remedied and, in the alternative, the current licence be extended for a period of one year.

Thank you.

THE PRESIDENT: Thank you very much.

We'll open the floor up for questions.

We'll start with you, Dr. Demeter.

MEMBER DEMETER: Thank you for the presentation.

So usually when I go through these CMDs, there's submissions from staff and from the licensee and the intervenors, and there's enough information for me to try to make a determination of is the safety case met.

For the trenches, it's not there. There is a lot of information from the licensee that they've done a preliminary assessment. I think that 20-some out of 20-some will meet that case, but the safety case is not met yet.

So the simple question is, why is that not excluded from our decision-making when we don't have the information to determine if the safety case has been met?

To CNSC Staff. Thank you.

MS TADROS: Haidy Tadros, for the record.

And we recognize that the information on the trenches is very important.

One of the things that CNSC Staff anticipated doing in our presentation is to underscore

the -- the scope of the current licence request is to ensure that the work that was authorized is the work that will be presented to you and the work that will continue.

So the record of proceedings that detailed both in 2002 and 2008 the comprehensive study report that indicated that the trenches were the concept of *in situ* management of the trenches was recognized to be in place and the Commission at the time decided and recognized that before any further work needs to go forward on the trenches that a safety case, safety analysis report and a safety case supporting the safety analysis, be presented.

That has yet to be done.

So the current licence application that is before you does not include the work -- the safety case for the trenches because that work has yet to be authorized. Perhaps --

MEMBER DEMETER: And what's the timeline for that? Sorry. For the safety case for the trenches.

MS TADROS: So CNL is to submit -- Haidy Tadros, for the record.

CNL is to submit the information to us. That has not happened yet. And once that happens, we will be reviewing the information.

MEMBER DEMETER: So maybe I can ask CNL,

what's the timeline for the completion of the safety analysis for the *in situ* trenches for the level waste?

MR. SWARTZ: Randall Swartz, for the record.

The safety case, I don't have the exact date, but it is during the licence period in enough time for the CNSC to make a determination before we finish decommissioning of the Whiteshell site.

MEMBER DEMETER: The licence is 10 years, so you're talking some time within that 10 years?

MR. SWARTZ: The safety case is currently under development. I don't have a specific end date.

I can call upon one of my colleagues if anybody has the exact date in our current plan.

MR. JAMMAL: Dr. Demeter, Ramzi Jammal, for the record.

There are -- you're talking about safety case on a specific element for an existing waste management facility. The safety case for the waste management facility has already been in place and it's been approved by the Commission, so the trenches currently are located within already an approved safety case for waste management.

With respect to the further improvement

for the trenches and the process by which they have to follow needs to be submitted, so you asked the question why are we giving -- providing you with a recommendation on a 10-year licence. Because the existing safety case for the waste management as it stands today before you is already in place.

THE PRESIDENT: So given -- I mean, there's a lot of angst around these low level waste trenches. We do want a date for when you're expecting whether it's a revised safety case to be -- when do you expect that to be submitted to the CNSC?

So if you can take that undertaking, I think that will be very helpful.

But in the event that you submit something and the CNSC does not approve it, what's your contingency within this 10-year licence period?

I just think it's rather presumptuous of you to think that we'll get all this work done within 10 years not knowing what the outcome's going to be.

DR. GILBERT: Thank you, Madam President. John Gilbert, for the record.

In that case, we would completely remove the contents of the trenches and take them to Chalk River.

THE PRESIDENT: And within the 10-year

licensing period.

DR. GILBERT: Yes. Again, John Gilbert, for the record.

To be clear, that is correct, within the 10-year licence period.

THE PRESIDENT: Thank you.

Dr. Demeter, did you have any follow-up on that?

No. Okay.

Dr. Berube.

MEMBER BERUBE: Just a question of that ilk, is do you know what's in the trenches, complete characterization in your records?

MR. SWARTZ: Randall Swartz, for the record.

We have detailed records of the contents of the -- of the trenches. Currently we are reviewing all of that data as part of our input to the safety case as well as input to the trenches that require remediation that are not -- that have been deemed not acceptable for *in situ* decommissioning.

