

**Canadian Nuclear  
Safety Commission**

**Commission canadienne de  
sûreté nucléaire**

**Public hearing**

**Audience publique**

**May 15<sup>th</sup>, 2019**

**Le 15 mai 2019**

**Public Hearing Room  
14<sup>th</sup> floor  
280 Slater Street  
Ottawa, Ontario**

**Salle des audiences publiques  
14<sup>e</sup> étage  
280, rue Slater  
Ottawa (Ontario)**

**Commission Members present**

**Commissaires présents**

**Ms Rumina Velshi  
Dr. Sandor Demeter  
Mr. Timothy Berube  
Ms Kathy Penney  
Dr. Marcel Lacroix**

**M<sup>me</sup> Rumina Velshi  
D<sup>r</sup> Sandor Demeter  
M. Timothy Berube  
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M. Marcel Lacroix**

**Assistant Secretary:**

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**Ms. Kelly McGee**

**M<sup>e</sup> Kelly McGee**

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**Ms. Lisa Thiele**

**M<sup>e</sup> Lisa Thiele**

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Ottawa, Ontario / Ottawa (Ontario)

--- Upon commencing on Wednesday, May 15, 2019  
at 10:37 a.m. / L'audience publique débute le  
mercredi 15 mai 2019 à 10 h 37

### **Opening Remarks**

**THE PRESIDENT:** Good morning and welcome to the public hearing 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 Algonquin Traditional Territory.

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

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, Ms Kathy Penney and Mr. Timothy Berube.

Ms Lisa Thiele, Senior General Counsel to the Commission, and Ms Kelly McGee, Assistant Secretary of the Commission, are also joining us on the podium today.

I will turn the floor to Ms McGee for a few opening remarks.

Kelly...?

**MME MCGEE** : Bonjour, Mesdames et Messieurs. Bienvenue à l'audience publique de la Commission canadienne de sûreté nucléaire.

Mon nom est Kelly McGee. Je suis la secrétaire adjointe de la Commission et j'aimerais aborder certains aspects touchant le déroulement des audiences.

The Canadian Nuclear Safety Commission is about to start the public hearing on the application by Orano Canada Inc. for the renewal of the uranium mine decommissioning licence for the Cluff Lake Project.

During today's business, we have simultaneous interpretation.

Des appareils d'interprétation sont disponibles à la réception. La version française est au poste 2 and the English version is on channel 1.

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

L'audience est enregistrée et transcrite textuellement. Les transcriptions se font dans l'une ou l'autre des langues officielles, compte tenu de la langue utilisée par le participant à l'audience publique.

Les transcriptions seront disponibles sur le site Web de la Commission dans environ une semaine.

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 period of three months after the closure 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, présidera l'audience publique d'aujourd'hui.

Madame Velshi...?

**CMD 19-H1.B**

**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-H1.B.

Before doing so, I wish to note one change

to the agenda. Mr. Emile Burnouf will not be making a presentation. He asked that we consider his intervention as a written submission. This is in CMD 19-H3.11.

With that change, do we have concurrence for the approval of the agenda?

For the record, the agenda is adopted.

Kelly...?

**MS MCGEE:** This is a one-part public hearing. The Notice of Public Hearing and Participant Funding in 2019-H-02 was published on December 10th, 2018.

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

The submissions from Orano Canada Inc. were filed on March 14th and the submission from CNSC staff was filed on March 18th. Both submissions were made available on the CNSC website on March 21st.

The public was invited to participate either by oral presentation or written submission. April 15 was the deadline for filing by intervenors. The Commission received and permitted 12 requests for intervention.

May 8th was the deadline for filing of supplementary information and I note that presentations

have been filed by Orano, CNSC staff and intervenors.

We will begin with the presentations by Orano and CNSC staff, followed by the presentations from intervenors after the lunch break. The Members will have the opportunity to ask questions of everyone after the interventions.

After the oral interventions, we will then proceed with the two written submissions filed by the intervenors and then end with a final round of questions.

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

Madame la Présidente...?

**THE PRESIDENT:** Before we proceed with the presentations on Orano's application, I want to note that Mr. Moulding and Mr. Wudrich from the Saskatchewan Ministry of Environment are joining us by videoconference at the CNSC Saskatoon office.

Also, Dr. James Irvine and Mr. David Sampson from the Saskatchewan Health Authority are joining us by teleconference.

Thank you all for being available for questions.



I would like to start the hearing by calling on a presentation from Orano Canada Inc., as outlined in Commission Member Documents 19-H3.1 and 19-H3.1A.

I will turn to Mr. Dale Huffman for this presentation.

Mr. Huffman...?

**CMD 19-H3.1/19-H3.1A**

**Oral presentation by Orano Canada Inc.**

**MR. HUFFMAN:** Thank you.

Good morning. My name is Dale Huffman and I am the Vice President for Health, Safety, Environment and Regulatory Relations with Orano Canada.

I am joined by Diane Martens, the Project Manager for Cluff Lake, and Caitlin Brown, our Geosciences Lead.

Our colleagues Glenn Lafleur, Manager of Northern Affairs, and Tina Searcy, our Regulatory Relations Manager, are attending the hearing from the Saskatoon CNSC office.

We are pleased to be here in Ottawa for this public hearing in support of our request to renew and amend the Cluff Lake decommissioning licence. The current

10-year decommissioning licence will expire in July 2019. Orano has requested that the Commission approve a five-year renewal of the Cluff Lake licence with amendments. While retaining CNSC regulatory oversight, the requested licence amendments reflect the status of the completed decommissioning of the Cluff Lake site and administratively prepare the site for eventual transfer to Saskatchewan's Institutional Control Program.

Our presentation today will provide a brief project summary and an overview of decommissioning activities by project area. We will present project highlights over the licence term, including physical works, monitoring and updated risk assessment. We will then provide an overview of stakeholder engagement before describing the requested licence amendments and concluding statements.

The picture on this slide is of Cluff Lake, the project's namesake.

The Cluff Lake Project is located in northwest Saskatchewan on Treaty 8 Territory and within the homeland of the Métis.

Cluff Lake is located along the Semchuck Trail. Before the mine, the Semchuck Trail existed as a travel route that evolved to a provincial road that serviced Uranium City via an ice road in the winter across

Lake Athabasca.

The closest community to Cluff Lake is Fort Chipewyan, Alberta, about 100 kilometres to the northwest.

The closest communities by road are Clearwater and LaLoche, Saskatchewan, about 250 kilometres to the south.

The Cluff Lake Project operated from 1980 to 2002, producing about 62 million pounds of uranium concentrate and 8,000 troy ounces of gold.

The Cluff Lake Mine served as the largest industrial employer on the west side of Northern Saskatchewan over its mine life.

Company employees averaged around 200, and with onsite contractors, indirect and induced employment, employment in support of the Cluff Lake mine was estimated to be over 900 persons at its peak in 1996.

About 52 percent of company staff were northern and about 80 percent of northern employees were from the west side of the province.

Though the footprint of the mine was taken up for the purposes of mine operations, traditional land use was carried out nearby throughout the operating period.

The Cluff Lake Project began with the Cluff Lake Board of Inquiry in the late 1970s conducted by

the Bayda Commission, which, beyond its contemplation of details of the proposed Cluff Lake Project, laid the groundwork for uranium development in Saskatchewan, including consideration of decommissioning and long-term controls.

The Cluff Lake Project went through further environmental assessment over the course of its life as new ore sources were identified. Finally, at the end of the mine life, the project underwent a comprehensive study for decommissioning under the *Canadian Environmental Assessment Act*, with the Canadian Nuclear Safety Commission as the Responsible Authority, with input from Environment Canada, Natural Resources Canada, Health Canada, Fisheries and Oceans Canada, Canadian Environmental Assessment Agency, as well as several Provincial Regulatory Agencies coordinated by Saskatchewan Environment, community stakeholders and interest groups, and members of the public.

It was through this environmental assessment process that decommissioning objectives were determined. It was concluded that successful decommissioning of the Cluff Lake site would result in a safe environment with minimal adverse effects; a stable and self-sustaining landscape; unrestricted area for traditional uses; and minimal land use constraints.

Fifteen years following the environmental assessment approval for decommissioning we are confident that the physical works are complete and decommissioning objectives are met and will continue to be met into the very long term.

The site is well-understood, we have decades of monitoring results related to hydrogeology, hydrology, weather, limnology, water quality, ecology. We've resolved uncertainties indentified during the decommissioning environmental assessment through targeted research, monitoring and modelling under the Cluff Lake follow-up program.

The site is stable and predictable and will require only passive care. The site presents no unreasonable risk, has unrestricted access and is available for traditional use.

Diane Martens will continue our presentation.

**MS MARTENS:** Diane Martens, for the record. With a request to transition the Cluff Lake project from decommissioning to post-decommissioning, I will provide a broad overview of decommissioning largely completed between the years 2004 and 2006 prior to presenting slides with a greater focus on the current licence term, 2009 to 2019.

This portion of the presentation will provide an overview of project areas with a focus on how that area is performing. For some project areas no additional work has taken place over the licence term, but an additional decade of monitoring has further confirmed performance.

The first area is the demining area. The large lake in the centre of this figure is Cluff Lake. The purple shaded area to the north-east of Cluff Lake is the demining area.

Demining area includes the D-Pit and waste rock. The D-Pit was an open pit mined from 1979 to 1981. The decommissioning strategy was to create a pit lake with a stable chemocline. With a low-surface area to depth ratio water in the pit lake does not fully mix, but stratifies into layers.

The figure on the bottom right of this slide present specific conductivity at various pit depths to illustrate the presence of a chemocline. With a chemocline, high-quality water is available at the surface and contaminants of concern are sequestered at depth.

The D-Pit was flooded in 1983, the pit is about 28 metres deep, and a chemocline exists at a depth of about 12 metres below surface at approximately 50 per cent pit depth.

The chemocline established within a year of flooding and has existed for over 30 years, demonstrating its stability. The water above the chemocline meets surface water quality objectives. The shoreline was naturally revegetated and the nearby waste rock was seeded. Decommissioning was recognized as complete during the 2009 CNSC licence renewal. Other than monitoring, no activities have taken place at D-Pit over the current licence period.

Next we will look at the Claude Mining Area shaded in purple in the figure, located north of Cluff Lake. Named features of the Claude Mining Area are the Claude Pit and the Claude Waste Rock Pile.

The Claude Pit was mined and the Claude Waste Rock Pile was constructed from 1982 to 1989. The decommissioning strategy was to ensure full utilization of in-pit disposal, minimize net percolation through the Claude Waste Rock Pile, and to capitalize on attenuating properties of the Claude Lake sediment.

Decommissioning of the area was completed in 2006. The pit was backfilled with waste rock and demolition material, covered with till and seeded with trees and shrubs. The waste rock was recontoured, compacted, covered with a till moisture store-and-release cover with storm water management features and then seeded.

At the 2009 CNSC licence renewal the Claude Mining Area was considered to be complete in terms of decommissioning design. It was noted that erosion control or other maintenance should be provided, as required, until a stable self-sustaining vegetation cover was established.

Over the licence term vegetation on the pile has established and become self-sustaining. Claude Lake meets surface water quality objectives now and is predicted to continue to do so into the future.

The photos on this slide illustrate the transition from bare glacial till cover to the current till cover with stable self-sustaining vegetation. Detailed vegetation studies occurred in five years, over 2008 to 2014, confirming the establishment of vegetation. There is a marked increase in samplings over the recent years as the cover continues on a natural revegetation trajectory.

Next, the DJ Mining Area includes the DJN and DJX open pits, underground mine workings, and the former location of the DJN Waste Rock Pile.

The DJ open pits and underground mine workings are highlighted in purple on this slide, located to the north of Cluff Lake. The two open pits were decommissioned as a single contiguous pit lake. DJN Pit was mined from 1989 to 1991, it is the smaller pit to the



north in the photos, and the DJX Pit was mined from 1994 to 1997. Some of DJX waste rock was placed at the bottom of DJN Pit and capped with bentonite.

The decommissioning strategy for the contiguous DJX Pit was to create a pit lake with a stable chemocline. The pit was flooded by pumping water from Cluff Lake. A chemocline established in DJX Pit the same year it was flooded, in 2006. With a pit depth of about 90 metres, DJX has a double chemocline: one established at a depth of about 55 metres below surface; and, a second at about 15 metres below surface. Water above the chemocline meets surface water quality objectives.

Surface infrastructure was removed from the area, the area was regraded to improve storm water management and then revegetated.

Just north of the DJN and DJX pits, the DJN Waste Rock Pile was constructed from 1989 to 1991. The decommissioning strategy was to consolidate waste rock in the Claude Mining Area and reclaim a previously-disturbed area. The entire DJN Waste Rock Pile was relocated to Claude Pit in 2004 and 2005. The area was graded and revegetated. The overburdened pile removed from the top of the DJ Open Pit Mines prior to mining was used as cover material on the Claude Waste Rock Pile during decommissioning.

At the 2009 CNSC licence renewal these areas were considered fully decommissioned and no further works or studies were identified.

There were two areas of underground mining: OP/DP Underground Mining on the right in the figure, and DJ Underground Mining on the left. OP/DP was mined from 1983 to 1999 and DJ was mined from 1994 to 2002. All underground mine workings were decommissioned by 2002.

A total of eight raise were entirely backfilled, covered with reinforced concrete caps, then covered with an additional 1 metre of glacial till. Two declines were backfilled to a depth of about 180 metres down the ramp. Concrete plugs were poured and the concrete plugs were then also covered with about 1 metre of glacial till.

The underground mine workings were considered fully decommissioned at the 2009 CNSC licence renewal. There have been no further works during the licence term. Biannual third-party geotechnical inspections have not identified any concerns with underground mine workings or the decommissioning.

The Mill Complex Area is to the west of Cluff Lake near the Tailings Management Area. The decommissioning strategy for the Mill Complex Area was to properly dispose of reagents, demolish the surface

infrastructure, and then revegetate the site.

Decommissioning of the Mill Area was completed in 2005. Mill demolition material was disposed of in Claude Pit. The area was covered with clean glacial till, graded, and revegetated with tree seedlings.

In 2013 the remaining warehouses and fuel farm that were left to support environmental monitoring were decommissioned.

Lastly, the Tailings Management Area located to the west of Cluff Lake. During operations tailings were placed in a Tailings Management Area. Solid wastes were placed to facilitate settling and consolidation, and water was treated in primary and secondary water treatment plants.

The decommissioning strategy for the Tailings Management Area was to isolate waste from the surface and minimize groundwater contaminant transport. The depth of the tailings cover is an optimization of surface performance, primarily isolation of tailings and meeting radiological protection requirements and groundwater performance, minimizing net percolation or water travelling through the tailings. Overdesigning for the surface performance would diminish groundwater performance, and vice versa.

A minimum 1 metre glacial till cover

confidently achieves surface performance objectives while minimizing groundwater contaminant transport.

At decommissioning tailings were covered with a minimum 1 metre depth of glacial till and the liquids pond was backfilled. Storm water management features were constructed. The Tailings Management Area is designed to have surface water preferentially run around or over the cover of the tailings.

Works were completed to the main dam for long-term stability under passive care. Buildings and other surface infrastructure were removed. The till cover was seeded to quickly establish sod formation to limit erosion. The performance of the Tailings Management Area is excellent. Snake Lake, a few metres down-gradient of the Tailings Management Area, meets surface water quality objectives now and is predicted to continue to meet surface water quality objectives in the future.

The following slides present a focused overview on works, monitoring, results, and the risk assessment completed within the licence term.

There were two small earthwork programs during the licence term; one in 2013 and a second in 2017/2018. Following decommissioning works in 2006 site activities were consolidated to the Germaine Camp with a small office and residential complex. Germaine Camp was

demolished in 2013 when the project transitioned from an on-site presence to campaign monitoring.

With no further need to maintain water treatment contingency measures, the secondary water treatment plant was similarly decommissioned.

Other works on site at the time included the decommissioning of onsite roads with culverts removed and streambeds rehabilitated at seven crossings and surface water management optimizations.

In 2017 and 2018 two additional culvert crossings were removed and minor works included demolition of a small building and runway lights at the airstrip and decommissioning of groundwater wells that were previously removed from monitoring programs.

Over the licence term, monitoring has continued, including surface water quality.

Of the lakes considered to have mining impacts, they continue to have water quality that meets surface water quality objectives.

Updated numerical modelling of groundwater and surface water in the area predicts that these lakes will continue to meet decommissioning surface water quality objectives into the future.

Radiological clearance was achieved during active decommissioning works in 2004 to 2006, with some

subsequent surveys and monitoring for confirmation.

As project areas were decommissioned they were surveyed for radiological clearance.

Areas identified for further works were remediated until clearance criteria were achieved. In this way, disturbed areas of the Cluff Lake Project site have been comprehensively cleared. This work was independently verified by the Canadian Nuclear Safety Commission with separate surveys.

Over the licence term, area monitoring continued until late 2017 and confirmed, with over a decade of additional monitoring, that radon concentrations are at background levels.

About three-quarters of a million tree and shrub saplings have been planted at the Cluff Lake site to accelerate the natural process of re-vegetation following disturbance. These trees and shrubs are growing well.

Grasses and forbs were seeded on the Claude waste rock pile and tailings management area till covers and fertilized in the early years to speed establishment.

Three additional detailed vegetation studies were completed over the licence term. These studies concluded that both covers have vegetation that is well established, they have reached an equilibrium in

species composition following cessation of fertilization and have nutrient levels comparable to reference areas. The existing nutrient levels support productive growth and hardiness. The vegetation is therefore considered self-sustaining and able to re-establish following potential future disturbances because the seed bed and nutrients are abundantly available.

The ecological and human health risk assessment was updated within the licence term.

The technical documents were submitted in 2015, followed by community engagement initiatives to communicate the results.

The updated risk assessment confirmed the environmental assessment conclusion that the effects of decommissioning are largely positive and the potential adverse effects are not significant.

There is a fingerprint of past mining where environmental effects can be measured. The ability to measure effects in itself does not equate risk. The Cluff Lake Project risk assessment, founded in decades of monitoring, research and modelling, was used to quantify and understand potential risk now and over the long term. The risk assessment confidently concludes that the decommissioned mine site is safe and there is no need for restricted access.

In terms of land use, we considered people coming to the site and drinking water, including consumption of water from Island Lake where treated effluent was discharged during operations; harvesting berries and tea; fishing and hunting, including moose; and repeating this land use over their lifetime and bringing this food back home for their families to consume, including their children.

There are no expected human health risks with a diet that includes food harvested from the Cluff Lake site.

In the environmental assessment, the end-state of the Cluff Lake Project site was to be evaluated by the following measures of success:

- surface water quality objectives achieved, now and in the long term;
- levels of gamma, radon and long-lived radioactive dust that pose no unacceptable risk to traditional land uses;
- infiltration rates around covered tailings and waste rock that are protective of downstream surface water quality;
- site appearance and land capability similar to that which existed prior to mining; and
- no unreasonable risk to humans or the



environment.

The Cluff Lake Project has been successfully decommissioned.

We are pleased to have decommissioned the Cluff Lake Project in a jurisdiction that has established a robust Institutional Control Program that provides for long-term monitoring and maintenance of the site. The oversight provided by the Institutional Control Program is financed with proponent established funds and tailored for long-term care of decommissioned sites.

I will now turn the presentation over to Mr. Dale Huffman for a brief overview of stakeholder engagement, followed by an overview of licence amendments requested by Orano to prepare the project for transfer to provincial institutional control.

**MR. HUFFMAN:** Thank you.

Dale Huffman, for the record.

Stakeholder engagement was a priority in decommissioning planning and decision-making.

With varied perspectives on the success of the Cluff Lake decommissioning, participation in the process has been and continues to be high. Of the listed individuals, groups and organizations identified as key interest stakeholders in the Cluff Lake Public Information Program, half of those stakeholders are participants in

this hearing process.

The decommissioning engagement strategy was to engage early and often so that feedback could be properly considered. Prior to mine closure there were key person interviews, meetings and workshops with leaders, Elders and long-time residents, business people, EQC members, families of mine employees, youth, former mine employees and the land users who were known to harvest in the vicinity of the mine. The primary influence of engagement was a decommissioning design that would provide for safe traditional land uses over time.

In-person meetings have been an important aspect of the Cluff Lake Decommissioning Public Information Program and the photos presented on this slide show examples of workshops, site tours and community open houses. Over the licence term there have been community open houses in 2012 and 2013 to broadly communicate the end of Orano's onsite presence. The results of the risk assessment and status of the project have been the focus of recent community open houses in 2015 and 2018.

We want to express our thanks to the stakeholders for taking the time to attend Orano events, invite us to their events, discuss issues and concerns, share information and participate in this and other hearings.

We have appreciated our positive working relationship with neighbours, including multiple generations of the Flett family.

In the late 1970s, the late Mr. Alex Flett was trapping in the exploration area for Cluff Lake. Mr. Flett maintained his trapping residence on the Cluff Lake surface lease throughout the mine life. He and his sons were employed at Cluff Lake. Three members of his extended family remain active trappers within the area, with a cabin on the shore of Cluff Lake. The photos on this slide are of Mr. Flett at his cabin on Cluff Lake and visiting his family on the shore of Cluff Lake in the summer of 2018.

I will now summarize the requested licence amendments.

We have requested amendments to modernize the CNSC Licence to reflect the Cluff Lake Project's post-closure status.

We propose that the Project no longer require licensed approval for the activity of "decommissioning" as decommissioning works are complete.

Effectively, the remaining activity at the site is to possess, manage and store the placed wastes.

The Cluff Lake Project was recognized as a closed mine under the *Metal Mining Effluent Regulations* as of January 16, 2006, and contingency water treatment

facilities were decommissioned in 2013. With no potential for treated effluent release, the authorized discharge limits are no longer needed and can be removed from the licence.

Detailed Decommissioning Plans have contained the work plans, schedule and costs for decommissioning and they have been regularly updated to reflect decommissioning progress.

The Cluff Lake Detailed Decommissioning Plan has been the primary reference in the licence since 2003 and has been progressively updated as the decommissioning work advanced, with updates in 2004, 2009 and 2014.

The title for the latest version of the plan has been changed to Detailed Post-Decommissioning Plan, with the content shifted to describe post-decommissioning monitoring and administrative work until the site is returned to the Province of Saskatchewan under its Institutional Control Program.