THE PRESIDENT: Dr. Lacroix?

MEMBER LACROIX: Well, next to trenches, I'm concerned about these standpipes. There are 171

standpipes, and I've got many questions.

For instance, what is the -- what are the dimensions of the standpipes? How old are they? What are they made of? And do you have a good idea of the inventory?

When you remove the cap, do you anticipate surprises in the sense that could there be volatile radioactive material emanating from these standpipes?

How will you handle the -- the standpipes when you open it and then remove their content?

MR. SWARTZ: Randall Swartz, for the record.

Before I ask Mr. Miles Smith to provide some additional details on this, there are a few things that I can talk about with respect to the standpipes.

The standpipes are about four and a half metres deep. They're of various ages of design, different dimensions. I can't remember the diameter; I believe around a metre, thereabouts. They contain various materials from cut fuel elements to HEPA filters to stuff coming out of the hot cells, et cetera.

There are potential for flammable gas generation and pyrophoric, hence the design that we're doing for the remediation of these takes all of these

things into account. Remote-controlled operation of our remediation equipment is what's been proposed. And they're safe as they stand right now. And we need to make sure that when we go to remediate the contents that we take all of those hazards into consideration.

And with that, I'll turn it over to Mr. Miles Smith for additional information.

MR. SMITH: Thank you, Mr. Swartz.

For the record, my name is Miles Smith, the director of Waste Management at Whiteshell Laboratories.

The 171 standpipes are all around five metres in length. They are -- range from a little less than half a metre to just at a metre in diameter. They're made -- there are six different construction techniques used, all using concrete. Some were poured in place, some were sectioned in place, some are lined, some are unlined. All of them -- some of them have poured-in caps, I believe, as John -- Mr. Gilbert pointed out in his opening remarks, that about 98 of them have caps that were poured in place. The remainder have slip-fit or plug caps that are fit in place. So there is an extensive variety amongst the standpipes.

The contents we have spent the better part

of the last several years, little over five years, analyzing the historical records for each of the standpipes as well as the bunkers, the associated bunkers, and have compiled a list of expected materials in each of those and have constructed a profile of each of those.

As far as -- Mr. Swartz hit the contents of those quite accurately. There are pieces of fuel elements, fuel examination products; there is irradiated hardware; there are a number of different materials that had been in place in there. All of those largely came from the hot cells placed into paint cans, approximately four-litre paint cans, or into trash cans, what were called trash cans, which are approximately around 100 litres. And those were all placed into the standpipes at various times from 1965 until they ceased operation.

I hope I've answered your questions. I can go into additional detail if it's necessary.

And then one follow-up to answer your earlier question, Dr. Demeter, the safety assessment will be completed. We will have gone through our initial analyses and the safety case or safety assessment will be prepared to turn over to the CNSC staff in 2023.

THE PRESIDENT: Okay, thank you for that. Back to you, Dr. Demeter.

MEMBER DEMETER: Thank you for that clarification as well.

So I was reading the staff's CMD, and this will be a question to CNL, about what happened in 2018 where there was going to be a submission, there was a change to perhaps the direction for the WR-1 reactor. It triggered a CEAA 2012 review, and then you asked for a one-year extension, which was granted.

And I wanted to know what's changed from the decision and the rationale for that one-year extension that you didn't know about that you know about now that you've asked for a 10-year extension. Are you waiting for the CEAA thing to be finished? What's the rationale for going 10 years now versus 10 years back then without the WR-1? I'm just trying to figure out the one year and then you're going to 10, but nothing really has changed relative to waiting for this environmental assessment. So help me understand the rationale for the sequence.

DR. GILBERT: Thank you, Commissioner. John Gilbert, for the record.

Before I turn it over to Mr. Randall Swartz, appreciate the question. A fair question and Mr. Swartz has some details on that.

MR. SWARTZ: Thank you. Randall Swartz,

for the record.

When we first applied for our 10-year licence renewal, it was in September of 2017, as it expired at the end of 2018. And at the same time, we submitted our EIS for in-situ decommissioning of WR-1. We at that time wanted to keep the two processes linked for efficiency purposes. It allowed for kind of back-to-back hearings and proceeding thereafter.