Financial guarantees provide assurance that adequate funds will be available to the province should the company no longer be able to provide them. With this understanding, the proposed financial guarantee for Cluff Lake covers the costs associated with monitoring, maintenance and administration over the licence term and a

provision for the costs to transfer the site into institutional control, providing for long-term monitoring, maintenance and a contingency amount.

Lastly, we propose to reduce the reference area in the licence to include only those areas proposed for registry into the Institutional Control Program.

Areas where nuclear substances are managed include the Claude Waste Rock Pile, Claude Pit and DJX Pit, and the Tailings Management Area.

Parcels of land considered for entry into the Institutional Control Program will include more area than would be required under CNSC oversight.

We anticipate administrative controls will also be established for reclaimed areas, shown in purple on this figure, including: D pit and D pit waste rock pile, DJ and OP/DP underground mines, the mill complex area, landfills, Snake and Claude Lakes. So we propose to reference the purple areas in the licence.

The Cluff Lake site has been managed by Orano and its predecessor companies responsibly from cradle to grave. Decommissioning of the site was contemplated from the beginning. From exploration through operations and decommissioning, activities have been planned, assessed and approved considering the health and safety of workers and the public and the protection of the environment.

There has been no loss of continuity in the responsibility for, or oversight of, this site.

The cost of decommissioning and the cost of perpetual care is entirely funded by Orano.

The decommissioning has achieved an end-state where land restrictions are minimized, the site is available for traditional land use and decommissioning features require passive care.

In short, in Saskatchewan, Cluff Lake resembles no other uranium site which has undergone or is undergoing decommissioning to date.

I would like to conclude our presentation with the following summary.

Orano Canada is a qualified operator, decommissioning works at Cluff Lake are complete and decommissioning objectives have been achieved.

The requested licence amendments update and modernize the licence while administratively preparing the site for transfer to provincial institutional control.

The Cluff Lake site remains safe for traditional land use, and the fingerprint of past mining remains local, is diminishing and has no downstream effects.

Thank you. We are available to answer any questions you may have.

**THE PRESIDENT:** Thank you, Mr. Huffman and Ms Martens.

I would now like to move to the presentation from CNSC staff, as outlined in CMD 19-H3 and 19-H3.A.

I will turn the floor to Ms Haidy Tadros for the presentation.

**CMD 19-H3/19-H3.A**

**Oral presentation by CNSC staff**

**MS TADROS:** Thank you and good morning, President Velshi, 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 here today are my colleagues Mr. Peter Fundarek, Director of the Uranium Mines and Mills Division, and Mr. Ron Stenson, Senior Project Officer in the same Division.

We also have colleagues and specialist staff with us here in Ottawa and by videoconferencing from CNSC's Saskatoon office to help answer any questions the Commission may have.

We are here to present Commission Member

Document 19-H3 titled "Cluff Lake Project Licence Renewal", which recommends the renewal of Orano Canada Uranium Mining Licence.

The purpose of CNSC staff's presentation today is to provide the Commission a review of Orano's requests for their licence renewal; summarize CNSC staff's assessment of the status of the Cluff Lake Project; and summarize Orano's safety performance for key Safety and Control Areas since the last Commission update in 2016.

We will be presenting CNSC staff's position on issues raised in the public interventions and we will be providing CNSC staff's conclusions and recommendations on this file.

I would like to now pass the presentation over to Mr. Peter Fundarek.

**MR. FUNDAREK:** Peter Fundarek, for the record.

The Cluff Lake Project represents the first modern uranium mine and mill in Canada that was designed from the beginning to be decommissioned. This is very different from the 20 historic and decommissioned mine and mill sites in Canada, which operated under a different regulatory regime focused on national security and production quotas. A synopsis of the status of those remediated sites was presented to the Commission in



December 2018 as the Regulatory Oversight Report for Uranium Mines, Mills, Historic and Decommissioned Sites in Canada: 2017. At those historic sites, all of which came into operation before the CNSC had the necessary regulatory authority, much valuable operational information is no longer available and the original operators may not be available to complete remediation of those sites.

The CNSC incorporated a number of regulatory lessons learned from these historic sites in Canada into the modern regulation of operations such as Cluff Lake. These include requirements for:

- an environmental assessment to assess all impacts of the operation and the decommissioning of the site;

- decommissioning planning early in the development of the site and throughout the life-cycle of the facility;

- a financial guarantee that was adequate and accessible to ensure safe termination of licensed activities;

- records management and retention of those records; and

- public and indigenous engagement.

All of these applied to the Cluff Lake Project throughout its life-cycle.

The Cluff Lake Project has been subjected to full regulatory control by the CNSC, and its predecessor the Atomic Energy Control Board, throughout its operational life, including the most recent period of decommissioning. The Cluff Lake Project developed a conceptual decommissioning plan in the early stages of its operation and revised and refined the plan throughout its lifetime.

When decommissioning of the site was proposed, another environmental assessment was carried out under the *Canadian Environmental Assessment Act, 1992*, with the CNSC submitting the Comprehensive Study Report to the federal Minister of the Environment in January 2004. Following approval of the decommissioning environmental assessment in April of 2004, the Commission held a two-part public hearing to consider the decommissioning licence application before issuing the initial decommissioning licence in July 2004.

Complete information regarding the Cluff Lake operation remains available and many persons who have worked there, such as myself, are also available to provide input into the activities carried out there and the effectiveness of the decommissioning process. The CNSC continues to ensure that the Cluff Lake Project is subject to effective regulatory oversight now and into the future.

I now turn the presentation over to

Mr. Ron Stenson.

**MR. STENSON:** Thank you, Haidy and Peter.

For the record, my name is Ron Stenson.

The Cluff Lake mine, mill and tailings management site is a fully decommissioned former uranium mine site which operated from 1980 to 2002. The post-decommissioning residual features include a waste rock pile, former underground workings, four former open pit mines -- three flooded and one infilled -- and the tailings management area. The remaining features are decommissioned to surface. The site is accessible to the public by a provincially maintained road running about 260 kilometres from La Loche to the south. Onsite roads will not be maintained except to facilitate long-term monitoring activities.

The next few slides illustrate the current site conditions.

This photo shows the shoreline of Claude Lake. We are standing on the edge of the filled-in Claude Pit at the base of the Claude Waste Rock Pile. The shoreline is stable and shoreline vegetation is re-establishing itself, as predicted in the Detailed Decommissioning Plan.

This photo shows the flooded D-Pit Lake. This was the first mining operation at Cluff Lake and is

one of three flooded pits on the property. The accessible water in the pit, as is the case for all surface water at the site, is safe for wildlife to drink and could be consumed by visitors to the site after boiling to remove natural pathogens.

This photo shows the southwest edge of the tailings management area from the covered tailings looking outward. CNSC staff have reviewed the cover design and assessed the as-built condition of the engineered cover and are satisfied that the cover is protective of humans and the environment.

To provide context for some of staff's conclusions relating to site conditions and the environmental protection, CNSC staff obtained film from a drone flight over the Cluff Lake tailings in 2018.

The footage you are about to see shows most of the tailings cover and the dam along the southwest side of the tailings management area. The footage shows the in-growing vegetation cover.

--- Pause

**MR. STENSON:** The drone has taken off from the surface of the dam surrounding the TMA.

The person walking here is a CNSC inspector.

The film shows that the vegetation is

establishing itself as predicted and is similar in both health and density to naturally recovering areas across the region.

The footage also shows a number of vehicle tracks made by Orano staff and contractors and other persons, which demonstrates that the cover is capable of supporting the weight of small vehicles.

This cover is similar in design to many other tailings covers at both conventional and uranium sites around the world. Most of the dry tailings management areas in Canada are designed with the same long-term safety and stability goals.

--- Pause

**MR. STENSON:** Taken together with CNSC staff's operational experience at similar sites, visual evidence assists in the understanding that the physical decommissioning of the site is complete and has been carried out as proposed by the licensee in the Detailed Decommissioning Plan, which had been accepted by the CNSC.

The next few slides will describe Orano's licence application and important considerations for CNSC staff's recommendations.

The current Cluff Lake Project licence expires on July 31, 2019.

Orano has applied for a licence renewal for a period of five years, ending July 31, 2024, including a reduction in the licensed area and the licensed activities, to better reflect the post-decommissioning activities onsite.

They have applied for acceptance of the Detailed Post-Decommissioning Plan, replacing the now complete Detailed Decommissioning Plan, and acceptance of the value of the proposed Financial Guarantee.

In recognition of the extent to which decommissioning has reduced the risks at the site, Orano has requested that the licensed area be reduced to include only the portions of that site that require CNSC licensing or that the province has identified will require ongoing institutional controls.

The proposed new licensed area is depicted in Appendix A of the proposed licence. For example, the Claude waste rock pile, the infilled Claude pit, the TMA, the decommissioned underground workings and the mined-out pits would remain under the licence. The relatively unimpacted land in between these features would not be brought forward into the licence.

Available information, including gamma surveys and environmental monitoring, demonstrates that the properties not to be included in the proposed licence pose

no risk to the public under any reasonable scenario.

CNSC staff agree with Orano, and the Province of Saskatchewan, that the proposed unlicensed Cluff Lake properties are safe and that no restrictions to drinking boiled water, hunting, fishing or harvesting are necessary.

Orano will retain the mineral leases for these properties.

The proposed licence is still a uranium mining and milling licence but is written to reflect the post-decommissioning status of the site. The site is no longer occupied and, apart from casual access by the public, is only visited for sampling and inspection purposes. Given the anticipated activities at the site, CNSC staff predicts that effective doses to workers or the public will continue to be at or near regional background values.

As part of post-decommissioning licence renewal, the activities permitted under the licence will be reduced to possess, manage and store nuclear substances associated with previous mining and milling operations. Since there are no longer any operations at the site, there are no releases of deleterious substances to the environment. The licensing requirements for a Financial Guarantee and a Public Information and Disclosure Plan are

addressed in the following slides.

We will now describe the CNSC's regulatory oversight of the Cluff Lake Project since the last full update to the Commission in 2016.

Appendix D of staff's CMD provides an Environmental Protection Review Report, under the NSCA and its Regulations, which was conducted for this application. CNSC staff reviewed annual reports from 2016 to 2018 containing environmental monitoring results and updated Technical Information Documents on environmental monitoring. For the record, a comprehensive study was performed in 2003, prior to issuing the decommissioning licence for the project. The Comprehensive Study Report informed the decommissioning objectives being used as a benchmark for transitioning to the post-decommissioning phase of site operations.

CNSC staff conclude that the licensee has made and will continue to make adequate provision for the protection of the environment and the health of persons. CNSC staff have determined that the renewal of the Cluff Lake Project is not a designated project under the *Canadian Environmental Assessment Act, 2012*.

With reference to the following slides, this overview illustrates the relative location of some of the major features at the Cluff Lake site. As shown, the



Claude Waste Rock Pile is approximately five kilometres northeast of the Tailings Management Area, DJX pit is around two kilometres south of the waste rock pile, and D-pit is close to two kilometres east of DJX. Island Lake Fen is mentioned in some of the interventions and represents the final potential receiving environment for water leaving the site through Island Lake.

CNSC staff perform inspections and reviews to assess Orano's compliance with the requirements of the *Nuclear Safety and Control Act* and regulations and its licence. Orano is also subject to inspections and reviews by the Province of Saskatchewan. CNSC staff coordinate some of our compliance activities with other federal departments when appropriate.

Since the last mid-term update to the Commission, CNSC staff have performed both desktop assessments of licensee submitted documents and onsite inspections under the Cluff Lake licence.

Desktop assessments of documents include annual reports containing environmental monitoring results and updated Technical Information documents that support staff's assessment of compliance.

CNSC inspectors have completed three inspections in the three years since the last mid-term update in 2016.

The 2016 inspection was planned to verify the status of post-decommissioning activities at the Cluff Lake site. CNSC staff found no issues of non-compliance and no action items resulted from the inspection.

The 2017 inspection focused on the Environmental Protection Safety and Control Area. As a result of a related records review, one action item related to safety training was issued. In this instance the Integrated Management System required all staff onsite to have received an extensive list of training courses. The list reflected the period of time when full-scale decommissioning activities were taking place and the site was permanently occupied. Not all contractor staff had received all of the courses listed. Given the greatly reduced hazards associated with the site, the licensee determined that not all of the listed training was necessary for temporary staff. The training requirements in the Integrated Management System have been adjusted to better reflect the evolving site conditions and hazards. This item has been adequately addressed and has now been closed by staff.

The 2018 baseline inspection looked at the environmental protection SCA. CNSC staff found no issues of non-compliance and no action items related to this inspection.

Under the proposed licence, CNSC staff will continue to monitor all aspects of site safety and environmental conditions at the site.

Only four of the 14 CNSC Safety and Control Areas are reviewed for this site. The post-decommissioning conditions at the site have resulted in some SCAs having a much reduced safety significance. With operations restricted to periodic monitoring and maintenance, and no permanent occupation of the site, the emphasis for licensing and compliance shifts away from facility design, operations and security. Moving forward, there will be more focus on environment and overall management systems.

Human and operating performance, emergencies and waste management are being monitored through Orano's Integrated Management System. This also applies to physical design, where any maintenance or remediation of existing physical features will be managed by the licensee in accordance with the procedures maintained through Orano's Integrated Management System.

The management system SCA covers the framework that establishes the processes and programs required to ensure an organization achieves its safety objectives, continuously monitors its performance against these objectives and fosters a healthy safety culture.

Some of the components of Orano's Integrated Management System reviewed as part of compliance activities include:

- compliance monitoring procedures;
- surface water monitoring procedures;
- QA/QC monitoring;
- environmental monitoring of locations and schedule;
- their document control functions;
- emergency preparedness and response; and
- occupational health and safety.

CNSC staff have reviewed major components of Orano's IMS and conclude that appropriate organization and management structures are in place. There are well-defined corporate practices, programs and training requirements to manage the hazards and risks encountered at the Cluff Lake Project.

CNSC staff conclude that appropriate organizational and management structures are in place.

With the completion of decommissioning activities at the site -- involving remediation of work areas and removal of radiological hazards -- and cessation of site occupancy in 2013, Orano entered into a post-decommissioning state. Nevertheless, radiological monitoring of the remediated areas during the licence

period continues to demonstrate that post-decommissioning radiological conditions -- i.e. gamma and radon -- are stable and levels of airborne contaminants are at background levels.

Since 2013, Orano has not required Nuclear Energy Worker designated staff for any of the ongoing decommissioning activities.

Since 2014, Orano has not issued dosimetry to Orano staff or contractors for work specific to Cluff Lake.

CNSC staff conclude that radiation protection requirements have been met by Orano and that personnel at the Cluff Lake Project are protected.

Under the proposed licence, CNSC staff will continue to evaluate radiological safety at the site.

Orano's health and safety activities were conducted in accordance with programs defined within the Cluff Lake Integrated Management System. No accidents or incidents were recorded for the 2016 through 2018 work operations.

CNSC staff conclude that Cluff Lake project health and safety requirements have been met.

Under the proposed licence, CNSC staff will continue to verify that conventional health and safety remain a priority for Orano.

The Cluff Lake Project is currently achieving decommissioning surface water quality objectives. Although staff have noted that water in the DJX Pit marginally exceeds the objectives, staff have no concerns for wildlife drinking the water or humans consuming boiled water from this pit.

For clarity, it should be noted that the decommissioning objectives were developed and proposed in the Comprehensive Study Report. This report was accepted by the Minister of Environment and subsequently by the Commission, the Atomic Energy Control Board at the time. The objectives described are not specific standards or limits. They are a conservative benchmark that, if exceeded, would trigger a site-specific safety assessment. In the cases where the objectives are not met, safety assessments have been completed and are included in the licensee's submitted Technical Information Documents. These documents inform CNSC staff's assessments and conclusions of site safety.

This site has no effluent discharges and no longer produces any contaminants or waste.

CNSC staff conclude that Orano has and will continue to make adequate provision for the protection of the environment.

The CNSC Independent Environmental

Monitoring Program, IEMP, provides valuable offsite assurance to the public that CNSC licensed sites are not impacting publicly accessible land adjacent to licensed sites.

In this case, the decommissioned Cluff Lake site is completely accessible to the general public. The results of the 2017 sampling campaign under the IEMP provide additional confidence that the remediated site is not negatively impacting the local environment. The results have been posted on CNSC's IEMP Web page.

As part of the IEMP, sampling by CNSC staff was conducted in August 2017. Samples were taken at reference locations not impacted by the site to be compared with samples from locations potentially impacted by site activities. Samples included radon in ambient air, surface water, fish, blueberries, and Labrador tea. Samples were analyzed for metals and radionuclides.

Sampling analysis showed that the concentration of hazardous substances in water, blueberry, and Labrador tea samples were below established screening levels. It should be noted that selenium in fish at both the reference (unaffected) and exposure stations exceeded the very conservative screening levels for human health protection. Equally important, CNSC staff note that the concentration of selenium in all fish samples were within

natural background for the region.

Staff conclude that daily intake from fish, berries, water, and Labrador tea remain safe for consumption.

The next few slides will discuss other matters of regulatory interest.

The CNSC is committed to meaningfully engaging Indigenous groups who have an interest in CNSC-regulated facilities and activities. In support of the Cluff Lake licence renewal, CNSC staff identified First Nations and Métis groups who may have an interest in the Cluff Lake site. CNSC staff notified the identified groups regarding Orano's renewal application and ensured that they were informed of the Commission's hearing process and participant funding program opportunities.

CNSC staff also participated in a community tour in November 2018 along with Orano regarding the Cluff Lake renewal that visited many of the communities in closest proximity to Cluff. CHSC staff are happy to see that many of the interested Indigenous groups are participating in the licence renewal process and look forward to continuing to build our relationships and ensure that all interested Indigenous communities are provided with the information they need about the CNSC's ongoing regulatory oversight of the Cluff Lake site.



Although there is no legal duty to consult on this licensing decision, CNSC staff have long been involved in meaningful, effective, ongoing engagement with Indigenous communities and other stakeholders with respect to these properties.

CNSC makes funding available through its participant funding program, PFP, to encourage participation in our Commission process. Informed and topic-specific interventions can provide value-added information to the Commission. Five applicants received funding for interventions in this hearing.

For clarity, on the subject of financial guarantees, the CNSC has entered into a memorandum of understanding with Saskatchewan stipulating that, within the province of Saskatchewan, financial guarantees -- in this case a letter of credit -- are accessible by the Government of Saskatchewan if the licensee is no longer able to operate the site. The Commission accepts the value of the guarantee based on our regulatory requirements, but has no access to the funds. Value is tied to the projected cost of remaining decommissioning of the site and managing any residual risks in perpetuity.

The current financial guarantee is for \$26.8 million. The value of the current financial guarantee is based on the projected cost of completing the

decommissioning activities necessary to meet the decommissioning objectives established for the site. These objectives have been met, and the licensee has proposed a revised financial guarantee of 3.5 million to cover the costs of post-decommissioning monitoring and maintenance.

Based on information provided in the detailed post-decommissioning plan -- including the costs of monitoring, maintenance, and unforeseen events under the future institutional control program -- CNSC staff conclude the proposed financial guarantee for the post-closure monitoring and maintenance is adequate.

During the proposed licensing period, CNSC staff are expecting Orano to replace their current site monitoring plan with a long-term monitoring plan. Staff will evaluate the impact of this new monitoring plan on the financial guarantee at that time.

CNSC staff reviewed Orano's public information and disclosure program and determined that it meets the requirements of CNSC REGDOC-3.2.1 *Public Information and Disclosure*.

As seen in the previous presentation, Orano has an extensive program of engagement with both the general public and Indigenous peoples.

CNSC staff conclude that Orano's program is appropriate for the level of risk and public interest in

the site.

During the proposed licensing period, CNSC staff anticipate that Orano will request that the Province accept the Cluff Lake properties into their institutional control program. If the Province is satisfied that Orano has met the requirements of their program, Orano will request that the Commission revoke their licence and transfer responsibility for long-term monitoring and maintenance to the Province of Saskatchewan.

Any request will be considered at a future CNSC hearing, after Orano and the Province have demonstrated that the site is protected and stable for the long term.

I will now turn the presentation back over to Mr. Fundarek to provide CNSC staff's recommendations.

**MR. FUNDAREK:** Thank you. For the record, my name is Peter Fundarek.

The CNSC staff review of the actions taken by Orano to date demonstrate that the licensee has provided sufficient protection for the health and safety of persons and the protection of the environment. CNSC staff continues to consider Orano as being qualified to undertake the licensed activities. The results of the compliance monitoring and desktop reviews conducted show that the site remains safe for unrestricted access. The water and

country foods in the area are safe, as confirmed by the CNSC's own independent monitoring.

Therefore, based on this information, CNSC staff recommend that the Commission accept the new licensed area provided in Appendix A of the proposed licence, removing areas that were not impacted or which has been minimally impacted, as well as accepting CNSC staff's conclusion that the proposed amount of \$3.5 million for the financial guarantee is sufficient, based on the detailed post-decommissioning plan.

CNSC staff also recommend that the Commission renew the CNSC licence issued to Orano Canada Inc. with a standardized licence conditions handbook for a period of five years, expiring July 31st, 2024.

This concludes the CNSC staff presentation. CNSC staff remains available to answer any questions.

Thank you.

**THE PRESIDENT:** Thank you for the presentation.

We'll take a break for lunch and we'll reconvene at 12:45 p.m. and start with the interventions then.

Thank you.

--- Upon recessing at 11:44 a.m. /

Suspension à 11 h 44

--- Upon resuming at 12:46 p.m. /

Reprise à 12 h 46

**MS MCGEE:** Good afternoon. Welcome back.

We will now move to the interventions.

Before we start, I would like to remind intervenors before appearing that the Commission today -- we have allocated 10 minutes for each oral presentation. And I would appreciate your assistance in helping us to maintain this schedule. Your more detailed written submissions have already been read and will be duly considered.

There will be time for questions from the Commission Members after each presentation, and there is no time limit that has been ascribed to the question period.

And for those of you here at 280 Slater, to help you manage your time, you'll see a small box, a timer system that is being used today. The light will turn yellow when there is one minute left, and turn red at the 10-minute mark.

Thank you.

**THE PRESIDENT:** The first presentation is by the Métis Nation of Saskatchewan, as outlined in CMD 19-

H3.2.

I note that Mr. Leonard Montgrand is joining us via video conference, and we've got three other representatives with us in Ottawa.

Mr. Montgrand, are you making the presentation?

**MR. MONTGRAND:** Just an oral presentation, just to speak opening --

**THE PRESIDENT:** Okay. The floor is yours.

**CMD 19-H3.2**

**Presentation by the Métis Nation of Saskatchewan**

**MR. MONTGRAND:** Okay, thank you.

Good morning everyone.

I'm a little bit under the weather this morning, so you'll have to bear with me.

My name is Leonard Montgrand. I'm the Métis Nation Saskatchewan Northern Region Representative 2, which encompasses the communities of Buffalo Narrows, La Loche, Bear Creek, Black Point, St. George's Hill, Turner Lake, Michel Village, all the affected communities within that area of the Cluff Lake mobile site.

We have two inactive locals that are not part of the process at this time.

I'm also the Minister of Economic Development for the Métis Nation of Saskatchewan, and I also work in La Loche for the La Loche Friendship Centre. I'm the executive director.

I just wanted to give a little bit of a history and background as to Cluff Lake and how it has impacted our lives and our communities, albeit at a smaller scale.

My father, who was originally a regional area coordinator for AMOK, as it was called back in the day. It wasn't called Orano, AREVA, through many changes. His boss also was Clare Gitzel.

And I myself was a summer student at Cluff Lake in 1977, and my roommate, as some of you folks may know, was Tim Gitzel. And myself and Tim at that time were going to take the world by storm. And as it happens today, our paths once again cross 40 years later. And he's on the opposite side of the fence.

So when AMOK was first venturing out, I felt that it was the opportunity for my Métis brothers and sisters to participate and prosper in a strong work economy. However, we were only allowed a minimal participation in the process. And today we sit here in negotiations as to the aftermath of the party that was had.

We did not share in the prosperity of

Cluff Lake. That's one thing that upsets me, and I always make sure that when we move forward that we're always engaged, able to participate, and we have a seat at the table. That is our demands as we move forward to the next phase. There is other opportunities for uranium exploration companies in our so-called backyard of our community and our region in La Loche.

But first I have to explain the connection to the land and the cultural revelation that us as Indigenous people have.

Culture to us is what brings our people together. It's what gives us direction and a sense of belonging in the history of our people. My father and his father and so on all lived off the land for sustenance. It was what defined them as Dene people. It allowed them to survive and prosper. Without a land base, we're basically lost as a people. We need to ensure as Indigenous people ... oh, my goodness. I can't read my own handwriting ... we use our lands forever. We must also prosper and move forward economically. And this is a balance that we always must maintain and adhere to.

It's not as Indigenous people that we want to limit all land exploration or usage, but we must be involved in all the mentoring phases from start to finish to ensure compliancy and accountability. And we also need



a seat at any future table to ensure we don't have another Cluff Lake fiasco.

And when I say Cluff Lake, I remember back in 1977 there was monitoring phases and there was LED badges and so forth that were given out, radiation detection badges. But there was a lot of work to be done. And that was the first of a lot of corrections that would have to be made at Cluff Lake.

Today we've arrived at a place where we're having hearings today to move the -- to move on to the next phase and to put it behind us. And I know that Dr. Barnes will speak or has spoken on these issues already in regards to what needs to be done.

I want to thank you for allowing me time to speak. Thank you.

**THE PRESIDENT:** Thank you. We'll open the floor for questions from Commission Members.

Dr. Lacroix?

**MEMBER LACROIX:** Yes, thank you for your intervention.

On your document on page 7, it says concerning the baseline limnological data, the last sentence of the first paragraph says, and I read:

"This sort of modeling is useful but could be verified through lake

sediment collection and analysis."

We are talking here about the impacted lakes.

Does it mean that no lake sediments were collected and analyzed? And why?

Could staff intervene here?

**MS TADROS:** Haidy Tadros, for the record.

Commissioner Lacroix, can you please just remind us what page you are on? I just wanted to find specifically what you're --

**MEMBER LACROIX:** Page 7, document H3.2, submitted by the intervenor.

**MS TADROS:** So I would ask -- Haidy Tadros, for the record again. I would ask that maybe Orano can provide us some detail on their activities. And then staff can provide the oversight that we had.

**MR. HUFFMAN:** Dale Huffman, for the record.

It is true that this sort of information would be very useful in modelling efforts, and so we have collected it.

The document that's referenced and quoted there is our technical information document. These are -- we have a collection of these technical information documents that house these various technical analysis baseline information. I'd like to assure the Commission

that this information is in our technical information document.

One of the gaps that probably existed at the time of its publishing was more extensive information on Claude Lake sediments specifically. And it was actually the subject of a follow-up study program, and it's well documented in our follow-up program document. So this information is available and has been provided.

**MS TADROS:** Haidy Tadros, for the record.

So I would like to ask now our colleagues in the environmental risk assessment to provide perhaps a review of how staff use the technical information documents and how the assessments are conducted.

**MR. McALLISTER:** Thank you, Ms Tadros. Andrew McAllister, director of the Environmental Risk Assessment Division.

So just to confirm Mr. Huffman's observations, we have -- we do review those technical information documents and the follow-up program results. That information has really evolved over time in that when the work was being done around the environmental assessment and the collection of baseline information, that helped then feed these models that have been updated roughly on about a five-year basis. And so we have been involved in reviews of those.

And Orano makes use of the latest science, the latest monitoring results that it's finding. And that then feeds back into the models that get updated on that regular basis.

And we will be -- they will be updating these technical information documents. I anticipate them being submitted later to us in 2019. And those are some of the documents that we do our compliance on. So for example, we'll look at, What were the predictions in the comprehensive study report? What are the updated environmental risk assessments showing? Is there still an alignment with the predictions? What's the monitoring information showing?

So it really kind of all comes together in that way, so one component of that sort of broader environmental protection framework.

**THE PRESIDENT:** Ms Penny?

**MEMBER PENNEY:** Thanks.

In your report, I think you mentioned that you were going to do a site visit before the presentation. So I just wondered if you did that, and did you have anything you wanted to add in your presentation today due to that site visit.

**MR. BARNES:** It's Scott Barnes, working with MNS.

A number of us -- there's 11 of us that did a site visit on May 8th. Given the timelines for submission of supplementary information, obviously, we could not submit that based on getting back around 10:00 into La Loche.

Probably be better if somebody else from MNS talked about this, but you know my overall impression of the site was, yeah, it's generally decommissioned. There are some areas that have restricted access.

One thing of note, and I can share photos, is that there are core samples on location, which isn't the end of the world, but there are core samples that are fenced off with a radiation warning. And I'm not sure why; possibly there's a regulation I'm not aware of. But that would obviously be a restricted area of access. It is fenced and locked.

And I think, you know, overall -- I've seen a number of these sites -- the decommissioning's good, but there are some areas where there's still some debris on the ground. And again, nothing that is entirely concerning.

But I think, you know, based on a very superficial two-hour visit, because of the logistics, as you can imagine, are fairly challenging, you know, we did uncover a few things that would give me a little bit of

pause and want to follow up with.

Given the scope of the resources available to MNS, we did what we could and kind of can report on this verbally today.

**MEMBER PENNEY:** Thank you for that.

Staff, do you want to comment on the core samples and the security around them?

**MS TADROS:** Haidy Tadros, for the record.

So yes, we are aware of the visit. The provincial authorities are responsible for delineating and ensuring that appropriate signage is there, so perhaps I'd ask Mr. Tim Moulding from the Province to explain sort of the requirements of the site.

**MR. MOULDING:** Actually it's Tim Moulding, for the record, Ministry of Environment.

Ministry of Energy and Resources in Saskatchewan has exploration maintain core samples near the areas where they've been taken so that they can be used for future exploration works and that's what that core would be for.

Again, Energy and Resources Ministry is the one responsible for looking after and making sure that that core is available for use for other companies that would -- that are looking at exploration in the area. So that's what that's maintained for.

**THE PRESIDENT:** Thank you. Mr. Berube?

**MEMBER BERUBE:** Yeah. My question is to the intervenor.

Thank you first of all for your presentation and for taking the time to put together the documentation that you have, it's useful.

One of the things I want to look at is one of your recommendations for the inclusion of indigenous knowledge with regard to monitoring plans going forward.

Could you briefly describe to me what you think would be adequate inclusion of indigenous knowledge in this regard?

**MS SINCLAIR:** Hi, my name is Reina Sinclair and I'm the Director for the Métis Nation of Saskatchewan for Environment and I would like to speak to not just the traditional knowledge, but I would like to start off with saying that the Métis Nation of Saskatchewan has been in the administration -- the new administration since 2017 and in that time we have not received one phone call, we haven't received any paperwork on this other than the contact with our regional director.

So, because of the capacity which I'm sure everybody is aware of with any indigenous nation, we feel that we need to be included from the beginning and that we needed time to prepare for today, so we have thank goodness

Dr. Barnes helping us out who is an environmental scientist and working alongside with our Minister Montgrand for the Métis Nation in La Loche area.

And so, what we want to do is continue ongoing monitoring, but we want that done in a partnership. We want that -- we understand that CNSC does their own monitoring, however, when you bring up traditional monitoring and traditional knowledge I don't see anywhere here and I haven't heard anywhere in the presentations today that any traditional knowledge was gathered through any of this time period from when they first started the mine to today.

So, where is the herbs, where is the shrubs, where is the knowledge that we even exist on that land? This is important to our nations. And so we want to move forward in a good way with Orano, with the government and we want to do that in such a way that traditional knowledge is captured, is respected and that we can do this together.

We're not here to speak of these, the decommissioning for Orano, we're not here to try to encourage anything to halt, we're asking that there be a partnership, that we be stakeholders in this and that we have a plan to do the monitoring and that we would like that respected, adhered to and that in a partnership we can



definitely move forward. Without a partnership you're leaving out years and years of traditional knowledge from our people that really needs to be respected. And that we want to work with Orano to get this done correctly so that we don't have to look back in 10 years from now or my grandchildren don't have to go back and clean up a mess.

Thanks.

**MEMBER BERUBE:** Orano, would you like to comment on that?

**MR. HUFFMAN:** Dale Huffman, for the record. Thank you for those comments.

I think we could demonstrate that we have a pretty good engagement history stemming back 40 years on the project and I will certainly say that along the way we have learned a lot over the years and improved.

At the time of the decommissioning environmental assessment back beginning in 1999 we cast a pretty wide net of engagement to try to get input at that very formative stage in the decommissioning and included our local stakeholders in the north. So, it was used to help formulate the plans for decommissioning.

And we continued on as decommissioning was carried out and we held workshops on site. We have been probably most connected to the environmental quality committee as our window into the Northern Communities and

we've used that relationship primarily for both getting feedback and disseminating information on the site. So, that's been our primary stakeholder group that we've been talking to, along with the identified communities in our public information program.

So, we put together a public information program for decommissioning. We update it periodically, we make sure that those communities that are nearby and have a stake in our land are included.

So, it's a brief history of how we've conducted ourselves. I appreciate that we're getting this feedback. I don't want people to feel that their thoughts haven't been included in the process. We've tried to do that along the way. If we can improve, I'll agree that there's always more to do.

**MEMBER BERUBE:** Thanks. And so, staff, you've stated basically that indigenous engagement has been sufficient on this project to date. Could you clarify exactly what you deem to be as sufficient?

**MS TADROS:** Haidy Tadros, for the record. So, I'll perhaps start off and ask our colleagues in the indigenous relations group who have been leading a lot of the work that we do across these communities.

We also have our staff at site who also get involved quite extensively who will take the

opportunity to provide some updates for them.

So, two things perhaps to bring to bear here based on the intervention. One was around traditional knowledge and the importance and the value that we as staff see in the traditional knowledge information that is brought forward and our commitment to continue working with the communities. Specifically to the engagement point, again, I'd ask our colleagues who have been leading these activities from the Indigenous relations group to provide some detail.

**MR. LEVINE:** Good afternoon. My name is Adam Levine, Team Lead for Indigenous Relations and Participant Funding for the CNSC.

So, throughout this licensing term and prior to that we've been observing Orano and AREVA as they were before on their engagement activities with local communities and stakeholders. And from our observations Orano has been very open and transparent and ready to respond to whenever questions come in about the site. I've been copied on many emails over the years regarding questions that have been raised by the Métis Nation of Saskatchewan around the performance of the site and the monitoring, et cetera, and from what I've observed and what we've seen as CNSC staff is that Orano is always doing their best to answer the questions meaningfully and look

for ways to improve as well.

And in general I think what we've seen is Orano's willingness to incorporate a lot of the feedback given, especially around indigenous knowledge as well, to make sure that their monitoring programs and what they're doing at the site including communications are appropriate for those who are most interested and have direct use for traditional purposes around the site. Because the key component here is to ensure that communities have the confidence that they can continue to conduct their traditional activities, as was stated, around the site during operations and now on the site now that we're in a post-decommissioning phase.

So, I think the key point is to ensure that the information is being given to communities who directly use that area, including Métis Nation Saskatchewan citizens, that they understand the monitoring, it's reflective of their values. So, we certainly encourage Orano and the local communities, including the Métis Nation of Saskatchewan, to work together to make sure that the monitoring is meaningful for them and feel confident in going back onto the land and continuing to do their traditional activities.

**THE PRESIDENT:** So, let me ask specifically. From what we've heard from the intervenors

is they've not been contacted since 2017 and they've made a specific recommendation that they be included in the monitoring.

So, I'll start with Orano and then maybe CNSC staff can also comment. How do we address those two specific areas?

**MR. HUFFMAN:** Dale Huffman with Orano. I am confused about the comment about not being contacted since 2017. We were just out in an engagement tour, we talked to a lot of folks and in the lead up to this hearing we met with the Métis Nation because we've tried to be very transparent in providing our documents. So, the technical information documents, for example, that were referenced, they're big technical documents. We make them available through our web page and what we want to do is encourage, if people are interested, both get those documents and contact us to help them understand their contents.

So, I believe we have been in contact. If we haven't been effective correctly with some of the members, then I understand that.

Regarding monitoring, at this point in Cluff Lake's life we are doing a campaign monitoring program. So, we go up once a year to collect the environmental samples that are needed to support the environmental monitoring. It amounts to a couple of week's

worth of work for about four people and they collect a variety of environmental parameters. We don't do that ourselves, we contract that out, it's a bid contract. Generally all the bids typically include indigenous people in the sampling. So, that's been our practice to date.

Going forward we are driving to put Cluff Lake into institutional control. So, right now we're discussing the next licence period and it's within our control to continue to contract that monitoring that way. Once it goes to institutional control it's really on the province. The province will look after the monitoring, maintenance and they'll decide who and how that gets done in the future.

**THE PRESIDENT:** Thank you.

Dr. Demeter?

**MEMBER DEMETER:** Thank you very much for the presentation.

I wanted to pick up on one of the intervenor's recommendations related to extreme weather events. And then I went back and looked, I didn't see a lot of reference to modeling for overland flooding, if this area becomes forested at some point in the future the impact of a forest fire, extreme wind events.

So, can you tell me right off if there's been any modeling dealing with post-decommissioning if this

structure is disturbed by an extreme weather event and how that affects the stability of the decommissioning?

**MS MARTENS:** Diane Martens, for the record. Yes, extreme weather both short-term events and climate change have been considered in the modeling. So, in particular, with the tailings and the waste rock the design for both of those engineered structures was to withstand an extreme event. So, a year's worth of precipitation, for example, that would be received within a day. So, there are stormwater management channels and systems to move -- shed that water off the structure without compromising its stability.

In terms of infiltration, we've also considered that, particularly on the waste rock pile. We've looked at two times our stabilized net percolation rate and constantly continue to meet surface water quality downstream. So, those are some examples.

A forest fire, for the vegetation, referencing back our presentation, that when the area has a lot of nutrients and seedbed and we expect that vegetation to re-establish itself and forest fires might happen on a frequency of about 40 years in the area. So, that's considered and that would be expected to occur.

**MEMBER DEMETER:** And for staff, do you feel that Orano's considered the scope of the plausible

extreme events?

**MS TADROS:** Haidy Tadros, for the record. So, yes, I'll ask our colleagues in the environmental risk assessment group to give you details on what we look at, but it is a requirement to always be looking forward in terms of modeling potential scenarios that can, in fact, affect the environment.

So, with that...

**MR. McALLISTER:** Thank you, Ms Tadros. Andrew McAllister, Director in the Environmental Risk Assessment Division.

So, yes. Ms Martens mentioned some of the features that were looked at and these were looked at in the comprehensive study around what they could do to design and plan the facility to deal with these extreme events moving forward. And the best practice of the day is to do so using planning, using sort of probable maximum precipitation, probable maximum flooding kind of events to help then drive your design and to deal with stormwater, to deal with erosion and aspects like that.

And the one thing that I would just add to complement Ms Martens' response was, you mentioned sort of the sensitivity analyses in those design features, but there's also -- we shouldn't lose sight of the fact that we're not -- there's not people walking away from the site,



it's going to, you know, remain under, should the licence be granted for a certain time period, with the CNSC, and then should it go into institutional control, there will be -- continue to have that sort of long-term environmental monitoring and the means in place to, should there need to be repairs to the system to deal with erosion or other aspects, those sort of provisions will be in place to ensure the long-term integrity of the features.

**THE PRESIDENT:** Any additional questions?  
Ms Penney?

**MEMBER PENNEY:** Orano, you said that the environmental quality committee is your vehicle for -- or your primary vehicle for getting or disseminating information about environmental protection or monitoring or whatever. I don't want to put words in your mouth.

But my question is for the Métis Nation of Saskatchewan, are you a member of the environmental quality committee which I understand is a multiparty oversight committee?

**MS SINCLAIR:** We're a rights holder, but not a member of the committee.

**MR. MONTGRAND:** Can I speak to that?

**MEMBER PENNEY:** Yeah.

**MR. MONTGRAND:** Most of the communities that are involved in the EQC committee are from northern

Saskatchewan, they are Métis settlements, although specifically they are not directly correlated with the Métis Nation of Saskatchewan. We have a Minister of Environment, Mervin Bouvier, who does not sit on the EQC committee, but the communities that are affected that do sit on the committee like La Loche is a Métis settlement, so there is representation there somewhat, albeit not what they want as a Métis Nation, but there is representation.

Thank you.

**MEMBER PENNEY:** My other question is for Orano. Over the course of the 40 years or so that you've been at the Cluff Lake site and probably in the context of the comprehensive study report pursuant to CEA, was there any Indigenous knowledge included in that assessment?

**MR. HUFFMAN:** Dale Huffman, for the record. Yes, there was. There was quite an extensive consultation or engagement program at the time of the comprehensive study report and we surveyed a collection of local stakeholders. I made a bit of a list in my earlier presentation, but we went out and contacted the communities. The EQC was newly formed at the time, we involved them, we involved Athabasca Chippewa and First Nation, First Nation communities in the vicinity and directly with people that we knew used the land and we surveyed and interviewed and collected and did workshops to

inform the decommissioning environmental assessment.

And then once the environmental assessment was approved, we got an approval that said that our objective was to make sure that the land was available for traditional uses and we had to figure out what that meant. And so, during the decommissioning process we held workshops on site with EQC, ACFN and local families that use the site and then did a tour of the site and held a workshop and talked about what the site would look like, or what the site should look like when we were done and what the land use would be, what the fishing habits might be.

And we also had a great advantage at Cluff Lake is throughout the time of the operations we had a traditional land user on the site, we had a family that hunted, trapped, fished, gathered there and we had a good relationship with them and they could inform our plans as well.

So, there's been quite a bit done on this topic to inform our decommissioning.

**THE PRESIDENT:** Thank you. I'll ask the Métis Nation of Saskatchewan if you've got any final comments or questions.

**MS SINCLAIR:** Reina Sinclair, Métis Nation. I just want to follow up on Orano's comments about the traditional knowledge.

So, in just listening now to what their description of traditional knowledge is and gathering that knowledge, it's not been done. And that's very important to our community. Like, I didn't hear any mention of walking the land as monitors to look for the herbs that we're speaking of, for example, rat root very important to Indigenous community and that has not even been mentioned through today or in any report.

So, if we're doing -- if we're talking about TK, then that's exactly why we propose today that we be involved in the monitoring, that we have a partnership to be involved in the monitoring and that it needs to be very -- it needs to be dealt with in an open way in that everybody has had their chance to deliberate, discuss and go over what's happened in the past. And we're still -- in 2019 we're still saying traditional knowledge has not taken place and a few families is not traditional knowledge. Elders and getting the Elders out there and speaking with the Elders and knowing what the knowledge is, like we have to give this -- we have to educate the people that come in to do the work.

So, you can have a community meeting and that's all it is is a community meeting. Unless you are meeting with our healers, our knowledge keepers and our community, we have that respect from other proponents, we

have those dealings from other proponents.

So, all we're asking here today is for that same respect. To have us involved in the monitoring is the best way to do that.

Thanks.

**MR. MONTGRAND:** Just to add on to -- I'm sorry, Leonard Montgrand. Just to add on to Reina's comments in regards to the Cluff Lake site, the biggest problem is the majority of people that live in the vicinity, in the area of the Cluff Lake site have a hard time believing what's truth and what's myth. And the reason why Reina says that they want to be part of the process is because we want to be able to tell our own people at the end of the day that the process is fair, has been just and they have to believe in someone and that someone is us as Métis people. We believe in ourselves.

So, just to let you know for the record. Thank you.

**THE PRESIDENT:** Thank you.

**MS HANSEN:** Also, Maureen Hansen. I was on the ride to the Cluff Lake mining site, I'm the President from Local 62 in Buffalo Narrows and Scott mentioned that maybe someone else would like to comment. Well, I did tour the site for the first time and, yes, I've never toured a site before so I wouldn't have any idea and

I didn't see any pictures how it looked prior to, but there was some concern definitely.

We were shown where they buried all the equipment and everything else, that there was -- the land was not, definitely not even and there was a quite fair sized pimple that was coming up, and that was a new term for me, so I was, you know, a little surprised and that has not been looked at.

Also we looked for the plant, like where's the trees that they planted and, you know, we were really on the lookout for that. We kept looking for it, we couldn't see it. The little creek right beside where they buried all the contamination is flowing right into the lake there, so yes, there is concern.