With the comments that we received on the environmental impact statement, the EIS, we thought at that time that it could be dealt with in a short period of time. Therefore, the request for the one-year renewal.

As it stands, that timeline has been longer than expected, and so we decided to proceed with the 10-year licence renewal and we'll seek a licence amendment to that 10-year licence with the WR-1 in-situ decommissioning as it is really an independent process and doesn't impact the other decommissioning activities that are happening on site. And therefore, we went with the separation of the two and are here for our 10-year licence, and then we will proceed when the time is right with the licence application for licence amendment with the WR-1.

MEMBER DEMETER: Thank you. I understand your rationale.

THE PRESIDENT: Ms Blaise, did you want to comment on that?

MS BLAISE: Thank you, President Velshi. Yeah, to pick up on the last two points, actually. So on the first point of the safety assessment being completed and turned over to staff in 2023, as that would've been part of this licensing hearing had it have been available, we would request that a public hearing be held when that does occur, as a continuation of this matter and also because it's not before us today.

And regarding the licence amendment which will be sought following the outcome of the federal EA decision, we would again request that the licence amendment be subject to a full public hearing, because I think in that instance it's even more critical to look at how the pairing of the licence application or the CNSC's licensing process with the federal EA decision will actually come together.

THE PRESIDENT: I turn to staff to comment on both those points.

MS MURTHY: Kavita Murthy, for the record. I'll answer the second question first. So with respect to the in-situ decommissioning of the WR-1 reactor, the intervenor is absolutely right. There are two

processes taking place. There is a federal EA review that will result that will be presented to the Commission for an EA decision, and a separate decision will be requested to amend the operating licence -- the licence that is in front of you today to make a decision on whether that activity should be included.

And so all of the aspects of that activity which would -- should the Commission approve it related to all of the programs and all of the activities that are part of that -- of the in-situ decommissioning, should the Commission decide to grant it, will be a part of the *Licence Condition Handbook*. So there will be an extensive review of the *Licence Condition Handbook* to look at all the processes and procedures that need to be changed in order to allow for that activity to happen safely.

With respect to the first question, I just want to clarify that there is a safety analysis that we have on record. This is the safety analysis for the waste management area A. It is a part of the *Licence Condition Handbook*, and it is documented in the *Licence Condition Handbook* as a prior notification document.

What that means is that that document, should there be changes, has to be submitted to CNSC for review and approval. CNSC staff look at that document,

look at the information provided by the licensee, evaluate it against the licensing basis of the site licence, and should there be deviation from it that is beyond what has been approved by the Commission for that site, we bring the matter to the Commission's -- for the Commission's consideration.

Similarly, should there be a safety case -- any program or any project that the licensee proposes is always evaluated against the safety case to make sure that the licensee stays within the safety case. So should there be any indication that that activity will result in the licensee going beyond what is approved, then we would bring it to the Commission for decision.

Thank you.

THE PRESIDENT: Thank you. So on that note, because one of the other issues that the intervenor has raised around this trench is that if staff's assessment is that it is a deviation, what are the implications of the new *Impact Assessment Act's* requirements, and does it then become a designated project?

MS MURTHY: Kavita Murthy, for the record.

I will ask our experts in environmental protection to comment on it.

I do want to note that this is not a new

activity. This activity was discussed in 2002. The Record of Decision from 2002 and 2008 reflect this. The Commission heard the AECL at the time speak about in-situ management of the waste management area, of the trenches specifically. There was detailed discussion in the comprehensive study reports. So these matters were brought in front of the Commission for decision twice already.

MS CIANCI: Candida Cianci, for the record. I'm the director of the Environmental Assessment Division.

I just wanted to complement Ms Murthy's response and to say that upon receipt of a safety case, we will review -- staff will review whether it is within the licensing basis of this licence. And should there be any deviation or any proposed activities outside of that, as part of our current and existing practices, our staff review and determine what it might be, subject to our current regulatory framework, and that includes the *Impact Assessment Act*. So at that time, we would review whether there's any new proposed activities and determine what type of environmental review, if needed, would be required.

THE PRESIDENT: So to make sure I've got it clear, when it comes to WR-1, and once staff get that safety case in 2023 and you've completed your assessment,

there will definitely be a Commission decision required, and it will be in a public forum, whereas for the trenches, it'll all depend on what you receive and whether it's within the licensing basis. And we'll cross that bridge when we get to that. Correct?

MS TADROS: Haidy Tadros, for the record.

You are correct. WR-1 will come to the Commission in a public proceeding both for the EA decision as well as for the licensing decision.

THE PRESIDENT: Thank you very much.

Dr. Berube?

MEMBER BERUBE: So the intervenors mentioned that basically they believe that the 10-year licensing period is too long. And given the level of uncertainty in what we're looking at here, at least three or four different things, what is your rationalization for 10-year licensing with so many balls being juggled? We have no definition in some of this. Could you please go through that logic for me?

MS TADROS: Haidy Tadros, for the record.

To be clear, from staff's perspective, there is no uncertainty with regards to what we are requesting of the Commission. The certainty for us is that the licensing basis that existed prior or currently exists

prior to the termination of the licensing term is the licensing basis that we are proposing to move forward with.

Should that licensing basis change based on any timeline that is presented or based on any proposals that are coming for review, that is -- at that time, we will then be in a position to determine whether a Commission proceeding is needed or not.

So from our perspective, there is no uncertainty with what we are requesting of the Commission.

MEMBER BERUBE: So I just want to get this correct. What you're saying is given the fact that previous approvals have come to this point, given zero changes to that, you're recommending a 10-year licensing window on this. Is that correct?

MR. JAMMAL: It's Ramzi Jammal, for the record.

That is exactly correct. So I think now we're dissecting the operations based on what is going to happen in the future. The key point -- we're going to go back to the fundamental question Dr. Demeter started with: Do we have a safety case and the licensing basis? The answer is yes. This is the normal operation as is, no deviation whatsoever will take place without the staff assessment. And if it is outside the licensing basis, then

we will inform the Commission, and then the Commission will determine based on its rules of procedure how they're going to proceed.

But there are two separate processes in place. As it was mentioned by our colleagues, there is the -- currently the environmental assessment taking place for the proposed decommissioning of the reactor itself, and then this, is before you as a license application as-is.

As we always do within our normal operations, the licensee proposes programs for enhancement. In this case, it's waste management. If these programs are a deviation from what you have approved as a Commission under the licensing basis and the safety case, then we will inform you that a licence amendment is required and that will be applied through the rules of procedure of the Commission.

THE PRESIDENT: Dr. Lacroix.

MEMBER LACROIX: Question for CNL. In your submission H4.1 on page 61, you say that

"The Performance Assurance Program is comprised of two main elements, the Corrective Action Program and the OPEX Program."

And I couldn't see the difference between both programs.

Could you distinguish them?

DR. GILBERT: Thank you, Commissioner.

John Gilbert, for the record.

I believe Cynthia Williams can answer your question in detail.

MS WILLIAMS: Thank you. Cynthia Williams, for the record.

Our OPEX program is our operating experience program, and that's a program that -- where we take lessons learned and share those with ourselves and with other entities in the same business.

Our Corrective Action Program is a program that we use to identify actions. After those are -- identify issues. We put actions in place to address those issues. And it's the process that we use to formally track them to closure.

THE PRESIDENT: Dr. Demeter.

MEMBER DEMETER: Thank you for that clarification on the level waste. The interesting thing is it was discussed back in 2002, and you're going to get your safety case in 2023, and that is an observation. I won't go any further.

But the question I have is just a clarification to get it on the record that all these

activities in these 10 years will include a lot of transport of materials to Chalk River. And I just want a clarification that the current licensing conditions for Chalk River are such that it can receive all this stuff. Just that's the other end of it.

MR. ROSS: Kevin Ross, for the record.