Once again, I'd like to go back and echo what Reina said about our traditional land. I'm a part of the communities, I was a part of the events, I did go out for supper, and there was times when we did ask questions to Orano where we were shutdown; we weren't able to ask the questions that we needed answers to. There was always never really a whole lot of people. A lot of the people come out for meals or for the prizes because...

There was a sidebar. We weren't able to educate our people. At one point in time we were, but when the questions were asked and getting difficult for Orano to

answer, now they become sidebar questions and sidebar education. How do we educate our people? How do we make aware and educate our youth to let them know this is happening in our backyards, and we need to be a part of these decisions?

I have a question for the environmental officer here, sitting here. He mentioned that they did leave stuff on site that was fenced in, and there was a sign there saying like that we couldn't go in, but the gate was wide open. He mentioned that the mines that are coming up are going to be using that. Do you have any of that in writing? Like, them requesting that they're going to be using that ore left on site?

**MR. MOULDING:** Tim Moulding, for the record. It's not ore left on site, it's drill core, and the drill core -- most is unmineralized and is left on site for the use of other exploration groups that want to -- that instead of drilling new holes they can observe the core that's been left at site and explore for the minerals that they would be looking for. That's what that core is left there for.

**MS HANSEN:** So it wasn't requested to be used then? Because I was under --

**MR. MOULDING:** No, it's used for future exploration projects or it's available for future

exploration projects to use. The idea behind that is to lessen the environmental impact of drilling new holes to gather additional core, so...

**THE PRESIDENT:** So, Mr. Moulding, you're saying that's standard practice in the mining industry?

**MR. MOULDING:** Yes. That's not just uranium mining, that's any of the hard rock mining that's done in Saskatchewan, yes.

**MS HANSEN:** So I guess that's where the communication gap is with the mining and the communities, because the community is under the impression that when we go it's going to be back to the same way it was left, and then there's all of this ore, or whatever it is, still left there and we go there not knowing and -- you know, I don't have that background, but just having it there and seeing it, it's like wow.

So that's why our people are questioning things. Because they're saying, yes, it's left, it's done. This information hasn't been passed onto our community. I'm the local President, nobody talked to me about any of that. So, yeah, I guess we have a lot of concern.

**THE PRESIDENT:** Okay, thank you. Thank you for your comments.

I'll ask Orano if they have any response to what we've just heard?



**MR. HUFFMAN:** Dale Huffman, for the record. I think maybe starting with the core storage. The core storage isn't part of the decommissioning effort of the Cluff Lake site. We store the core there, it's a convenient place to keep it on, our mineral claim. It is a requirement of our exploration permits to keep that core and keep it protected, it's a Crown asset. So it needs to be stacked in a certain way to make sure that the gamma radiation from the core itself is minimized.

We elect to put some of the core inside a fenced area. It's not a requirement of the provincial guidelines, it's something we did as another layer of protection. I understand it's really the only feature on the site that looks like human habitation or manmade; there's a fence, there's core, and so it's highly visible.

So, sorry, if there's the confusion about that in this discussion.

**THE PRESIDENT:** What about the comment about the pimple?

**MR. HUFFMAN:** Oh, the pimple. Dale Huffman, for the record. I didn't imagine I'd be saying pimple into the microphone at some point. But it's an artefact of the way that the decommissioning cover has been laid down. So we put material over the tailings and pushed it.

The tailings were soft at the time, so we needed -- began with working on frozen ground so that it had stability, we could get some material down to work on that. When you start pushing from all sides, and at the end you end up with a stack of material, and we've left that.

So you can see it in the video. I think the CNSC officer was walking towards it, it's a small mound of land. It's a good place to get a vantage point of the rest of the TMA. It's not of particular concern. It's a mound of dirt.

**THE PRESIDENT:** Okay, thank you. Thank you very much for your intervention.

We'll move to the next presentation then please.

The next presentation is by the Saskatchewan Environmental Society as outlined in CMD 19-H3.4. I understand that Ms Ann Coxworth will make this presentation by videoconference from Saskatoon.

Good afternoon, Ms Coxworth, the floor is yours.

**CMD 19-H3.4**

**Oral presentation by the  
Saskatchewan Environmental Society**

**MS. COXWORTH:** Good afternoon, my name is Ann Coxworth. Thank you for this opportunity to briefly summarize some of the concerns that the Saskatchewan Environmental Society has raised in its written submission.

We do recognize that Orano has done a great deal of thorough work in monitoring recent levels of contaminants in different parts of the site and they've put in place some remedial actions to reduce the risk of further spread of these contaminants, and they've modelled their expectations of future movement of contaminants. They regard the Cluff Lake site as decommissioned.

But while we applaud Orano's thoroughness SES claims that many features of the long-term future are too unpredictable to allow an assumption of the long-term safety of the site. In particular, we're not convinced by the assurance in Appendix A of Orano's submission that the province's Institutional Control Program will be carrying out monitoring and maintenance on this site for hundreds of years.

We believe it's unrealistic to put such faith in the permanence over hundreds of years of what is

already a seriously under-resourced regulatory tool.

Forecasting change in economic, political, climatic and societal systems may well be described as a fool's game. This I saw exemplified in the Nuclear Waste Management Organization Scenarios Project, in which I was part of the task group that was mandated to identify the factors that should be taken into account in planning for a high-level waste management system that needed to remain safe for 10,000 years.

Our group concluded that trying to describe and plan around possible scenarios for even 100 years in the future was so fraught with unknowns as to be virtually meaningless. Reliance on the permanent existence and effectiveness of present day social institutions to, in perpetuity, monitor and safeguard and to fix any problems as they develop is just not realistic.

So while we enthusiastically support the future monitoring and maintenance roles assigned to various regulators and the company, we can't put a lot of faith in these bodies still being around and able to act effectively hundreds of years into the future.

The conclusion to which this leads us is that before a site is regarded as decommissioned every effort must be made to make the future health of the site as independent as possible of the need for future human

intervention.

In our written submission we ask for further study of the benefits and costs of additional coverage of the Tailings Management Area in order to reduce the risk of ongoing contaminant leakage. We also suggest that contaminant accumulation in Island Lake and the Fen is significant enough that this area should remain in the licence and be subject to CNSC regulation.

We note that the level of uranium in Island Lake sediment is projected to rise to 10 times the natural level before stabilizing. We suggest that places where the lowest effect levels of several contaminants are being exceeded, as they are in the Fen, that these places should not be regarded as decommissioned. We point to the ongoing movement of contaminants from the Claude Waste Rock Pile and the Claude Pit and the lack of adequate data on the deep sediment in Claude Lake.

We suggest the need to take seriously the change in the acceptable water quality level of uranium and the fact that the decommissioning objectives established for this site far exceed the levels now considered acceptable.

We believe that the CNSC needs to review how it deals with evolving understanding of risk, as it considers outdated decommissioning objectives.

We are not convinced of the adequacy of the proposed new financial guarantee and we ask that it be reviewed in light of the unlikely possibility of financial collapse of Orano during the five-year licence period.

I hope you've had an opportunity to review our written submissions and, if you have questions arising from it, I'm happy to try to reply. Thank you.

**THE PRESIDENT:** Thank you very much. We'll open the floor for questions.

**MEMBER PENNEY:** Thank you. So my questions are going to be around the Island Lake, Fen and Island Lake. I'm referring to your submission, but also the EPR which is an appendix to CNSC Staff's submission.

Indeed on page 12 it's in the EPR, the Environmental Protection Report, which is the CNSC report, it talks about Island Lake and discharge into the Fen and then into the lake, and a fish kill due to low oxygen levels. As stated by the intervenor it talks a bit, I think in this section, but in previous section, about the concentrations of radium and I think selenium increasing over time to a maximum.

So what I want is Orano and CNSC to tell us about the Island Lake Fen and the Island Lake, the level of contamination, and why we should be comfortable exempting that from our regulatory activities?

**MS MARTENS:** Diane Martens, for the record. For Island Lake, one of the things that we remember is that the contaminants that have accumulated and the inventory that is there is the result of effluent that met high-quality standards. So there is an inventory, but it is certainly not as great as other areas on site where we have tailings or waste rock.

So when we look at that, the inventory is below a regulatory threshold of interest. The risk is well-understood, and Island Lake and Island Lake Fen continue towards recovery. So the greatest impacts for these areas are in the past.

**MEMBER PENNEY:** Can I stop you there? Just so that I understand what you're saying. When you talk about an inventory, you're talking about contaminants that have accumulated in bottom sediments, is that what you mean? Okay.

When you say that it's within -- there's no risk, what do you mean? That the water, when sampled, meets water quality guidelines, is that what you mean? I'm not putting words in your mouth, I'm just -- thanks.

**MS MARTENS:** Diane Martens, for the record. Thank you. Yes, the inventory is contaminants of concern, so mass from the operations that has accumulated in the sediments. When we talk about risk, it's a

wholesome view. So especially with respect to sediment, both at the time of the environmental assessment and current day there's some question as to how reliable sediment quality can be used in determining risk.

So the process is to look at it holistically: water quality, sediment quality, benthics, et cetera. So that's how we've assessed the risk.

**MEMBER PENNEY:** Have you done that? Have you looked at the triad: the benthos; the sediment; and, the water?

**MS MARTENS:** Diane Martens, for the record. We have looked at that triad and we have assessed the risk. We've also sampled fish from Island Lake. As I mentioned earlier, with the Human Health Risk Assessment, which is the most important for us obviously if people are going to be using the site is to ensure that both water and fish can be consumed from that lake, and also other wildlife that are consuming that can also be consumed by people safely.

**MEMBER PENNEY:** CNSC Staff?

**MS TADROS:** Haidy Tadros, for the record. I'd ask our colleagues in the Environmental Risk Assessment Group to provide the details for how they have assessed Orano's methodologies and rationale for the claims that they're making.



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

As indicated, you know, Island Lake was largely impacted due to the operations of the mine. What we're seeing is really a bit of that signature; you know, it was an impacted lake and it's sort of making its way from a recovery perspective looking sort of, for example, at the water quality, looking at the sediment quality, and then really taking that information and feeding it into the Environmental Risk Assessment both in the Ecological Risk Assessment as well as the Human Health Risk Assessment.

When we look at these we're very much interested in the predictions that have been made, and seeing if the monitoring information is in alignment with those predictions, is the updated models in alignment with those predictions? To date, they have all been in alignment, they're consistent with the decision taken on the comprehensive study report.

Again, I just want to emphasize that should this licence, as proposed, be granted, it's not like there will not be any further monitoring of these receiving water bodies such as Island Lake and others. That monitoring will continue to help them update the models, update the risk assessments moving forward.

**MEMBER PENNEY:** Thank you for that. So

the peak in uranium and selenium that's been predicted 100 years from now, is it going to be above today's water quality standards and/or will the fish that come out of the lake be contaminated?

**MS MARTENS:** Diane Martens, for the record. The uranium concentration for the next while will exceed today's standard for surface water quality, and it does meet our decommissioning objective.

So what we did is that we did a site-specific risk assessment. So similar to the conversations we've had earlier, if we pass a threshold where we know we're safe, then we have to look at it in detail. So that assessment has been done for that short-term or that near-term exceedance of the uranium, today's standard.

Sorry, your question was are the fish safe to eat?

**MEMBER PENNEY:** Yes.

**MS MARTENS:** The fish are safe to eat.

**MEMBER PENNEY:** Will they be in 100 years when the uranium and selenium concentrations peak?

**MS MARTENS:** The fish are safe to eat today, and they're going to likely improve or maintain their quality. The fish quality will not decrease in Island Lake.

**THE PRESIDENT:** Thank you. Dr. Demeter.

**MEMBER DEMETER:** So I just want to ask about a methodology the two standards that have been put forward with intervenor's submission. The one is the decommissioning surface water quality objectives, which they quote 190 to 1,194 micrograms per litre, and the Saskatchewan surface water quality objectives which is 15 micrograms per litre.

So that seems like a stark contrast. Is this an phenomena of evolving best practice and standards, that one was set before the other? How do we ensure that on a go-forward basis we have a plan that will keep up with evolving standards that generally reduce tolerance for previously-set limits?

So help me understand these two objectives and why we meet one, but not the other.

**MR. HUFFMAN:** Dale Huffman, for the record. When we began the decommissioning EA back in 1999 we adopted as objectives the surface water quality objectives of the day. For some elements, there were not any surface water quality objectives defined.

So we used the best science of the day to develop those objectives. Uranium is one; we developed a surface water or an objective that was based on water hardness. So the uranium concentration varies from lake to lake based on hardness. It does that for nickel too. It

is an established process.

The water quality objectives have since evolved. There is a new surface water quality objective for uranium. We've adopted that into our risk assessment. So it's a trigger for risk assessment. We know that if we are going to see water that's above that level, then we need to look at the risks more seriously, and we've done that in our Ecological and Human Health Risk Assessment.

Similarly, there are water quality objectives for other elements that have changed over time, and we've managed those in similar fashion.

So I think you should regard be it the DSW QO or the SSW QO as a value, although we know it's safe, but above which we need to do our homework in risk assessment to determine on a site-specific basis what the risks are.

**MEMBER DEMETER:** I suspect, as is evolving evidence, that the Saskatchewan Water Quality Objective of 15 micrograms per litre is based on best current evidence. So I guess the really blunt question is is this decommission going to be able to achieve that?

**MR. MOULDING:** Tim Moulding, for the record. As I guess as one of the fellows that helped develop the current Saskatchewan Water Quality Objective for uranium, I can kind of comment a little bit directly on

that. The surface quality object for the protection of fresh water aquatic life, and that's what that 15 micrograms is, is set to a level low enough as to be de facto protective for most -- pretty much 99 per cent of situations.

So the idea behind that number is, from a management perspective, if your water quality is below 15 micrographs per litre for uranium, you don't need to do any additional studies to determine if it's safe for uranium because that number is set low enough to be de facto protective.

If you have uranium concentrations above that de facto protective number, you have to do additional studies in order to determine whether or not whatever values that you're seeing in your situation are appropriate for that situation.

In reviewing the documentation that we've seen from Orano, we're in agreement that the decommissioning objectives that have been set for this site are appropriate for this site.

**MEMBER DEMETER:** So I really appreciate that context. That helps me understand the question. I'm good, thank you.

**THE PRESIDENT:** Thank you.

Dr. Lacroix...?

**MEMBER LACROIX:** A quick question for Orano. Will the concentration of selenium in fish flesh increase in the next decades?

**MS MARTENS:** Diane Martens, for the record.

Selenium in fish tissue was a specific research item as part of the follow-up program and so there were fish studies done I believe in the years 2002, 2004 and 2014, and what those studies showed is that due to that effluent release there was a measurable effect in white sucker due to selenium related to fish reproduction. It was measurable but small early in the years and it has since disappeared. So there is no longer risk to fish due to selenium in Island Lake, which is evidence of its recovery. And like I mentioned earlier, the impacts to Island Lake are greatest in the past, so we expect continued recovery.

**MEMBER LACROIX:** Thank you.

Could I ask a question to SES?

I do have a question for Saskatchewan Environmental Society concerning your report, 19-H3.4. I have noticed on page 5, and I quote you:

"Greater increases in [evapo-transpiration] and [net percolation] are projected toward the end of the

twenty-first century."

And this conclusion was reached in a study carried out at the University of Saskatchewan and it was published in 2018 in the *Journal of Hydrometeorology*. This study was conducted using both historical climate data and future climate projections.

Now, if I go up on page 4 of the same document, you say, and I quote you again:

"...the validity of historic data and our ability [I presume human ability] to predict future precipitation patterns are in question."

And as a result:

"...SNC's [SNC-Lavalin] conclusions about future maximum precipitation are not reliable..."

So I am a little bit confused here. In one instance the climate data or the precipitation data seems to be reliable to make predictions and in the other case they seem to be unreliable. So you must have very good scientific and technical reasons to reach this conclusion and I would like to hear it from you.

**MS COXWORTH:** Okay. I think -- Ann Coxworth. I think what this points to is that there are a lot of unknowns in the system still. On the one hand some

of the reporting is indicating that we can't put a lot of faith in the historical precipitation data and on the other hand another group is suggesting that the net percolation rate is liable to increase as expected climate change takes place. There are a lot of unknowns in this system, so I think to be able to rely safely on either the historical data or on the expectations of what the impact of climate change on net percolation through the waste rock pile for example is very difficult and I think that is an example of one of the uncertainties that raise concerns for us, that we cannot necessarily assume that present trends are going to continue indefinitely.

**MEMBER LACROIX:** Staff, would you care to comment, please?

**MS TADROS:** Haidy Tadros, for the record. Again, I will ask our colleagues in the Environmental Risk Assessment who have had ample expertise to look at these studies and the predictions and the conclusions being made.

I think one thing I would like to ensure we share is regardless of the uncertainties, there is regulatory oversight, there is continuous monitoring, there is continuous enforcement and compliance activities that go on currently for the licence term and will continue in the next licence term regardless of where these sites will be



found. And even under the Institutional Control Program it is up to the Commission to decide once that decision comes forward to you if these sites are deemed suitable for that program and there will remain to be oversight from the provincial side.

So with that, perhaps Andrew McAllister, our colleague in the Environmental Risk Assessment Group, can help bring all of this together from a science-based perspective.

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

And yes, as the various speakers have said, we have to acknowledge that there is uncertainty in the modelling that is happening, especially as we go into the long term.

If we look at the two reference parts, Dr. Lacroix, that you made mention, is climate change science there is a lot of inherent uncertainty like that and we acknowledge there is uncertainty in the probable maximum precipitation, probable maximum flooding. The fact, though, is that the PMP or PMF, if I can use the acronyms, are conservative in nature and so we feel that with that conservatism there is sort of bounding that uncertainty that we are currently aware of.

With respect to the percolation and the

water balance, those aspects are very much site-specific and the study in question that the intervenor referred to, you know, was looking at a very different type of cover than what Cluff Lake has. It was a peat/clay mix cover and the cover in question at Cluff Lake is much more tighter, less sort of interstitial space, and with that, as an example of how things could be site-specific, there is sort of the impact of large rain or climate change would be less so in that sort of tighter kind of cover as things reach -- are quicker to reach an equilibrium in that sort of case.

But the best way or the sort of best practice to deal with uncertainty, and it is something that Orano has done on their own and at our request from time to time, is to then do these sensitivity analyses around the models to see, just to change some of these parameters to see what impact that may have. And they have done so for example using percolation as an example, using sort of a baseline scenario and an upper bound scenario. So those analyses have been done and they will continue to do so into the future.

So we have made -- Mr. Huffman has made reference to the technical information documents. The last time we saw them and subsequently in reviewing some of their analyses we have said, okay, you know, here are a couple of areas of uncertainty, we are looking for you to

reduce those uncertainties. And so our expectation is, at some of them around for example the percolation rates, we will look to see how those get addressed in the next revision of the technical information doc forthcoming later this year.

**MEMBER LACROIX:** Orano, would you like to intervene?

**MR. HUFFMAN:** Yes, thank you. Dale Huffman, for the record.

The PMP, probable maximum precipitation, events are sometimes hard to understand. There are a couple of different ways to calculate them.

So there is one that relies on your historical record. You look at the historical record, you make a distribution of that, you pick a top end of the distribution and do some math and come up with what the PMP value is. And that one is sensitive to climate change. So if there is climate change, generally for us in Northern Saskatchewan that will mean it gets wetter and the record will change and so would the PMP calculated value.

So we don't do it that way. We use a different methodology for calculating PMP and it is really a calculation of the theoretical maximum amount of water that the sky can hold and drop on the site in a 24-hour period, and this one isn't sensitive to change in climate.

So it also means that we end up designing features for what amounts to six times a one-in-500-year rain event, six times that value. So it is a very conservative value when we are talking about PMP and water conveyances and the design of the TMA and the Claude waste rock pile. So I just wanted to provide that assurance.

And like Mr. McAllister said, the other way we deal with this is through sensitivity cases. So we look at how sensitive we are to doubling the net percolation and present that information.

Thank you.

**MEMBER PENNEY:** With respect to the submission, it's on page 7, "Mine Opening Covers", so the intervenor is looking for an explanation of why Orano is using concrete and not structural steel.

Orano...?

**MR. HUFFMAN:** Dale Huffman, for the record.

When we were decommissioning the site we had concrete available at the site. We had a concrete plant, we made concrete onsite, it was the -- and it's reinforced concrete, it was the thing to use. Both can be used very well in decommissioning applications. If you are looking at transporting stuff a long distance to a northern site, you probably want to transport steel. If you have

the facility to make concrete onsite, you use concrete. I think both are very, very reliable, but that was part of the reason that we chose concrete.

**MEMBER PENNEY:** They are saying it only has -- it has a shorter life, 50 years or something.

**MR. HUFFMAN:** Dale Huffman, for the record.

I think, again, you have to look at the specific scenario. We haven't used concrete caps to cover open holes, we use concrete caps to cover closed holes. So we backfilled the raises from top to bottom. We have long lengths of the declines that were backfilled and we are capping that with concrete. So again, it goes to the scenario.

**THE PRESIDENT:** Okay. Thank you, Ms Coxworth, for your intervention.

We will move to our next submission, which is an oral presentation by Mr. Rodney Gardiner, as outlined in CMD 19-H3.6.

I will turn the floor to Mr. Gardiner who is presenting by teleconference.

Mr. Gardiner, the floor is yours.

**CMD 19-H3.6**

**Oral presentation by Rodney Gardiner**

**MR. GARDINER:** Good afternoon, ladies and gentlemen. You can hear me?

**THE PRESIDENT:** Yes, we can.

**MR. GARDINER:** Okay.

My name is Rod Gardiner. I worked for Orano for 33 years and the name "Orano" when they started was "Muktuk" (ph) and then "Amok" (ph) and then "Cluff Mining". We changed the name many times.

And I just want to say thank you to Orano for giving me the employment and having a good life. You know, I raised three good kids, they are all educated. And, you know, it helped with the mining in the North.

So I enjoyed working for 33 years. I was one of the last ones out of Cluff. I went through the whole phase, you know, when they started milling, started hauling ore and the decommissioning part.

Now, the decommissioning part I have complaints about. I feel we did shortcuts. We tried to save money and I don't feel right because we did a poor job on decommissioning.

For instance, I will start off with tailings. Tailings was so soft when we started, we

couldn't do anything there until -- we had to wait until January or February for it to freeze so we could get equipment on there. And that nipple they are talking about, it's a wave, you know, it broke up and the waves pushed up and they had no place to put -- we had no place to put that tailings. So what we did was we just piled up dirt over top, three metres over top of it and that's the way it sits today. Three metres -- or a metre. I'm sorry, a metre, three feet of dirt.

So everywhere that we had the tailings there's only three feet of dirt and it was put on frozen tailings and not packed. My friend Dale says it's packed. No. The only packing we did was when we hauled the material with the CAT and the haul trucks and it's not packed. So it was like putting dirt and rocks in the muskeg. We have lots of roads in the North through muskegs. You have to keep adding dirt because you lose -- when you put three feet, you lose two feet. That's why I say some places in tailings there isn't three feet of dirt.

And nobody has ever taken a shovel down there to dig. There are still swamps, swamps or bulrushes and there is water in there. You can't tell me that water is surface water. That is what Orano is trying to tell me. It's not surface water. I see moose tracks there. I've sent pictures to CNSC, to Orano, and one of the pictures

has Dale's picture on there. And I took a bar, a steel bar and I pushed it in by hand three feet and, like I say, there is only three feet of dirt mixed with rocks. That can't be right, you know.

And the moose just love those swamps. There's nice good green seed there and they -- a moose is 1000 pounds, so they sink in. And the surface -- the salt that we used in the mill, salt, lots of salt and they surface that and then they lick it. moose love salt. That is why they are always on the road looking for salt, you know, on highways that spread the salt so nobody slips.

So until we cover that, we are going to have contaminated moose. I refuse to hunt in that area. I hunted there since 1980 and I shot -- together with late Lloyd Daniel, we went through 33 moose and the last one I tested -- the first thing native people eat is the insides. I like the kidney and the liver and the heart. I cooked -- I fried up the liver and it tasted like battery acid. You know, I couldn't even eat it. So I refuse to eat meat from Cluff and I refuse to eat that moose that I killed.

Now, Orano told me the results are good, they mixed numbers up. I don't understand. I can't get anybody in the North here to understand those numbers. And they say it's safe. I got all kinds of calls, you know, trying to convince me to eat that moose. Yes, he did that



too. So that tailings needs fixing, because even the water table, you know, you could probably dig a foot and you will hit that water table.

And, you know, another concern I have is trees are growing there. Jack Pine roots, you know, Birch, the roots are going into the tailings where I say we put three feet. With all the sinking maybe there is a foot there and, you know, the roots, just imagine, 30 years from now those trees are going to be big and if you look on the side of the road you see these trees toppled over, they pull over a whole bunch of dirt, you know.

And animals love going under those trees and digging in. Now, where -- I can't see where these bears -- these bears, you know, they are going to have their little ones, they are going to dig there. Even that little nipple we talk about, they are going to dig there and have their little babies. So the babies are going to be born in radioactive material, you know, and that is not good. You know, all kinds of animals, like wolves, they dig, and foxes already were living there, you know. And the smaller animals, a groundhog digs, you know. If you look it up on the computer, it digs four feet and goes to all kinds of trenches. So they would be living in tailings, you know. And then that's not great. That's not great.

And when we put that dirt in frozen tailings, that mixed up with rocks. Now, any farmer in Saskatchewan will tell you frost goes down to eight feet, frost will push up rocks, and that's what's happening now. You will see little lumps all over the tailings and the moose will be licking those salty rocks, you know, because most look for rocks. And that's why moose love that area.

And talking about -- I'm going to move to Island Lake now. I remember --

**MS MCGEE:** Mr. Gardiner, I apologize. This is Kelly McGee, Assistant Commission Secretary. Just to let you know you have two minutes left for your presentation.

**MR. GARDINER:** Okay.

Real quick, Island Lake. They should fence that Island Lake. It's a dead lake. You paddle on it, you know, you just take -- you must be paddlers -- you take a canoe and you paddle and, you know, it's just foam or real fine sand and it smells like -- again, it reminds me going into leaching in the mill. That's how it smells. You can go there with me today. I have asked Orano, I have asked CNSC to take me and I will show them these spots and they refused to.

If you see, I was not invited -- I had asked Orano to take me. No, they wouldn't take me. They

told EQC members that "We can do the tour, we don't need Rod." Because EQC members asked about me, but they wouldn't take me.

And also this tailings is not lined, you know, it is built on muskeg. And that core you talk about, that core is radioactive core that came out of Shade(ph) Creek, high-grade ore. You can ask Orano that and that's why they put signs on it. And then kids were playing on top there and the plywood was removed, people stealing it. That's where you see the gate open. They were stealing it to build cabins and this is radioactive plywood. And when it rains, the water runs down, it's a stone's throw away to the lake.

And I had much more to say but I think my time is running out.

**THE PRESIDENT:** Okay. Thank you,  
Mr. Gardiner.

**MR. GARDINER:** Thank you, everyone.

**THE PRESIDENT:** Let's start with  
Mr. Berube.

**MEMBER BERUBE:** Well, thank you very much for your presentation and very, very interesting look at it from a different perspective. So I am going to ask part of the CNSC here, basically what are the reasons why actually the tailings area is unlined? What makes that okay?

**MS TADROS:** Haidy Tadros, for the record.

Our colleagues in the Environmental Risk Group can potentially take that question from a science perspective.

**MR. RINKER:** Mike Rinker, for the record, Director General from Environment and Radiation Protection and Assessment.

So I wouldn't necessarily say any particular design is considered okay. There has been a long evolution of different management practices, particularly in Saskatchewan. You can see some of the more modern mines use in-pit tailings disposal and that is considered best practice around the world.

But Cluff Lake is sort of one of the first mines that were mined in Saskatchewan. The tailings facility certainly is capped, but it is not developed in the same way that other mines were, it is older. What is important though is its performance and is it performing in a way that is protective of the environment to the best way practicable.

So there was an environmental assessment that was conducted about 15-20 years ago. It was -- the tailings management option with it being covered was considered. There was options analysis about what could be done with the tailings and in the end the Minister of

Environment made an EA decision and the CNSC did licence the design as it is.

**MR. GARDINER:** Tex -- Tex -- what's his name?

**THE PRESIDENT:** Mr. Berube...?

**MEMBER BERUBE:** Yes. Going into this a little bit more, I'm just wondering -- I just lost my train of thought, sorry. I will just...

**THE PRESIDENT:** Okay.

Dr. Demeter...?

**MEMBER DEMETER:** To maybe help me better understand potential risk, can you give me just a description of what is in the tailings? Is this just rock that didn't get into the refined product? Is this something else? I'm just trying to get a sense of what the hazard is based on the composition of the tailings. Maybe Orano can help me understand what this pile of rocks is.

**MR. HUFFMAN:** Dale Huffman, for the record.

So when you are mining uranium ore, where you feed the mill with a run of mill ore that might be at 1 percent, say, which means that 99 percent of that rock that you are putting into the mill is a waste product. So most of the material that arrives as tailings is the ground rock material that doesn't have uranium in it, that is not

uranium.

In addition to that, to the tailings go all the waste chemicals that were used in the process. So typically in a mill there will be tailings preparation or the tailings neutralization process to make sure that the materials that are sent out to tails are well managed, that they are going to be neutral and immobile. So over the course of the mine life it is these materials that comprise the tailings.

So the tailings are typically a very fine ground material, because we grind the ore to extract the most uranium out of it. So it is a very fine material and it is deposited as a slurry in spigots -- from spigots. We had a good figure of the tailings management area in operation. It actually showed there are divider dikes within the tailings area so that materials can decant from one area to another so that at the end there is just a liquid from the tailings to treat and we had a water treatment plant at the end of that, at the end of that process.

**MEMBER DEMETER:** So are the tailings themselves soluble or insoluble?

**MR. HUFFMAN:** The tailings materials are largely insoluble. So after we have put the -- we characterize the tailings as they are placed, but at the

time of decommissioning, after we put the tailings cover over the tailings material, we perforated the tailings with wells to both sample the tailings, to characterize the tailings, but more importantly to sample -- characterize the pour water. The pour water, that's the soluble portion, that is the portion that you are concerned about, that is the portion that is going to be in contact with the groundwater and can migrate in the environment. So we do that to characterize that source.

**MEMBER DEMETER:** Okay. Thank you.

**THE PRESIDENT:** Dr. Lacroix...?

**MEMBER LACROIX:** So from what I understand, the major concern with tailings is the chemical impact on the environment as opposed to the radiological impact; correct?

**MR. HUFFMAN:** Dale Huffman, for the record.

Yes. It's the chemical impacts that are most impactful. It is the migrating chemicals from the sources that are of primary concern.

**MEMBER LACROIX:** And in order to reduce this chemical contamination of the environment, you cover the tailings with a cap. How do you decide the thickness of this cap?

**MR. HUFFMAN:** Dale Huffman, for the

record.

First, I don't think you should regard the cover on the tailings as a cap. So the tailings are placed and they consolidate and they are relatively impermeable themselves. So water doesn't move through the tailings very well. It has a low hydraulic conductivity, so water is not migrating there. We put the cover on the tailings really to protect the surface of the tailings, to set up a medium for vegetation growth, to protect from animal intrusion and to provide a shield for radiation. So that is the primary purpose of the cover.

And when we take a look at the cover there is a trade-off to be made. There is a trade-off for -- to protect animal intrusion, radiation shielding, these sorts of things, you want to maximize the thickness of the cover, but to reduce the infiltration, the net percolation or the atmospheric water as it comes down as rain, to limit the flow of that, which drives contaminant transport, you want the thinnest cover. Because the cover, the thicker the cover, the more water it is going to hold, and the thicker the cover, the less water is available to the atmosphere for evapo-transpiration. So there is a trade-off to be made in determining the cover thickness.

There was a lot of discussion on this at the time of decommissioning and we ended up with a cover



minimum thickness of one metre. That seemed to be the best to limit root penetration into the tailings, it seemed to be going to achieve a suitable cover to limit net percolation and provide radiation shielding. So that is how that evolved.

**THE PRESIDENT:** So, Mr. Huffman, the intervenor in his submission quotes an email from you that says:

"Animals are unlikely to burrow into radioactive material at Cluff Lake site because the water table has now penetrated over 60 percent of the tailings management area."

Is that accurate?

**MR. HUFFMAN:** Dale Huffman, for the record.

It isn't a direct quote, it is a paraphrase of a letter that I sent to Mr. Gardiner, so I think it reflects his understanding of what I said and we were having a discussion about burrowing animals. So, first of all, I don't think you should think that the groundwater has only penetrated a portion of the tailings. Groundwater and surface water penetrate all of the tailings. So, like I said, the tailings cover isn't a cap. The discussion was around burrowing animals and there are a

lot of reasons burrowing animals would be discouraged from burrowing into the tailings cover. One of it is the cover in the tailings is wet a good portion of the time, so that limits the activity of burrowing animals.

**THE PRESIDENT:** Thank you.

Ms Penney...?

**MEMBER PENNEY:** One last tailings question.

Mr. Gardiner implies that the till should have been packed. The question to you is should the till have been packed?

**MR. HUFFMAN:** Dale Huffman, for the record.

No, the till shouldn't have been packed. Like I say, we weren't trying to cap the tailings.

Where we did pack materials we packed the waste rock pile. We packed the waste rock pile and then covered it with a layer of till, so trying to make the waste rock pile less permeable and allow -- and put a store and release cover on the waste rock pile. So that is where packing was used. It wasn't the intention ever to pack the material on the TMA.

**MEMBER PENNEY:** So you actually packed the waste rock pile, not the cover on the waste rock pile? Okay.

**MR. HUFFMAN:** Dale Huffman. Correct.

**THE PRESIDENT:** Mr. Berube...?

**MEMBER BERUBE:** So I mean the chief complaint here with the intervenor is pretty clear, he is worried about animal welfare and well-being on the site. Would you please explain how you assess that post-decommissioning, at this point?

**MR. HUFFMAN:** Dale Huffman, for the record.

Yes, I appreciate that Mr. Gardiner is very concerned about this. We are, too. I wanted to point out that we included as an appendix in our CMD a pretty thorough discussion of the TMA. We have heard a lot of feedback from intervenors that this was important and we wanted to give the best sort of overview. I will apologize, that did add to everybody's reading list, but it is an important consideration for what we are discussing today.

I am going to pass it to Diane Martens to discuss the use by animals.

**MS MARTENS:** Diane Martens, for the record.

So we did complete that ecological and human health risk assessment, but one of the things that is important is how people understand that. So actually Mr.

Gardiner in 2016, in part of the Participant Funding Program, harvested a moose at Cluff Lake. The intention was to provide some comfort, some monitoring that was done independently, and unfortunately the results of that moose, although the same results were provided to all parties, are interpreted quite differently. And so the moose has been the subject of conversations here at the Commission meeting and also in joint conference calls with staff from the CNSC and the province.

We believe the moose to be very healthy. Compared to moose harvested across Saskatchewan in non-mining areas, it is indistinguishable. So we think that that bolsters our confidence in the decommissioning of the site and the safety of country food.

**THE PRESIDENT:** Maybe we can ask Dr. Irvine or Dr. Sampson to comment on that.

**DR. IRVINE:** Okay. This is James Irvine.

So we have done a variety of moose studies over the years, including moose from Cluff Lake, and the results of that was back in 2004. So we have been able to compare the moose that Mr. Gardiner was able to procure during his intervening in 2016 and compare it with other types of moose in the area, but also with other types of meat.

So if we look at something like moose

kidney or kidney from moose or cattle, if someone ate the Cluff Lake moose, it would have been very similar to the type -- or the moose levels from the same area in 2004, except that there is a little bit less Lead-210 in the more recent moose, but it would be quite a bit lower amounts of Polonium-210 in something like a cow. So cow meat would actually have higher levels of Polonium-210 than the moose if both were collected in 2014 as well as 2016.

Also, if you look at the muscle of the moose that Rodney was able to procure, if someone ate beef rather than that moose, their levels of arsenic would be a little bit higher, molybdenum, nickel, selenium. So the levels of radio -- whether they are radionuclides or various metals in the moose from Cluff Lake collected in 2016 is very similar to moose in other parts of the province. In fact, for some types of radiological features the dose would be less consuming meat in the Cluff Lake area than you would in some areas south of the northern administrative district.

So if we compare the chemicals between various types of meat, as well as the radiological chemicals, yes, the moose was healthy from the idea of chemical contamination. I have encouraged Rodney that if there are other times in which he has a moose that the liver is looking off colour or has a foul smell or a foul

taste that there may be other types of tests that we would like to have done through Prairie Diagnostics, sort of a veterinary college lab, that would help in terms of any other features of the moose that were of concern. But from a chemical and a radiological perspective, that moose is certainly healthy to eat with those types of chemicals in it, in fact, even more healthy than other types of meat that you would buy in a grocery store.

**THE PRESIDENT:** Okay. Thank you very much for that, Dr. Irvine.

Mr. Berube, did you have anything else?  
No?

Dr. Demeter...? No?

Anyone with any questions?

Okay. Mr. Gardiner, thank you very much for your intervention.

We will now take a 15-minute or so break and be back at 2:45 p.m.

Thank you.

--- Upon recessing at 2:28 p.m. /

Suspension à 14 h 28

--- Upon resuming at 2:44 p.m. /

Reprise à 14 h 44

**THE PRESIDENT:** Okay we'll resume. We'll move to the next submission, which is an oral presentation from Ms Val Drummond as outlined in CMD 19-H3.7.

I'll turn the floor to Ms Drummond, who's joining us via video conference.

Ms Drummond, the floor is yours.

**CMD 19-H3.7**

**Oral presentation by Val Drummond**

**MS DRUMMOND:** Thank you.

Good afternoon. Val Drummond, for the record.

I want to talk to you today about the big picture context that has informed my written submission to the Commission.

As I see it, two stories are being told about the Cluff Lake site. Both stories claim to describe the Cluff Lake mine site as it now stands. In the first story, the decommissioned Cluff Lake mine site is portrayed as such a success story that people can return to the site, carry on traditional activities, swim, fish, hunt, drink

the water (boiled), pick berries, camp. This is only 17 years after 22 continuous years of mining and milling high-grade uranium ore on that same land.

In this story, the Cluff Lake mine site, which created 2.6 million cubic metres of radioactive and toxic tailings, which are now spread over an area of almost, well, going on a full square kilometre, as well as producing huge hills of waste rock, that site is now considered rehabilitated and safe. The entire area is wide open to the public.

We're told that radioactive hazards have been removed. Removed. Gone are the signs that used to warn people not to swim or fish in certain waters. And I've heard Alex Flett actually raise that and say, Why are the signs gone? Why are the signs gone? Those used to warn people. Alex Flett, who's been mentioned earlier. So nowhere on the site today are people given any indication of the radioactive industrial history of that site.

We know that 85 per cent of the radioactivity is left behind at the mine site when uranium is mined and processed. So why is no one talking about the decay products of uranium, the radium being -- radium is really one of the major ones. We aren't hearing much about that.

I remember an AREVA CEO back in the day --



must've been after 2013 or so -- and he bragged to the PA Chamber of Commerce that the site at Cluff Lake has been "returned." "We have returned the site to its natural state." Long before Orano, this was the story that was being sold to people in Saskatchewan.

And if you think about it, really, it wouldn't be so difficult to give the impression that all is well at Cluff Lake. You bury everything, plant trees and grass. The contaminants of concern cannot be seen, smelled, tasted, or felt in any way.

But in my opinion, despite the pretty pictures of this site, this story of what I call a miraculous recovery is too good to be true. For Orano and Orano alone, this is a story with a happy ending. Very soon they will pass this site over to the Province along with what I predict will be probably very few dollars because, hey, how much do you need to take care of a passive site?

So that's story number one, in my opinion. I call it the Miracle at Cluff Lake.

But those of us who have followed the activities at this mine, written articles, raised concerns with the CNSC, and read the documents, we know another story.

Back in February 2017, Rodney Gardiner and

I raised five specific questions about Cluff Lake decommissioning in a letter to the CNSC. We took concerns raised by people on the ground around Cluff Lake, and then we backed them up with data from AREVA's 2015 environmental performance technical information document, showing how there were legitimate reasons for concern about this decommissioning of Cluff Lake.

But for every one of the questions we sent in, we didn't really get an answer that addressed the question. What we got in return was a statement. And the statement said, This meets our conditions for decommissioning. Whatever it was. Question 2: This situation meets our conditions for decommissioning. Question 3: This situation meets our conditions for decommissioning.

What we learned is that the conditions for decommissioning were allowing for the release of large amounts of radioactive contaminants into the environment.

For example, let's look at the tailings management area decommissioning. Quite honestly, AREVA chose one of the cheapest possible decommissioning methods, and economics was part of that decision, no doubt. Remember those 2.6 million cubic metres of radioactive tailings? They were pumped, I guess if it's slurry and, yeah, anyway, let's say pumped onto the bare ground -- bare

ground -- in a low area bounded by three hills with absolutely no preparation of the ground to receive those tailings. There is no physical barrier, none, between those tailings and the environment beneath them, although there is a dam to keep the tailings from dropping into the lake on the fourth side.

We know that groundwater has penetrated a good portion of this waste now, and that there are water-soluble contaminants in that waste, radium, of course, being an important one of those. There's a lot of radium in the tailings because of the grade of the ore that was processed. Where it will end up as it flows away, we don't know.

As I suggested in my written submission, this situation actually breaks one of the site-specific objectives for successful decommissioning. There must be "reduction of net percolation rates around the tailings management area to levels that adequately restrict contaminant movement to groundwater."

Yet we have a large area of the tailings penetrated by the water table. We have groundwater flow there under subartesian and artesian pressure. We have a sandstone unit meant to provide "low permeability to groundwater flow," but it only underlies two-thirds of the tailings management area. And this we are to believe

constitutes adequate restriction of the movement of those contaminants.

Okay. Let's leave that for a moment. We'll go back to the history of the decommissioning at the TMA.

When there were no more tailings to deposit in that low area that I described earlier, AREVA decided on a decommissioning approach that left all of those tailings right where they dumped them, exactly right there. Then they asked one of their workers, Rodney Gardiner, who you heard from earlier, to drop a metre of glacial till on top of the tailings area. Remember? Nearly a square kilometre. And he did that during the winter when the tailings were frozen.

Think of it. For a good portion of that huge tailings management area, we are basically only one metre of glacial till away from having a site where tailings have simply been abandoned on the surface. We are one metre. And Rodney says that has probably gone down to maybe a foot at this point with all of the sinking into the soft tailings.

So. That's like the old days. That's like the old days, really. In the case of Gunnar, where taxpayers have had to spent over a \$100 million already on that cleanup with a total cost estimated at 268 million, I

am quite honestly astonished that the Saskatchewan government, after footing the bill for 100 million at Gunnar, has accepted 3.5 million guarantee, even for the next five years.

This site, the Cluff Lake site processed much higher grade ore, more ore, more, much more of it. When we didn't know better, people in the '60s thought they just leave tailings where they were and the environment would just take care of it all. They were dealing in those days with much, much lower grade ore than what -- and of course they were wrong.

But except for that metre of till, or foot of till according to Rodney, over a large part of that area, we are essentially doing the same thing again when you're decommissioning Cluff Lake. This is all to do with the tailings management area.

There is at Cluff Lake absolutely no actual containment. There's no containment of radioactive what they call contaminants of concern. Right? There's none.

So the environment, once again, is expected to cope with all of that. And a good example is the Fen that is fed by Island Lake. And in that Fen are concentrated a whole lot of contaminants. And we're supposed to believe that never in all the future years is

that fen going to dry up and release its contaminants into Douglas River.

So Island Lake and Cluff Lake, Orano proposes to take them out of the licence? What do we see in them when we look at the technical documents? Island Lake, radium-226 activities are increasing. An increasing trend. Radium-226 activity levels in northern pike, white suckers --

**MS MCGEE:** Pardon me, Ms Drummond. I apologize for interrupting. The 10 minutes has expired. So with all due respect, if you could wrap up your oral presentation and we'll move to questions.

**MS DRUMMOND:** All right, all right.

So what we have in those lakes is increasing trends of a very serious radioactive contaminant.

The Beta inquiry promised that after mining was completed people would be able to use their traditional lands with no harm -- with no harm. What happened to that promise?