So CRL in its Nuclear Research Testing Establishment Operating Licence does permit CRL to accept waste from off-site clients so long as there is an identified treatment, storage, or disposal facility suitable for the -- suitable to address the waste. So yes, there is a currently existing permission in CRL's licence for them to accept waste from Whiteshell.

MEMBER DEMETER: Accept and accommodate this package.

MR. ROSS: Yes. And they could only accept it if there is an identified storage or disposal facility in place.

MEMBER DEMETER: Okay, thank you.

THE PRESIDENT: One of the concerns -- this is a question for CNL. One of the questions or concerns raised by the intervenor is a lack of easy access to decommissioning documents, and I suspect it's specifically the detailed decommissioning plans.

So if you were to redact whatever was commercially sensitive, are those 13 volumes or however many it was, once they're developed or as they get developed, are those readily available to members of the public who so desire to review them?

DR. GILBERT: Thank you, Madam President. John Gilbert, for the record.

Yes, in fact we can provide those documents if they are requested. Obviously if there's commercially sensitive information, some of it would have to be redacted.

THE PRESIDENT: Thank you.

Ms Blaise, any response to that?

MS BLAISE: Thank you, President Velshi.

What we envisioned was a public repository of documents that didn't have to be requested on as-needed basis. Because often when you are going through a document, it's an iterative process and you find other references and you want to find that reference and read it at that moment in time and not have to wait days or weeks and request and then follow up should it not be responded to.

And so I think an example of this would actually be CNL's environmental data management system.

And I didn't go into it in detail in my presentation; it was on one of the slides. But CNL noted in their CMD that they are working on a consolidated storage location for historic and current environmental data. So that would be like a perfect portal to put online. So then people when they are reviewing information can understand the nature of what it is, what data might be there and where there may be historical gaps. Thank you.

THE PRESIDENT: Thank you. CNL?

DR. GILBERT: Thank you, Madam President.
John Gilbert, for the record.

As a follow-on with some more details for CELA we'll turn that question over to Randall Swartz.

MR. SWARTZ: Randall Swartz, for the record.

With respect to the request for the environmental management system, that's a data base that contains our environmental data, some of which is proprietary. The data base is what is used for the data that goes into our annual environmental monitoring and annual compliance monitoring reports that are available to the public. So it's the data that -- it's the raw data that is used, and it's not appropriate for public access, but is what informs our reporting.

THE PRESIDENT: Dr. Berube? Dr. Lacroix?

MEMBER LACROIX: Question for staff.

On page 52 of your submission, you talk about waste generated at Whiteshell site are radiologically screened and segregated at the source as on one hand "Likely Clean" and on the other hand "Radiological Contaminated." What does it mean? Is there a threshold?

MS GREENCORN: Nancy Greencorn, for the record, with the Waste and Decommissioning Division.

CNL has established clearable levels of waste in their program documents. Within that, they align with the *Nuclear Safety and Radiation Devices Regulations*. As part of the screening, if the characterization indicates that the radiological is below those limits, they're released as clean material. Above those, they would be considered contaminated.

MEMBER LACROIX: So there are very specific dose limits?

MS GREENCORN: Yes, they are both within *Nuclear Safety and Radiation Devices Regulations* as well, and they are also stipulated into CNL's regulatory documents.

THE PRESIDENT: Dr. Demeter?

Dr. Lacroix, additional questions?

If not, then over to you for any final words.

MS BLAISE: Thank you.

So in closing, I would just like to summarize that should the CNSC choose to grant a 10-year licence, it will be doing so despite deficiencies that have been noted in the materials and discrepancies within the scope of licensed activities, those which currently have a safety case, and those which are pending for 2023.

In regard to the low-level waste trenches, should the CNSC proceed with licensing, it would be contrary to its own regulations, which require a safety case prior to licensing.

The CNSC would also be licensing activities absent a thorough review or consideration of the decommissioning of low-level radioactive waste trenches that could trigger the *Impact Assessment Act*, and we do not find the responses provided thus far in the hearing to be sufficient. I would encourage you to again seek the opinion of the agency should this trigger the act.

Just to pause on that provision for a second, while we recognize that the *Impact Assessment Act* references the construction of a new facility for the long-term management or disposal of waste, "new facility"

is not a defined term. "Nuclear facility" is defined in the *Nuclear Safety and Control Act* and "facility" is used repeatedly throughout the *Physical Activities Regulation*, but the term "new facility" is not defined, so in the context of the undertaking being proposed by CNL, CELA would submit that the in situ decommissioning of these trenches would be a facility, it would be new for the purposes of long-term radioactive waste storage, and thus it should be a physical activity pursuant to the *Impact Assessment Act*.

Should the Commission not agree with CELA and find that the trenches do not constitute a new facility, then, like CELA's comments to the Commission during the Pickering and Bruce refurbishment licensing hearings, we would submit that there would not be an assessment of the project's socioeconomic, cultural, health and environmental implications, nor would there be a view of sustainability considerations or alternatives to the undertaking.

Further, should the trenches not be subject to an impact assessment, it would further affirm CELA's view that the number of projects currently subject to the *Impact Assessment Act*, relating to nuclear matters, is insufficient. As we know, significant projects like

decommissioning, refurbishment and small modular reactors are excluded from the scope of Canada's federal environmental assessment law.

Furthermore, should the CNSC proceed with licensing nuclear activities in contravention of the precautionary principle, which denotes a duty to prevent harm, we feel, in this instance, that, because Canada continues to lack a robust regulatory framework for decommissioning and also post-closure, and what is contemplated beyond the 10 years, this will be in contravention of the precautionary principle.

As the Commission held in its 2018 decision, a one-year licence was appropriate, expressly because of the ongoing federal EA and the extensive public comments which were received, and required additional time for the comments to be address. We remain of the view that CNL has not demonstrated why, in this circumstance, a 10-year licence is appropriate when, absent any material change, a one-year licence was sufficient in 2018.

As CELA submitted in the context of the 2018 one-year licence renewal, because of the complexity of the undertaking, the outstanding matters, the need for greater study in the context of both the environmental assessment and the licensing documents before us today, a

one-year renewal is, again, sufficient in this matter.

That concludes my remarks.

Thank you.

THE PRESIDENT: Thank you for your intervention, Ms Blaise.

This concludes the oral presentations scheduled for today.

We'd now like to proceed with some written interventions. Mr. Leblanc will introduce each submission and members will get an opportunity to ask any questions that they may have.

Over to you, Marc.

CMD 19-H4.2

**Written submission from the
Rural Municipality of Alexander**

MR. LEBLANC: Thank you.

The first written submission is from the Rural Municipality of Alexander, as outlined in CMD 19-H4.2.

Any questions from the members on this submission?

CMD 19-H4.3

**Written submission from the
Whiteshell Laboratories Public Liaison Committee**

MR. LEBLANC: The next submission is from the Whiteshell Laboratories Public Liaison Committee, as outlined in CMD 19-H4.3.

Any questions?

CMD 19-H4.7

Written submission from Unions

MR. LEBLANC: The next submission is from four unions, that is: the International Association of Machinists and Aerospace Workers Local 608; the Whiteshell Technical Employees Group; the Whiteshell Professional Employees Group; and, the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union Local 7806.

Any questions from the members?

CMD 19-H4.9

Written submission from the Canadian Nuclear Society

MR. LEBLANC: The next submission is from the Canadian Nuclear Society, as outlined in CMD 19-H4.9.

Any questions from the members?

CMD 19-H4.10

Written submission from North Forge East

MR. LEBLANC: The next submission is from North Forge East, as outlined in CMD 19-H4.10.

Any questions from the members on this submission?

This concludes the written submissions, Madam President.

THE PRESIDENT: Thank you.

This brings us to the close of the hearing for today. The hearing will resume tomorrow morning at nine o'clock.

Thank you all for your participation and attendance today.

I wish you all a very good evening.

Thank you.

--- Whereupon the hearing adjourned at 5:18 p.m., to
resume on Thursday, October 3, 2019 at 9:00 a.m. /
L'audience est ajournée à 17 h 18 pour reprendre
le jeudi 3 octobre 2019 à 9 h 00