This second story I told of a uranium corporation meeting very forgiving decommissioning objectives and leaving Cluff Lake in a condition that is far from natural, this is the true story of the decommissioning of Cluff Lake.

CNSC decommissioning guidelines have allowed Orano to leave behind the levels of contamination we see in the technical documents. But Orano needs the miracle story to justify leaving Cluff Lake.

So I see two stories. One reality.

Thank you.

**THE PRESIDENT:** Thank you Ms Drummond.

Dr. Demeter, we'll start with you, please.

**MEMBER DEMETER:** So one of the themes I hear is sort of the long-term perspective of this site, and how certain licence applicants may come and go and that the government -- that Saskatchewan may take over.

Can CNSC tell me what the sort of -- at the end of the day, in the next 20 to 100 years kind of thing, what is the sort of strategic -- what is the strategy for monitoring long-term environmental impacts of the various components of this decommissioned site? And who will be responsible for that monitoring?

**MS TADROS:** Haidy Tadros, for the record.

I'd ask our colleagues in the Saskatoon office who have done extensive work on the institutional control programs and CNSC's monitoring program to answer that question.

**MR. SNIDER:** Richard Snider, project officer with the Canadian Nuclear Safety Commission based

in Saskatoon.

So what we're looking at today, though, is not a submission for institutional control. That application will be reviewed on its own merits when that is received.

There is costs, however, estimated by Orano in their detailed post-decommissioning plan for monitoring and maintenance. So institutional control costs are envisioned on a regular cycle. I believe it was a three-year monitoring cycle to begin with for reviewing the site.

But as I said earlier, we have not received an application yet for that transfer to institutional control and to look at those details.

**MEMBER DEMETER:** I understand that, and I know that that's out of scope, the -- that licence for it. I just wanted some sense that there is a strategic direction or leadership, that irrespective of who owns or who is responsible for this site, that there's going to be long-term monitoring, and what's CNSC's role in ensuring that?

**MS TADROS:** So Haidy Tadros, for the record.

The answer you're seeking is that as long as there is a licensee, as long as there is radioactive



contamination that does not meet our conditions for clearing the land, there will be a licence. With a licence, there is a licensee, and the licensee is required for monitoring. And the CNSC will be required to ensure regulatory oversight of that licensee and of that monitoring activity.

Based on the current licence term, if the Commission proceeds with the recommendation put forward by staff, that is exactly the scenario we will be in. Orano will remain to be the licensee. They have monitoring programs in place and we will continue to oversee their monitoring programs, and they are responsible to ensure that they implement those monitoring programs according to the environmental monitoring program requirements that we have.

**THE PRESIDENT:** Dr. Lacroix?

**MEMBER LACROIX:** This might be a silly question, but how does the environmental footprint of a uranium decommissioning -- a decommissioned -- I'm sorry -- a decommissioned mining site compare to other sites in Canada, for instance?

**MR. HUFFMAN:** Dale Huffman, for the record.

Generally, uranium mine sites are small sites. We mine uranium that -- in percentages rather than

grams per tonne. So the actual mines are small mines. The open pits that you see on the screen are much, much smaller than, say, a gold mine might be. Certainly, if you compare us to things like oil sands, they're much, much larger areas. So generally uranium mines are a small footprint, or they have been in northern Saskatchewan.

**MEMBER LACROIX:** So does that mean that the damage inflicted to the environment by a uranium mining site is smaller than, let's say, other mining activities in general?

**MR. HUFFMAN:** Dale Huffman, for the record.

I should be careful about speaking for other mine sites. I'm glad the CNSC put a slide together showing Cluff Lake with some dimensions on it. It was five kilometres by two kilometres. This is a fairly small footprint.

And then if you go downstream, downstream from the mine site it's within a very few kilometres that you no longer see the fingerprint of the mine site. So once you get downstream -- we released an effluent into Island Lake for 22 years. Once you get past the Fen and into the creek that leads into Sandy Lake, the fingerprint of the mine site disappears. Our impact is within a few kilometres of the mine site.

**THE PRESIDENT:** Ms Penney?

**MEMBER PENNEY:** It's a question for CNSC staff.

So Orano is asking us to release parts of their site from the five-year licence. And so my question to CNSC staff is does that mean that there's no obligation for anyone to monitor those parts of the site that are released from the licence?

**MR. FUNDAREK:** Peter Fundarek, for the record.

The sites that are being proposed to be released through the redefinition of the licensed areas are those that were either unimpacted or those that had minimal impacts and have been completely remediated. But none of those areas that are being proposed for removal from the licensed site were those areas where licensed activities were actually carried out.

**MEMBER PENNEY:** I think Island Lake received effluent, and it's being recommended to be removed from the licence. Is that not correct? Maybe I misunderstood.

**MR. FUNDAREK:** Peter Fundarek, for the record.

Yes, that is correct. Island Lake is being proposed to be removed from the licence; however, the

area of most impact would've been Snake Lake and Sandy Lake. And those areas have been monitored and are showing that they're going to continue to improve. And so the impacts would be minimal for Island Lake.

**MEMBER PENNEY:** Are Snake Lake and Sandy Lake being proposed to be removed from the licence?

**MR. FUNDAREK:** Peter Fundarek, for the record.

No, those will continue to be part of the licensed area.

**MR. HUFFMAN:** Dale Huffman, for the record.

Just to clarify. Sandy Lake is far downstream. It's never been part of the licensed area. Snake Lake is proposed to stay in. It's part of the licensed area and will enter into institutional control eventually.

**THE PRESIDENT:** Mr. Berube?

**MEMBER BERUBE:** Given the fact that basically what we're doing is just changing a basic licensing condition here at this point, the licence is not going away, what I'd like to know is what CNSC has in mind for the next five years for monitoring and ensuring that compliance is being maintained at this site. Could you just give us a quick overview, please?

**MR. FUNDAREK:** Peter Fundarek, for the record.

So we'll continue to do our annual monitoring and evaluation of the information that's being provided by the licensee to ensure that the environmental parameters are being met. And then we will conduct inspections not on an annual basis, but on a -- probably on every other year we'd be conducting an inspection just to look at the site and make sure that everything is continuing to perform as expected. And we'd be following up on any events that the licensee would be reporting to us. And all of that information would be then included in our annual reports, the regulatory oversight reports that are presented to the Commission.

**MEMBER BERUBE:** So just in that light, are you actually taking independent samples from the site yourselves and testing them to verify what you're hearing from the actual operator?

**MR. FUNDAREK:** Peter Fundarek, for the record.

The CNSC has conducted the independent environmental monitoring program in 2017. And we can speak to those results that demonstrated that there were no off-site impacts.

But when we're -- we rely on the

information provided by the licensee in terms of environmental monitoring unless we have reason to believe that there are other -- there is other information available.

So at this point in time, we don't feel that there's a need to do our on-site monitoring ourselves, but we do have that option as available when we conduct our inspections to take environmental samples at that time and do our own monitoring if necessary.

**THE PRESIDENT:** The intervenor on the last page asks to be provided information. This is I guess some testing done by Canada North Environmental Services on vegetation growth on top of the tailings management area.

So maybe I'll start with Orano about that. Tell us a little bit about what testing was done and is this information available for the public?

**MS MARTENS:** Diane Martens, for the record.

Due to some public concern, we did do some studies on the tailings management area, looking at areas of ponded water and we sampled water sediment and vegetation to assess that risk. And I believe that this request from Ms Drummond is in relation to that. And the latest sampling of the vegetation was in 2017. And all of these results were provided to the staff as part of a

submission in support of closing our detailed decommissioning plan.

Is she asking for --

**THE PRESIDENT:** So Ms Drummond, a question for you. Have you got the information that you were looking for?

**MS DRUMMOND:** I don't know where to find it actually. That's why I added that at the end of my submission. So I would be very happy to know where I can locate that.

**THE PRESIDENT:** Orano?

**MS MARTENS:** Diane Martens, for the record.

We can provide that report to Ms Drummond or she can request it from the CNSC staff, according to her preference.

**THE PRESIDENT:** Thank you, so she's made a request. And if you can make sure that you send that to her.

Dr. Demeter? Anyone with any other questions?

If not, then thank you very much. Thank you for your intervention.

Okay, we'll move to our next submission, which is an oral presentation by the Northern Saskatchewan

Environmental Quality Committee, as outlined in CMD 19-H3.9.

I'll turn the floor to Mr. Norman Wolverine, presenting by video conference.

Mr. Wolverine, the floor is yours.

**CMD 19-H3.9**

**Oral presentation by the  
Northern Saskatchewan Environmental  
Quality Committee**

**MR. WOLVERINE:** Good afternoon.

As you are aware, the Northern Saskatchewan Environmental Quality Committee is an advisory committee to the Government of Saskatchewan.

The committee represents 30 communities in northern Saskatchewan which are a mix of municipalities and First Nation communities. Each community selects a representative to sit on the EQC to voice their concerns, ask their questions, and relay their request for information to the uranium industry and the government regulators, both provincial and federal. These representatives have given northerners an effective voice and a way to participate in the uranium industry for the last 24 years. The EQC includes peoples of First Nations



(Dene, Cree), Métis, and non-Aboriginal heritage.

Over the years, the NSEQC have followed the development of Cluff Lake closely, have visited the site numerous times, and are quite familiar with the facility in both the opening and the decommissioning phases. In fact, we like to think of ourselves as the civilian community experts, not only on Cluff Lake but on uranium mining in general in northern Saskatchewan.

Our activities are known to many stakeholders through correspondence, direct reports to communities, our published annual report, and reliable media coverage in northern Saskatchewan's leading business magazine *Opportunity North*. I think there's a copy here. These are monthly reports that come out.

The Northern Saskatchewan Environmental Quality Committee has met with Orano many times over the last few years to discuss Cluff Lake. Orano has always been open and amicable to meeting with the EQC regarding any issues, concerns, or questions the communities have regarding the activities at Cluff Lake.

The most recent activities regarding Cluff Lake were a workshop in the summer of 2018 followed by a tour of the property later that fall. The workshop was held on July 25th, 2018, in Saskatoon. This was set up to specifically discuss in detail the decommissioning progress

of Cluff Lake. Orano and CNSC staff were on hand to give the history as well as the decommissioning timeline and to answer any questions or concerns the communities had regarding Cluff Lake. This workshop was well received by the EQC representatives.

On September 19th, 2018, a site tour of the property was held with select members of the NSEQC. The NSEQC members were shown the progress that was made in decommissioning of the facility. Some of the members, former employees of Cluff Lake, were able to compare the current state of the region to the former operating mine where they had once worked.

Overall, the EQC are satisfied at this point that this site is being decommissioned properly under the supervision of provincial and federal regulators. We fully appreciate this work as Cluff Lake is the first modern uranium being decommissioned under present day standards.

Moving forward, the EQC expects Orano to continue to participate in the Northern Saskatchewan EQC meetings and to provide updates regarding the decommissioning process and to report any changes as they occur at the Cluff Lake site.

The EQC will also expect to continue to receive annual inspection reports from Saskatchewan

Minister of Environment and the CNSC.

The NS EQC will continue to disseminate information regarding activities at Cluff Lake to Northern Saskatchewan residents and community leadership.

With this, the EQC fully supports Orano's application for a five-year decommissioning licence renewal and related activities.

Thank you.

**THE PRESIDENT:** Thank you. We'll start with Dr. Lacroix.

**MEMBER LACROIX:** I just learned that the Métis Nation of Saskatchewan is part of the NS EQC. And if I read in your submission you mention that NS EQC is satisfied at this point with the decommissioning process.

But this is not what we heard before from the Métis Nation. So, could you nuance your claim here?

**MR. THOMAS:** Darren Thomas, for the record, Manager for the Northern Saskatchewan Environmental Quality Committee.

The EQC is made up of Métis residents of the north, not specifically Métis local representatives of the political organization. So, the political organization of the Métis locals are not represented on the EQC in themselves.

**MR. WOLVERINE:** So, they don't have a

voice in other words.

**MR. THOMAS:** Through their community representatives they do.

**MEMBER LACROIX:** And why is that?

**MR. THOMAS:** Political organizations are not part of the EQC, they're more of a Northern Saskatchewan resident organization.

**MR. WOLVERINE:** So then, what's First Nations doing there?

**MR. THOMAS:** First Nations are residents of northern Saskatchewan, so...

**MR. WOLVERINE:** So are Métis, we're a part of --

**MR. THOMAS:** But aisle across the community itself with Métis people in it as well is part of it.

**THE PRESIDENT:** And do you have any comment --

**MR. WOLVERINE:** Buffalo Narrows has...

**MR. THOMAS:** Oh, sorry.

**THE PRESIDENT:** And do you have any comment on their concern about the lack of inclusion of Indigenous knowledge in the monitoring program?

**MR. THOMAS:** Specifically the inclusion of ITT or TK into monitoring?

**THE PRESIDENT:** That's correct.

**MR. THOMAS:** Okay. Darren Thomas here, for the record again.

It is kind of part of the discussion that we do have. We don't specifically get involved in, I guess I'm actually tracing it to duty to consult, I'm mixing up the two, sorry.

But we do provide community feedback and community input through the EQC themselves, but we also require -- or we also expect the proponent and the regulators to go out and seek their own input as well, not using the EQC as the only tool or only mechanism to do -- for community input.

**THE PRESIDENT:** Thank you. Ms Penney?

**MEMBER PENNEY:** Thank you for the presentation. And these types of regional monitoring committees are very effective, I really appreciate the work you're putting into it.

You've requested that you want to continue to have access to Orano and to receive annual reports from Saskatchewan and the CNSC. So my question is first to Orano in terms of continuing involvement over the next five years with this committee and then to the CNSC about their continued involvement with the committee over the next five years.

**MR. HUFFMAN:** Dale Huffman with Orano. We will continue our regular involvement with the EQC, we'll provide them with the reports as we normally do and we look forward to being invited to participate in their meetings and give presentations. We find the EQC a very valuable group, a good sounding board when we're talking about our projects and we're going to continue along that line.

**MS TADROS:** Haidy Tadros, for the record. Yes, and equally and I'd like to echo what Mr. Thomas said in his last few words there is, the CNSC staff don't just rely on the EQC to engage with the community, so we do take the opportunities and we have a broad range of considerations for what interests these communities. So, we do take the opportunity to engage more fulsomely when we are there.

As mentioned, we have a Saskatoon regional office with expert staff who know the sites, who know the regulatory process and we will continue do so, especially given a lot of what we do is just needing to be more enhanced communication, more enhanced dialogue with communities of interest as these sites start going through their decommissionings.

Thank you.

**THE PRESIDENT:** Mr. Berube?

**MEMBER BERUBE:** Just to expand on that a

bit for the intervenors. Are there any recommendations you may have for more communication, education that you would find useful? I find your decision here a useful example of cooperation, but there's always room for improvement. So, maybe if you could let us know what that might be.

**MR. THOMAS:** Darren Thomas here, for the record. As any process there is flaws. I mean, we are one committee made up of 30 communities and Mr. Wolverine and Mr. Victor Fern are with me here today. They're in essence volunteers from their community to speak on behalf of their community. They do receive some compensation for coming to meetings and relaying this information, but a lot of times it is their personal time and energy and effort that come forward.

Now, with that being said, given the fact of their day-to-day life, being expected to carry that information, it is quite a burden. So we try, as government officials to help that out.

Hence why during our meetings that when we have regulars come in or the proponent come in that we expect them to engage the same communities that they're talking to now. They may be talking to English or a First Nation through Norman, but doesn't necessarily mean that they don't have to go to the communities themselves.

So, with this kind of thing in concert

we're able to get the information to the communities through someone like Norman, but also being able to add support for the regulators when they do visit communities on who they should talk to or how they should get to the communities.

So, we are doing the best that we can right now and there is a lot of room for improvement in terms of getting an organization such as this or communication in any shape or form, to have clear communication is very difficult. So that's what we're kind of moving towards. Slow baby steps, but we're going to get there.

**THE PRESIDENT:** Dr. Demeter?

**MEMBER DEMETER:** My questions have been answered. Thank you.

**THE PRESIDENT:** Anyone with any other questions? No.

Thank you very much for your intervention.

We'll move to our next submission which is an oral presentation by the Clearwater River Dene Nation as outlined in CMD 19-H3.12.

I understand Mr. Jeff Langlois is presenting first. So, the floor is yours.



**CMD 19-H3.12**

**Oral Presentation by the  
Clearwater River Dene Nation**

**MR. LANGLOIS:** Thank you, Commissioners and thank you to the CNSC for enabling our participation here today.

My name is Jeff Langlois, I act as legal counsel to CRDN. With me today is Chief Teddy Clarke on my right, Elder Lester Herman on my left and Elder Keith Janvier on my far right.

A brief outline for what we hope to do today. I've got brief introductory comments from myself and then I'm going to turn it over to Chief Clarke and Mr. Herman, they have some concerns they'd like to relay to the Commissioners. And then Mr. Janvier is going to close out with a very brief statement in Dene which will be translated subsequently by Chief Clarke.

So, our reason for attending today is slightly different than what you've heard so far today. I do appreciate all of the technical concerns that have been brought up by staff and other intervenors. Our concern is slightly different. We want to share our concerns about ongoing impacts of this mine on the continued exercise of rights by CRDN in this area, but that concern is somewhat

different. We're here today to talk about the perception of risks that persist within this community despite the state of decommissioning at this site.

So, I mean we've heard through the reports that have been filed today, we've heard through answers to a number of questions today that things appear to have gone very well for the environments around the Cluff Lake mine site. You know, my client is actually very happy to hear that the CNSC staff have said that it's safe to harvest in this area. That on the whole, if it's true, is very good news and perhaps would not have been expected 20 years ago at the decommissioning of this mine.

Now, we don't have the capacity ourselves to independently assess that, we depend upon the company and staff and this Commission to do so, but our perspective is that not all is well in regard to this site.

You know, even if it's true that the mine has been physically scrubbed from this site and I think the drone video this morning, various studies that we've seen, perhaps it is true, perhaps there has been a lot of physical scrubbing of that from the site, but CRDN's message here today is that the memory of that mine still lingers very strongly in the minds of many of its members.

They still have concerns about contamination of water, animals, plants that they depend

upon to exercise their rights.

What we're asking today is that the Commission look at our written submission and what you're going to hear in a moment and consider their Indigenous perspective on the impact of this mine, the ongoing impact of this mine. Addressing these lingering concerns is critical for CRDN on its own, of course, but the broader context here is that there are additional mines that are being proposed, uranium mines that are to be proposed and we'll be back in front of this Commission over the next couple of years that are much closer to the community.

The concern of CRDN is that, you know, there's going to be lasting impacts of these mines beyond the point at which they're said to be decommissioned.

Our written submission, you know, sets out a number of concerns, avoidance behaviours that are going on in the community, you're going to hear about that a little bit more in a moment. And what we want to do is use this as an opportunity to sort of reset the stage going forward. If in fact it's the case that things have been decommissioned, that's fantastic, but our position here today is that there is still more work to do, there are still members not going to this area to exercise their rights because they perceive risk. And when I hear today that there are core samples with radioactive symbols on

them, I don't think it's that hard to understand why that might be the case, why harvesters accessing this area might say maybe this isn't the spot for me to get food for my dinner table tonight.

You're going to hear more about that in a moment.

So, our overarching message is again, we're happy things are going well, but we do think there's more to do to restore their confidence in this site. And in our written submission, and Chief will talk about this, we've suggested a number of things that should happen going forward, improvements that Orano can make in their relationship with CRDN and some new ideas that we'd like to put forward as well.

So, with that I'll turn the speaker over to Chief Clarke.

**CHIEF CLARKE:** Good afternoon. Thank you, Jeff.

First of all I would like to thank the Commission for allowing us to be here today and to present some of our concerns and solutions as well.

Again, you know, my name is Chief Teddy Clarke, Chief of Clearwater River Dene Nation, have been for a number of years, for six years now. I'm here today along with my Elders, council members, the CRDN legal

counsel and consultants.

When I speak today I'm going to be offering some concerns, I will speak of some concerns and offer some solutions as well as to what I see and what should happen within our traditional territory. This is CRDN Clearwater River traditional territory along with a Métis local territory.

I'm not going to take too much time, I'll try to move through this as quick as I can. I know that we're allotted a limited time, so we will try to keep within that time allotted.

First point to start, I want to point out my concern around the recommended licence renewal for the continuation of the Cluff Lake decommissioning. I want to share some concerns as to how the renewal comes to light after the hearing. Again, coming to this hearing I was under the impression that the CNCS or CNSC would base their recommendation upon hearing concerns from the intervenors and then to bring forth to the recommendation, although I do understand that the final decision lies with the Commissioners which gives me a peace of mind.

And, you know, it goes -- but I still feel that the CNSC should have taken these concerns to light before bringing forth their recommendation of the renewal which I heard today.

My second point. I've heard throughout the hearing that everything is according to decommission regulatory standards and which I'm happy to hear, everything's at par, everything's good, you know, for human consumption, animal consumption. But again, you know, it's still in the back of our minds the fear, you know, the location. We go to that location. I hear it from our members, I hear it from, you know, our CRDN members, First Nations members and the Métis members as well that hunt, you know, and harvest animals within that traditional territory. It's still in the back of their minds, you know, what if. I mean, we're not sure.

My solution to that is that, you know, when you go back in the days, you know, in the Cluff Lake days back in the 70s, you know, it was assured to people, the membership in all of that traditional territory, the members of that territory that everything's fine, everything will be good, the abundance of work will be given. Well, I question that today because, you know, from listening to a lot of people that seen the mine life throughout the years, you know, from day one 'til today, a lot of that was not given. I'm not saying that nothing was given, but the promises that were made back then were not given.

Again, you know, when you go back -- you

know, from my knowledge as well basically and from the experience of talking to some other people. Now, if our people were involved as they were promised back in the day as partners and as people alongside, you know, the environmental people, you know, I call them environmental monitors, if we were allowed to bring in environmental monitors of our own people that answer to our own people, yes, maybe today people would not have that fear in their mind, would not have that doubt.

I mean, you know, I see some of the stuff that's happening around Cluff Lake and I'm happy to see that there's other areas that are still, you know, are good and they're coming back and whatnot, but I also question certain areas.

And this is -- you know, I question this because people have come to me and I've seen it myself. You know, I've been in that area, I've hunted that area, I still hunt that area, but again, the question's always in your mind.

But as I said, you know, I know we're allotted so much time, so in closing I'd like -- what I want industry and CNSC and the Commissioners to know that we are the people that are going to be left behind after everything is said and done. We are the people that are going to be still, you know, practising our traditional

events and whatnot, bringing the teachings down to our -- for generations to come, but we want to ensure that, you know, this area is safe, as a matter of fact the whole north is safe. Any mines that are out there, we want to ensure that everything is okay and the only way we can see that happen is that we walk alongside of industry and people that are up there doing this as environmental monitors. That's the only way I can see this happen.

Again, thank you very much.

**MR. LANGLOIS:** Let's now turn it over to Mr. Herman who's going to share a recent experience he has had on this site.

**MR. HERMAN:** My name is Lester Herman, I'm a resident of Clearwater La Loche and I do hunt in the area myself. In 2017 I hunted in the area, I got a couple of moose in that area, in the Cluff Lake area, Snake Lake, it was mentioned earlier and it was the area that I hunted and harvested two moose in that area and when I do that I share with my community.

And when I did that and when some of the people that I shared my moose with it's like, what area did you go into? Cluff Lake area. And some of them have refused to take the meat because of the area it came out of and some of the things that they've heard from the Cluff Lake mine or whatever, like.



So, that was the reason that I wanted to bring that forward is because some people still don't trust the area for harvesting and for meat.

Thank you.

**MR. LANGLOIS:** And again, I would like to just point out in our written submission we've tried to bring forward traditional land use data that also tells similar stories to that.

Let's now turn it over to Mr. Janvier who has a word to say in Dene and then Mr. Clarke will translate.

**MR. JANVIER:** For the record, Keith Janvier.

--- Indigenous language spoken

**CHIEF CLARKE:** Again, just a quick translation on that. What Mr. Janvier has said is that, you know, going forth and he kind of reiterates the same tone that I felt earlier, is that we need to be involved, the people need to be involved in this whole process. Going forth, you know, with our language, speaking our language and being within our territory, dealing with us on our territory and whatever happens, you know, going forth.

I guess in a nutshell that's kind of like -- is that satisfactory, Keith, to how I've explained it?

Again, he pretty much strongly suggests

and recommends that the people need to be involved.

**THE PRESIDENT:** Thank you very much.

We'll start with Ms Penney.

**MEMBER PENNEY:** Thank you very much for the presentation. I especially appreciated all the maps with the traditional activities put on them. They were quite informative.

Perception is a really hard thing to deal with for your communities, for us as Commissioners, it's a bit intangible. I was especially concerned in your presentation to see that some people in the community think that there's spent nuclear fuel on the site when clearly it's a mine site, not a nuclear power plant.

So, question to the intervenors, to the Chief, how would you -- is your community involved in the environmental quality committee, that's one part of the question, and in addition to that, how would you recommend Orano get accurate information to your community so that they are not concerned as you've reflected?

**CHIEF CLARKE:** Okay, thank you. Now, you asked a question of the environmental committee, the EQC. Now, I've got a question too, when were they established? Would we know that? What year were they established, how long have they been around?

**MEMBER PENNEY:** That's a good...

**MR. HUFFMAN:** Dale Huffman, for the record, 1995.

**CHIEF CLARKE:** 1995, okay. Now, the reason why I asked that question is because my answer is going to be related to around that.

Now, when you look at the EQC, I remember we had -- back in 2006 I was elected to the council of Clearwater and I ran across, you know, I was asked to sit as a committee member and I said no, I don't want to be a part of that because I want to see how that unfolds first, I want to learn what they do and what is going on there.

You know, 1995 'til now is many years, a lot of years. The EQC -- if the government and industry are listening to the EQC Board or the committee, nothing has changed as far as I'm concerned. We still fight the same battles, we still -- we have these concerns now, you know, nothing -- I'm not dissing, you know, the environmental committee, I call it committee. You know, there is good guys and there's good people in there that represent the north, but again, how far does that go? That's one of the reasons why I choose not to be a part of that EQC Board because I feel it's like a rubber stamped, you know, committee and that, you know, a lot of the concerns are not being recognized or respected in a sense.

If anything, I think, you know, another

board that's comprised of our own people, our own regulations, our own policies, our own guidelines then maybe, I'd like to see that, then maybe I'd be a part of it. But again, that's my concern.

Thank you.

**THE PRESIDENT:** Ms Penney's second part of the question was, any recommendations on what specifically Orano can do as far as providing factual information to your community to try to dispel some of these concerns?

**CHIEF CLARKE:** Again, you know Orano has - we have met and I know a lot of the guys from Orano. I have met and worked with them as well. You know, there are some areas where I have always said, "Look, you know, better communication, we need to bring forth a lot of different things, be more engaged." Again, I know there is -- I have heard earlier that there is a lot of engagement. Well, you know, saying "hi" and "how are you doing" is not really engaging. And there are some areas that, you know, we have met a number of years. Over the last two years I don't think we have really met that much. But again, my recommendation to Orano is we need to go into more detail, more visibility, more commitments within the members within the communities. I think that would be a solid foundation.

**THE PRESIDENT:** Thank you.

**MR. LANGLOIS:** It's Jeff Langlois, for the

record.

You know, I think what we want to leave you with today as one of our key messages is that, you know, I think there has been engagement through some forums over time. I think for the Environmental Quality Committee, Clearwater has viewed that as fairly ineffective in addressing their specific concerns about this site, but really we want to turn this to be very forward-looking. We have heard about the decommissioning process today, we have heard about that there has been a public information campaign ongoing for some years, but there is still very much a disconnect between that campaign and community perceptions. We also want to resolve that.

I think we have made a fairly modest suggestion in our written submission that there really be a focused co-development of a public information campaign that is focused on perhaps Clearwater River Dene Nation, perhaps others. Métis have been here as well. I do think it's time at this point in the mine's life to turn to that direction, because so far the engagement that has occurred through public forums, through leadership meetings, that doesn't get down to the harvester level. Yes, so we will rely on our written submission for that. Thank you.

**THE PRESIDENT:** Thank you.

Mr. Berube...?

**MEMBER BERUBE:** Well, thank you for your submission and actually I appreciate your position on this as I know anxiety can be quite literally a bear and when it's in the community it's very difficult to get out. So the issues are with how to actually get your people comfortable with the situation. I think really the answer is some form of education. I'm not sure exactly what has been done in this area. Could you discuss what has been done by the operator to actually help educate your people on where this is going?

**CHIEF CLARKE:** Is that a question for myself?

**MEMBER BERUBE:** Yes.

**CHIEF CLARKE:** For the record, Teddy Clarke.

In terms of industry being involved or Orano being involved with the educating of the people, I mean I am not here to throw anybody under the bus here. There has been a lot of involvement from Orano as well in the past. There have been people that have been trained that I am aware of, you know, from my experience as well. But again, I go back, I say, you know, we need more. We need to work together closely. We need to be partners basically. You know, we need to be holding hands here and walking through this whole ordeal, you know, from start to

finish. That is basically what I am recommending, is that, you know, as far as we could go, you know, I mean there is more to be done and that I think would satisfy a lot of the people. In their minds, you know, the doubt, the fear would probably be at ease once, you know, things are communicated properly. And lately we have been starting to engage formally now and we are going to continue to do that.

Does that answer your question?

**MEMBER BERUBE:** I think so, I just want to clarify. So what you are really asking is you really want to be involved in managing your backyard?

**CHIEF CLARKE:** Exactly.

If I may, I want to share a bit of a quick story here, if you guys don't mind. I sat on the -- it's called the Comanagement Board, back a number of years. You know, at first when the provincial government brought to the board and they said they wanted to open up and remove the, you know, development freeze. And as I sat as a board member at that time, you know, I said, "Okay, why do you want to do that?" He says, "Well, you know, it will allow people to develop and to build things in your territory." I said, "Okay, but where is the policies? Who governs that? Who allows this?" He says, "Oh, okay." Two weeks later they came back, they had a policy this thick of who

is going to govern. I said, "Well, wait a minute, that's not our policies. We want to develop that. We want to be -- we want to help develop these policies because we are the people that utilize this traditional area. We know what's what and what's not out there." And again, that is where, you know, I feel industry and government made that mistake of not allowing the people to be a part of that, to develop these regulatories, to develop these policies and I think that's where we went wrong.

So again, I think, you know, the main case there is that we need to be a part of it. We can't just be, you know, sitting there on the side of the road while we see people go by, you know, and extract resources from our territory and then we are kind of left with, you know, the crumbs at the end of the day. From here on going forth, I always tell the industry, I say, "We are like this, we are going to be partners." Thank you.

**THE PRESIDENT:** Dr. Demeter...?

**MEMBER DEMETER:** Thank you.

What I'm hearing as a repeated theme is that the strategies and mechanisms to involve individuals to the point where they feel safe haven't been realized, so the traditional gathering and reaching out to people. So perhaps there needs to be some education from the other end, from the Indigenous people to the industry on what the



industry can do to help them feel safe. I think this has all been an industry approach to engaging people, which I haven't seen work yet based on the interventions to date. So I think one of my messages is that we need to maybe turn it around a little bit and look at it from the other side of the lens.

But the one very specific thing that I have heard twice already, we had the talk about the core samples and why they are there, but I have heard twice that there is radiation warning signs in those core samples and unless it -- I mean there are some, as I understand it, structures of when you can and can't put radiation warning signs up and they have to meet certain standards. So are there radiation warning signs on these core samples which if someone saw that would obviously create some concern? And if they are up there, why are they up there? So maybe Orano can speak to it. Do you have radiation warning signs on your core sample lot?

**MR. HUFFMAN:** Dale Huffman with Orano.

Yes, we do. We have warning signs on the fences that say that this is a radiation area. It does -- it would not meet the criteria for radiation signs under the *Nuclear Safety and Control Act* that I believe requires signs at 25 microsieverts per hour. The radiation levels near the core are kept so that at a metre they are less

than a microsievert an hour. It would not meet that threshold, but they are there and they will leave that perception, I agree.

**MEMBER DEMETER:** So in my end of the world we post rooms that are radioactive and we post things that aren't. If we leave a posting up when the room is not radioactive, we get our fingers slapped from CNSC. So from CNSC's point of view, do you have an opinion on posting a radiation warning sign when they don't meet your criteria for needing it, with naturally occurring radioactive material norm?

**MR. FUNDAREK:** Peter Fundarek, for the record.

These core samples are part of the exploration phase and so technically the CNSC doesn't have jurisdiction over that part of it because this is a provincial responsibility. However, we generally do -- when we look at radiation posting, we do have the frivolous posting under the *Radiation Protection Regulations* and discourage people from posting signs that indicate radiation fields or radiation materials where there aren't any or the levels aren't sufficient to warrant those levels to be posted -- to have the signs posted. However, I can also understand from Orano's perspective they are trying to behave from an overabundance of caution to try and indicate

to people that this is an area that you don't want to take these core samples or do things with these things.

On the balance of probabilities, the signs shouldn't be there, but we could also look at it from the perspective of just trying to make an informed decision for people who encounter this area and are wondering why it is enclosed.

**MEMBER DEMETER:** Okay, I understand. I think there is some middle ground here where you can protect the cores without making people feel that they are radioactive to the point where it's harmful. So anyway, I think that is a really good example of risk communication that really perhaps is not having the intended purpose.

**MR. LANGLOIS:** Jeff Langlois, for the record.

I think that is a really good example of perhaps a low-hanging fruit, that, you know, we might be able to identify a number of those.

But just to pick up on your comment that perhaps it's time for there to be some indigenous education as to how this public information campaign should be rolled out. That is exactly how I would pitch our very modest suggestion that we move -- and, you know, we are here on a licence renewal application because you all have the power to impose terms and conditions on a licence renewal. I

think a very modest condition, term, direction would be to direct that there be engagement with CRDN in developing a public information campaign and I think there is a CNSC staff role in this as well.

The observation so far from CNSC staff is the public information campaign that has been entered into has been -- has set -- I forget the exact wording -- has set appropriate goals and has met those goals. We are here today to say no, I don't think so. One of those goals has to be returning the site to a state where CRDN can exercise their rights. We are not there and it is largely I think a perception of risk issue. I think there should be a direction that all three parties work together to improve that.

**THE PRESIDENT:** Thank you.

Well, maybe before I get to you, Dr. Lacroix, I can ask CNSC staff to comment, both on the CNSC's role as far as addressing some of these perceptions but also as far as our Independent Environment Monitoring Program and the involvement of the CRDN or other Métis or First Nation communities in that.

**MR. LEVINE:** Great, thank you. Adam Levine, for the record.

So we have heard loud and clear some of the concerns raised in CRDN's intervention, along with a

number of the other interventions received for this proceeding, and a core tenet of what we are wanting to do is build trust. We are an independent regulator. We are looking at the information that Orano is presenting as part of their licence conditions around environmental monitoring and performance, and staff do agree that the site is performing as expected and is safe for traditional land use. Now, if there is a gap between that information and the understanding of the communities, obviously there is work to do. So what we are wanting to do now is take the concerns raised in these interventions and collaborate, exactly as Chief Clarke has mentioned and the representatives, to collaborate to find ways to better disseminate that information. It is a core part of our mandate to disseminate this information to the public and build that trust and relationships with Indigenous communities.

So one of the things that we are going to start doing is in each year we are going to bring all the key leadership, Elders, youth, et cetera, that the communities would like and bring them to Saskatoon or a central location and disseminate our findings of our Regulatory Oversight Report and compliance work over the year and talk about things like environmental monitoring and use that as a sounding board. And, as you recognize,

the EQC is one venue, but we want to have our own independent venue as well as the regulator and agent of the Crown as well and have that unique relationship. So we are going to have that as a pilot to see how that works, then collaborate on further dissemination methods within the communities and have our bilateral relationships with each community as well, because each community is unique and has their own needs and has their own land use and traditional territory and knowledge they want to share. So from our perspective, we think that the work is not done here, that if the land is now available for traditional land use we need to make sure people are comfortable in doing that and aren't showing signs of avoidance because of fear and perception. So I think we have a big role to play as the independent regulator on that.

**THE PRESIDENT:** Thank you.

Dr. Lacroix...?

**MEMBER LACROIX:** Does Orano employ CRDN members?

**MR. HUFFMAN:** Dale Huffman, for the record.

We have employed CRDN members. I don't know how many we employ currently, but at the time of mining we certainly did and we employed members from many of the Westside communities. And one of the jobs that we

specifically targeted for work at the mine site was the environmental monitoring positions. So environmental monitoring positions at the mine site throughout operations and into decommissioning have been by local people, usually indigenous people from local communities.

**THE PRESIDENT:** Ms Penney...?

Mr. Berube...?

**MEMBER BERUBE:** I'm going to ask this now. I could have probably saved it till later, but I am going to ask it because it seems to be appropriate.

CNSC, you were mentioning that fundamentally you would need to step up your role on communication and we are hearing this quite often, that communication seems to be the key to basically getting people comfortable with what is going on in their backyards and I think that is fair and appropriate. Could you explain to me what kind of benchmarking you use in order to validate if your communication model is actually working?

**MS CATTRYSSE:** Clare Cattrysse, Director of the Policy Aboriginal International Relations Division.

We take feedback, very great amounts of feedback from the Indigenous communities that we do meet with. I have some examples from in the North for example where we prepared deck presentations to the Elders and community members and they actually came and sat with us

and helped us rewrite our presentation from scratch and went through all the wording that we were using, the pictures, our diagrams, and basically helped us overhaul and learn how to better communicate some of our products. So that is just one example.

There is a long way to go, we are still learning a lot. It is very hard to translate scientific jargon and some of this information that is very technical into user-friendly language and that is what we are trying to do. So the example that Adam just gave about having communities come and send some membership to learn more about the Regulatory Oversight Reports is to put it in clear, simpler language, because those reports can be very challenging to read, so that they can go back -- some of the membership has expressed interest in coming so they can take it back and explain that to the members in their communities. So these are some things that we are exploring right now.

**THE PRESIDENT:** Thank you very much for your intervention.

**CHIEF CLARKE:** I would -- for the record, Teddy Clarke. I just want to say something in closing.

Again, thank you very much for having us here today. We have travelled a long way. And anyway, you know, again, I just want to reinforce what I said earlier.



It's about working together, it's about helping make these policies and about approving leases out there in our territory, you know, working with government. You know, the decision that the Commission will make in regards to this will entail on what is going to happen with the future of CRDN and the Métis local of the La Loche area, so I want you to keep that in mind.

Thank you very much.

**THE PRESIDENT:** Thank you.

--- Pause

**THE PRESIDENT:** We will move to the next submission, which is an oral presentation by the Ya'thi Néné Land and Resource Office, as outlined in CMDs 19-H3.5 and 19-H3.5A.

I understand that Mr. Garrett Schmidt will be making the presentation.

Mr. Schmidt...?

**CMD 19-H3.5/19-H3.5A**

**Oral presentation by the**

**Ya'thi Néné Land and Resource Office**

**MR. SCHMIDT:** Apologies. Good afternoon, President Velshi and Members of the Commission.

My name is Garrett Schmidt, I am the

Executive Director for Ya'thi Néné.

To my right I have Chief Louie Mercredi from Fond du Lac First Nation; behind me I have Chief Bart Tsannie from Hatchet Lake First Nation; directly behind me is Elder George Josie from Hatchet Lake; and behind me as well is Chief Coreen Sayazie from Black Lake First Nation.

We would like to thank the Commission for the participant funding to allow us to travel here today and to prepare our submission.

I will be going through the presentation and at the end of my presentation I will be passing it over to Chief Louie Mercredi for some additional comments.

Ya'thi Néné has reviewed submissions from both Orano and CNSC regarding the Cluff Lake Project application for the renewal of the uranium mine decommissioning licence for the Cluff Lake project. We have received the technical documents, but have not conducted a site visit or had specific meetings regarding the Cluff Lake site.

Ya'thi Néné does acknowledge the participation of the CNSC in various meetings and communications. Our organization highly values the beneficial relationships that have been created throughout the engagement process, particularly on the east side of the province. We offer the following recommendations to

the Commission in response to the application.

The recommendations are as follows:

- number one, to accept the proposal to renew the licence issued to Orano Canada with a condition period of five years with the intention to transfer the Cluff Lake site to the Province of Saskatchewan under the ICP;

- number two, accept the proposed Detailed Post-Decommissioning Plan and associated details of the Detailed Decommissioning Plan;

- item 3, accept the new licensed area;

and

- item 4, accept the revised financial guarantee of \$3.5 million for the Cluff Lake Project.

Ya'thi Néné believe the ultimate goal of decommissioning is the successful transition of land back to its natural state, supporting all the traditional land use practices.

Ya'thi Néné acknowledges the Cluff Lake Project is a decommissioned site and Orano has met the objectives identified in the Detailed Decommissioning Plan.

Ya'thi Néné also obtained a copy of the Detailed Post-Decommissioning Plan. Based on our technical review, we are of the opinion that eventually concerns have been identified.

Ya'thi Néné supports Orano's request to eventually transfer the Cluff Lake site to the provincial Institutional Control Program.

Orano has developed an extensive Detailed Post-Decommissioning Plan that Ya'thi Néné recommends the Commission accept. With the Detailed Decommissioning Plan objectives throughout 2017-18, it would make sense for the Cluff Lake Project to transition into a state of post-decommissioning. Orano must continue to monitor and inspect the Cluff Lake site and report results to the CNSC and the Province of Saskatchewan, as agreed to under their management system.

Ya'thi Néné needs to be kept informed of any updates or activities regarding the end-state report or long-term monitoring and maintenance plan.

Ya'thi Néné supports Orano's proposal that areas of land with completed decommissioning planned for future transfer to the provincial ICP are proposed to remain within the CNSC licence.

Ya'thi Néné also supports Orano's proposed parcels of land to be removed from the future licence as the interest in these parcels have been reduced over time through decommissioning efforts.

Ya'thi Néné supports the proposed five-year timeframe for Orano to prepare to transfer the Cluff

Lake site into provincial ICP. Based on this submission, we expect this timeframe will ensure all aspects of the site are responsibly transferred.

The proposed \$3.5 million financial guarantee appears to be sufficient to support long-term monitoring and maintenance of the Cluff Lake site. Adequate financing is critical to ensure a satisfactory level of protection and sustainability is maintained.

Ya'thi Néné expects that if additional financing is required to address any environmental concerns, then the provincial or the federal government would respond accordingly.

Some additional points for consideration:

- document review and submission process
- the tailings management area
- Indigenous engagement

The timeline to create and submit a report to the Commission regarding the application for a licence renewal allowed only 30 days for review and submission. This timeframe does not give Ya'thi Néné an adequate amount of time to collaborate with the stakeholders throughout the Athabasca Basin. Additional time would be needed in order to develop a truly meaningful document that encompasses the thoughts, ideas and recommendations of impacted stakeholders.

The tailings management area has long been a point of discussion in regards to the Cluff Lake site. Based on information provided from Orano and CNSC staff, Ya'thi Néné is aware that measures have been taken for the decommissioning of the TMA and its associated infrastructure. Continued monitoring and reporting to traditional land users about the status of these higher risk areas will be important moving forward.

#### Indigenous Engagement

It is important to be engaged on the topic of decommissioning as it directly relates to restoring natural process and traditional ways of life to the land, water, air and ecosystems.

The Athabasca Denesuline have other historical experiences in Northern Saskatchewan where decommissioning hasn't been sufficient.

Ya'thi Néné believes that the decommissioning of the Cluff Lake site was achieved through a collaborative approach that saw industry and community working together with the goal of returning the land back to a pre-development state.

The importance of meaningful consultation and engagement is critical, and Ya'thi Néné expects that meaningful consultation and engagement will continue into the future.

Ensuring that community members and local organizations maintain confidence in this process throughout the five-year renewal licence period and beyond will require that all parties maintain open lines of communication to work collaboratively.

Closing remarks

Yá'thi Néné is satisfied with the level of communication between the CNSC and our office and that this transfer of knowledge is critical to ensuring all people of the Athabasca Basin are meaningfully informed with regards to the ongoing operations within the region.

On that note, that concludes our formal presentation and I will pass it over to Chief Louie Mercredi for further comment.

**CHIEF MERCREDI:** For the record, Louie Mercredi.

This reflects back to Chief Teddy Clarke's remarks there.

The mine was located on the Treaty 8 territory and we are descendents of Treaty 8 people, but we were never involved in this whole operation since day one. There was very little employment for Athabasca people at this mine site when this mine is located right in our traditional territory. We were never consulted. But moving forward we need to work together, as Chief Teddy had

indicated. We need to work together as partners so we don't face the same consequences again in the future. We all know there are potential mines that are going to be coming up here.

As Athabasca leadership, we support Orano's proposal for five-year licensing, but we also have concerns at the same time.

My concern, my question for Orano would be: Why use concrete to cover up the access to the mines?

We are currently using stainless steel covers for Gunnar, Gunnar Mine. We have been living this chaos of mining in Athabasca for the past 60 years and we are still living it until today. We need to make these things safe for the environment, for our people so we don't have to face what we have seen for the past 60 years.

Local knowledge was never recognized in these operations as well. We have been the caretakers of our land for tens of thousands of years and our local knowledge is very -- there is a very little information of local knowledge in the mining industry nowadays.

Tailings cover, 1 metre, that's not enough for the erosions. In spring, we get a heavy snowfall one season, spring runoffs, 1 metre is not enough for cover. At Gunnar there are some areas that they used up to 10 metres of fill material.



The birds that migrate through these mine sites, we -- it comes to our traditional area. The animals, we are seeing white tailed deer on the shore of Lake Athabasca now. We consume these animals. They are migrating from the south in that same path, they pass the mine sites. So does the moose.

And the tailings, we all know -- I worked at Cluff Lake, I was a process operator there. We used sodium for extraction of the uranium. All that sodium ends up in the tailings facility. That is what the moose is after. The moose consumes it, we consume it. It's not just the sodium. There are other minerals that lie in the TMF: other heavy metals, radium, arsenic, molybdenum and all the chemicals that are used for the milling process.

Like I have always said to the industry, we as Dene people of Athabasca, we are not going anywhere soon, we are here to stay. Once the industry extracts every mineral that they are after, they're gone and we are left behind. We stay behind. This is who we are.

For long-term monitoring of the environment of these mine sites, I think we as Athabasca people and the surrounding communities, we need to be involved in partnerships of the monitoring process so we can relay the information back to our people. I personally think that, you know, I am tired of being driven. We have

been driven way so long. I think it's time we take the steering wheel. I think it is time we drive now because we have been driven way so long.

So with that, like I said, we need to work with the industry. We support it but, you know, there are always concerns. Concerns are brought to our attention by our membership and we have to raise our concerns.

With that, thank you.

**THE PRESIDENT:** Thank you, Chief Mercredi. We will start with you, Mr. Berube.

**MEMBER BERUBE:** Thank you for your submission and presentation. It is appreciated that you came this far to speak with us. It is important that we hear from everybody that is affected by these kind of decisions, so it is critical you come and represent your interests.

We are hearing from all the Indigenous groups that communication is an issue and joint management is something that is desired. In your opinion, what would that look like if it were to be better for you?

**CHIEF MERCREDI:** For the record, Louie Mercredi.

I think, you know, things would work a little better -- like, you know, with the monitoring regulations that are in place now, if we work with the

industry holding hands, work together as partners, we as aboriginal people will benefit from all the industry. We support the industry because, you know, they give us jobs. Like, you know, if we work as partners, I think it's a win-win for everyone, the industry and the aboriginal communities.

**MR. HUFFMAN:** Dale Huffman, for the record.

I think perhaps a good example of how we are working together now is through the collaborative agreement that we have signed with the Ya'thi Néné. Under that agreement we formed what is called the Athabasca Joint Environment and Engagement Committee -- I think I have that right -- for addressing these very specific issues. So things that we may have not done well in the past we are trying to improve on and we have developed the structure with Ya'thi Néné mostly for communicating about our McClean Lake site for Orano to really seek the advice on how to transmit environmental information, how to engage and give us direct feedback.

And perhaps as Dr. Demeter pointed out, and I would agree, we have been doing this for a long time. I don't know that we have been doing it effectively for a long time and so we need to assimilate on board that feedback. So it is an example on how we are trying to

improve.

**THE PRESIDENT:** Dr. Demeter...?

**MEMBER DEMETER:** Thank you very much for coming in and sharing with us.

When I first read the intervenor report I was going to ask you what you are doing, because the last closing remark for your written was:

"Ya'thi Néné has been pleased with the level of communication between the CNSC and our office."

But based on your oral presentation I think there is still some gaps that need to be filled. So I was really going to ask you how you got to this level as a way of perhaps informing the other groups that are having similar problems, but I think it speaks to the same issue so I won't belabour it, but it sounds like there is still some work to be done on increasing comfort levels on communication and participation and partnership. So thank you for your presentation. I don't have a specific question.

**THE PRESIDENT:** Dr. Lacroix...?

**MEMBER LACROIX:** Well, this is not a question. When I read the submission made by the Ya'thi Néné Land and Resource Office, I got a very different perspective from Chief Mercredi's message in the sense that

it seems that the submission paints a rosy picture of your relationship with Orano and this is not what Chief Mercredi told us. So why is that?

**MR. SCHMIDT:** Garrett Schmidt, for the record.

A lot of the comments within our submission definitely relate to our overall relationship with Orano through the collaboration agreement and, as it was mentioned, there are a number of different reporting and communication structures that are in place really focused on the McClean Lake operation. There hasn't been as much engagement on the Cluff Lake operation historically, so I think that is probably more where that difference comes from for this particular commentary on the Cluff Lake. But generally speaking, the relationship and the communication process we have with Orano and Cameco is very strong. We have a lot of processes in place that support that.

**THE PRESIDENT:** Ms Penney...?

**MEMBER PENNEY:** Thank you for the presentation.

My question is for CNSC staff. We have heard a number of times that there isn't enough time for groups that receive participant funding to do a thorough job, driven by timelines I think. So just tell us about

the timelines associated with granting of funding and then provision of product.

**MR. LEVINE:** Adam Levine, for the record.

So there are a few different things we will have to unpack on this because there's a lot of steps in this.

So for participant funding, usually we start the process for awarding that much earlier on. So usually about six months to a year before we are here today before the Commission we actually open the funding opportunity and we do advertising through local radio, and when we are talking about Northern Saskatchewan we do that both in Cree and Dene, and then we also do sometimes paper advertising, et cetera, and then we also send out notification directly to each of the interested communities. So all the communities that you see represented here today, plus others we identified as being interested, we notify directly by email and letter and phone call as well to make sure that they are aware very early on of not only the PFP opportunity but also the hearing process and the documentation, the licence application and everything going on.

Did you have a question? Oh, sorry.

Okay, I will continue.

And so then we set usually about two to

three months or so for the application window to give everyone enough time to submit applications, talk to their membership and staff to figure out what they would like to put together. Then once that comes in, usually it's about a month for the review because it goes to our independent Funding Review Committee who makes recommendations on funding and then we provide contribution agreements to the recipients, and all of them are here today or in Saskatoon. So we usually want to make sure that their contribution agreement is signed and finalized well in advance of when our Commission Member Documents and the documents are available for review. So usually there's two months or three months where their contribution agreement is ready to go and they can start the work.

And where we are talking about the 30 days is that our Commission Member Documents, they are released approximately 60 days prior to a Commission hearing and then interventions are due 30 days after that, so 30 days prior to the hearing process. That is not something we as staff set, it is something Secretariat and the Commission are in control of. We hear this feedback often and the Secretariat is always available for questions around that and if there are requests for extension, et cetera, it is something they could entertain. However, that is a process that we make sure that as part of our ongoing engagement

that there is that continuing dialogue so that it's not just that discussion around those 30 days and go, review everything and get your comments in, that we back that up and we have continuous dialogue about what's going on, we get the licence application information in, because it comes in much earlier than that, to the community so they can start reviewing.

With the PFP often there are things like tours to the site, as the Métis have done, or community meetings to gather input and traditional knowledge. So all of that is done much up front, but what they are talking about is the review of staff's submission and also of the applicant Orano's submission to the Commission in that 30-day window.

So I don't know if anyone else from staff wants to comment on that part of the process, but that is what we do for the PFP.

**MS TADROS:** Haidy Tadros, for the record.

The only thing I would like to perhaps add to my colleague's explanation, not so much in terms of the timelines and what he has walked through, but more so the spirit in which I believe the question was asked. And I believe the spirit in which the question was asked is the process being what it is it's symptomatic of the fact that we wait for this opportunity to engage and provide



information. So it's not so much the process is faulty as it is the relationship and the information and the engagement and the communication that needs to be built around a continuous process. Because as staff, our role is not just today, our role is to be in the community to disseminate the information and I think as we get better at including more mechanisms -- and I look to Commissioner Berube because I think your question about the model that works perfectly, there are a lot of good examples that we can take from -- but as we get better I think that relationship is built, the communications are built and the process and the timing is just the process and the timing at that point. So that is something we need to take away and look at.

**THE PRESIDENT:** Again, thank you very much for your intervention and coming here today.

We will take a 15-minute break before we resume. So back at 4:30.

Thank you.

--- Upon recessing at 4:17 p.m. /

Suspension à 16 h 17

--- Upon resuming at 4:28 p.m. /

Reprise à 16 h 28

**THE PRESIDENT:** We're ready to resume, if you can please take your seats.

Are the Saskatoon folks online?

Thank you. We'll move to the next submission, which is an oral presentation by the Athabasca Chipewyan First Nation as outlined in CMD 19-H3.13.

I understand Mr. Jay Telegdi is presenting by teleconference.

**CMD 19-H3.13**

**Oral presentation by the**

**Athabasca Chipewyan First Nation**

**MR. FLETT:** Hello, Jay, are you there?

**MR. TELEGDI:** Hi Jack. Yeah, go ahead.

**MR. FLETT:** Okay, yeah, this is Jack Flett. I'm a band member with Athabasca Chipewyan First Nation.

**THE PRESIDENT:** Okay, Mr. ...?

**MR. FLETT:** Flett, F-L-E-T-T.

We've got 10 minutes, here, so I'll get right to it.

I had some recommendations on our submission, and what I put five points was the Athabasca Chipewyan First Nation requires Cluff Lake mine site to be remediated to a state somewhat comparable before mining began.

The site supports hunters, trappers for a safe environment for hunting, traditional uses, and free from all harmful elevated concentration of radionuclides.

That there will be no water percolating and leaching through the waste rock and pits in the future. And I think that that includes the TMA, the tailings management area, tailings ponds.

Tailings always a concern and problematic, and be more sure that the tailings would've been covered with clay material first, and then the glacial till to make it immobile and from toxic radiation.

When they're talking about the tailings pond, it was hoped that, you know, that clay material be used, a metre at least, and then the tailings pond and of course after the tailings -- the mine's finished, it would be covered with clay material and more material. I see they just used local material, which is sand, and of course water's going to percolate down through into the sand and then to the rivers and lakes and up towards Fort Chipewyan and that's not a good thing to see or think about.

I guess the other part now is that sufficient amount of financial guarantee is held for unforeseen remediation or in times of heavier rain erosion. I think, you know, the time frame is short, but nevertheless if the financial guarantee is there, that's sufficient. That'd be great so in the future, like Ann talked about, it's going to be a long time, you know.

And I want to go on further and talk about -- I heard some members who worked at Cluff Lake, and they said they had -- we're talking about encapsulation of -- with the tailings pond. They were dumping stuff into containers, cement containers. But that didn't seem to work out. I think he said that they were broken, they were in disarray, so they started the tailings pond. I'm not too sure about that. Could anybody answer to that? Hello?

**THE PRESIDENT:** Yes, we'll ask that as a question. Why don't we let you finish --

**MR. FLETT:** Yeah.

**THE PRESIDENT:** -- your presentation.

**MR. FLETT:** Well, I think that, you know, the two big problems that I have with this whole thing is water percolation through the tailings ponds, through the tailings itself, and into the water system. You know, Douglas River becomes Old Fort River and up towards our area. And we're about a hundred kilometres away, so we're

the closest community. So we're affected by that. And it actually used to bypass us on the Alberta side, one of our reserves on the south side of the lake. And that's no good.

And then it passes, the water passes through Fort Chipewyan and into our intake water system. And you know and that's already problematic because of the tar-sands water coming up through Athabasca River. So we have a pretty grave concern about the water, what's coming that way.

So I want to talk a little bit about encapsulation. Like I went to mining school in Ontario and I was an a mine inspector for seven and a half years, and I know a bit about mining, anyways, hard rock mining.

And I know some of the mines that you used to mine, they were cut-and-fill operations. And with the cut-and-fill operation, with the tailings, they used to mix it with cement and then pump it into some -- they call stopes, mined-out areas, or they call it stopes, mine-out stopes. And they used to have big containers, areas they built out of wood. And it was used to get rid of some of the tailings, but also for ground control underground. So and you mix it with cement and it hardens. I walked on some of them. They're pretty hard.

I thought, Well, this is a great idea.

Why couldn't the uranium mines do that just to get rid of it? It's out of sight, out of mind, the better. Long as it's -- water's not going to percolate there, long as that mine is dry. And that -- and certainly that would be a really good idea, I think, of future mines.

But also this tailings pond is really concerning. And I think maybe, you know, this financial guarantee, we might have to go through that and do the backfilling of that material underground into these tubes. And it's, you know, solidified in these big containers. It's mixed with the cement so it's just one big lump. And that would be an ideal way of disposing of this tailings. With the waste rocks the same thing too.

But I understand now. It's just like you talked earlier about the core, the cores on the surface and kids playing on the core. And most mine explorations, they do that. But it's close to the community, where there is a road and the kids will play on it [indiscernible - poor quality audio] short term.

I think, you know, as a mine inspector for safety, for due diligence, you know, we certainly don't like that. If you build a fence, they're going to climb the fence. But it has to be some kind of containment that keep children out of there.

And of course it was raised earlier by one

of the spokespersons there saying that education is prime. And I think so. That's a good idea.

So but that's not the big issue. The big issue is tailings and water percolating through there, percolating through the waste rock. And something has to be done about that.

On a global front, people all over the world look at Canada as an example to how to mine, you know, in a safe -- in a safe manner. So this is the first uranium mine that's going to be reclaimed that way. I think we better do a good job of it.

So. This cut and fill is -- this underground -- what do you call it? -- encapsulation is good from the backfilling, and I think that should be looked at. Maybe it's in the future.

But I think like Ann was talking about, this is very long term and I think I don't know if anybody from the CNSC or the -- came over to meet with our Elders, give them invitations. I don't know if that happened before. I know they engaged with some of the folks that had a concern, but I think they should come to the meetings.

I think we should have more focus group from our First Nations to really evaluate, go on site. But not anybody to tour, but ones who understand about mining

and to really have a really focused group, even if we have to collaborate with other First Nations on the Saskatchewan side and to go from there. But to bring certainty and to bring more fully engagement and collaboration, I think yeah, it'd be great that we could -- that CNSC comes over. Because it's their responsibility. It's federal government responsibility.

How many minutes do I have?

I think the other one is too is there's a new mine coming up this, what is it, eight kilometres south of Cluff Lake. What do they call it? A project near Patterson Lake. It's in our watershed too. I'm not sure how that comes up, but I know it heads out into Alberta some of it and becomes one of our concerns again. Water again. So that's something to look at.

And maybe the mining, the geology of tailings and waste rock should be looked at again. Because use the mine itself, use the underground mined-out stopes as a place to store it, but encapsulate it in cement. I think that would be most of the problem would be eliminated from there.

What else do I have here?

It just got used for certainty. And I think that the rest has been said by other folks who talked there. And I think these are the most important ones is



encapsulation and the tailings pond and waste rock where water is percolating through. And that's really concerning and it still is.

There's one more area is they talked about and I think they mentioned about there's a lake there, where is it now, I had notes all over the place here. And they talked about Cluff waste pile and also the -- what was that there -- there's a fen there. Island Lake. Island Lake fen is really important. The fen was used as a cleanser, which is a good cleanser for that, for your radiation and that. But how long? It's been added up so long, it's -- when does it become supersaturated? What does it become ineffective? And you know when it comes to rat root? I mean, is that nastiness still there, and it just goes up under another you know sort of thing. Is -- should that be cleaned up? I really don't know.

But I think that the two main ones are -- I talked about is really about tailings and waste rock. That's all I have in my mind right now.

**THE PRESIDENT:** Thank you Mr. Flett.

We'll start with Dr. Demeter.

**MEMBER DEMETER:** Thank you for your intervention. I also had some similar questions in my head about management of mine waste and even within the CNSC REGDOC-2.11.1, Volume II, it talks about maximizing the use

with regards to mine waste of open pits and underground developments, natural or engineered barriers, and minimized release to the environment.

So I'm wondering with Orano were some of these options available to you to put it back into the mine or into open pits versus putting it into an above-ground type setting with a cover -- with a top? I don't want to use the wrong word for the ...

**MR. HUFFMAN:** Dale Huffman, for the record.

We considered a number of tailings options right at the beginning of mining. So these were things that were considered at the earliest stages. You need somewhere to put the tailings as soon as you -- as soon as you start, really.

And there's an unusual circumstance with Cluff Lake that Mr. Flett mentioned about the concrete containers, which I can tell you about too.

But we have tried to maximize the use of mine workings for waste management.

So our underground mines were cut-and-fill type mines, just the same way that Mr. Flett mentioned. So as we mined, so you mine out a stope, and then you backfill it with a cemented rock fill and that's filled. And then you go above it or below it, depending on your style of

mining. So over the course of the -- of mining at Cluff Lake, the underground mines get mined and backfilled. And there's an abundance of rock. There's no shortage of rock to fill that, to fill those spaces with.

And then when it came to decommissioning, we decided that we would backfill the Claude pit. So we took problematic -- problematic waste rock was rock that had potentials for acid rock drainage or a contaminant concern -- put them into the Claude pit was the best management for that material.

And we also -- we showed you the picture of the DJ North and DJ X mines, the ones that looked like the figure eight. So one of those pits is filled to just below -- about 12 metres below the water surface. So we've used mine workings to deal with problematic materials.

Maybe to pre-empt the question about the cement containers, I could -- sure.

So when Cluff Lake first started, we mined the D pit. D pit was the first one mined, and D pit had not only uranium but gold. So we had a plant built that could extract uranium. We didn't have a plant built that could extract gold, and we didn't have an approved tailings management facility. So in the interim, we decided to put the tailings into concrete containers. So they kind of looked like septic tanks or concrete cannisters.

And so because D pit was fairly high grade, it was in the range of two to three per cent, but we had a gravity separator, so which meant that we could -- we could by gravitation methods, high-grade the ore up to 30 per cent. So it was 30 per cent uranium feeding the mill.

So we processed that uranium and then saved the tailings in these concrete cannisters which were high in gold and also high in radium. And so there's a lot of discussion at the very beginning about what to do with this.

And then eventually what we did is we had the tailings management area approved as an area, low-lying area. We were going to put the tailings there and consider the decommissioning options at that time.

So we repulped the -- what were tailings, we extracted the gold, and at the same time we blended down these high-grade tailings with what was the run of mill tailings when we were working mining the next pit. So when the tailings hit the tailings management area, they were lower grade -- they were diluted to a lower grade.

And eventually we broke up the concrete cannisters and put them into the tailings area as well.

So it's kind of the tailings story as it evolved in the early stages.

We tried to, in the appendix to our CMD to

cover the ideas we had when we were choosing the cover system, and talked about do we want a bentonite amended cover, which would be more of a barrier-type cover, or do we want this storm release cover. And so we tried to illustrate our selection there and we went with a fairly simple cover system that is effective. And we're showing that it's effective.

Thanks.

**MEMBER DEMETER:** And I guess the question to some things into perspective, if I may, if you were to do this from scratch again, and you had a tailings management area, would the current standard of practice be to put some kind of barrier between the ground and the tailings versus on the ground? Would that be the current way of doing it? Or is the way you've done it historically still be the way of doing it?

**MR. HUFFMAN:** Dale Huffman with Orano.

I think I'll use the example of our McClean Lake site. So what we chose to do at McClean Lake is we excavated the ore from a pit, didn't process it, just stockpiled it, and then had the pit available as the tailings repository. So using a pit, the way it worked out, that was the best -- the choice for McClean Lake. And we might do that, something like that if we were to do it over again.

But at McClean Lake, we have a pit. It's not lined, right. Really it has to do with the material properties of both the tailings and the surrounding -- there's surrounding rock that help you make that decision. So not necessarily would we -- would we line something. It would really be based on an evaluation of the properties at the time.

**THE PRESIDENT:** Dr. Lacroix?

**MEMBER LACROIX:** Mr. Flett, are you still there? Mr. Flett?

**MR. FLETT:** Yeah, go ahead.

**MEMBER LACROIX:** Okay. Thank you for your intervention. And I would like to go back to your written submission.

**MR. FLETT:** Yeah.

**MEMBER LACROIX:** On page 5, it is mentioned that the ACFN would feel more confident if it had their own community base monitors involved in the decommissioning of Cluff Lake site.

**MR. FLETT:** Well, you know --

**MEMBER LACROIX:** Isn't it already the case? And if it is not, why is that?

**MR. FLETT:** I really don't know. You know, we have our own CBM program. And I think I see Lisa talk to -- that's one of our -- our head of our Department

of the Environment, there -- and I think that there's money -- I think -- I don't know if Jay could talk to that. There is money coming from Adam Levine there. I don't know if he has applied for that.

But I think that would be good into monitoring what's coming up through into Old Fort River from Douglas River, you know, and that's the concern, and just monitoring that. Yeah.

But I think I mean our own CBM program would bring more certainty and more understanding. Like if CNSC comes to Fort Chipewyan and talk to the Elders and talk to this community in a really pragmatic way and say, well, you know, what's going on. And it'll get more comfort for them to know that, you know, this is, you know, they're trying to do -- you guys are trying to do the best thing.

And the other one is to have their own CBM monitors actually there. I think it's been contracted out to another First Nation in Saskatchewan, but it would've been ideal, I guess, for certainty if we had our own monitors from the community come in and do the sampling sort of thing, you know, that kind of thing. I don't know if that's happening now or not.

Is Adam there?

**THE PRESIDENT:** Adam is here and I think

he wants to say something.

--- Laughter / Rires

**MR. LEVINE:** Adam Levine, for the record.

Hi Jack, good to hear your voice.

**MR. FLETT:** Hi.

**MR. LEVINE:** Wherever you are.

And so yeah, Jack and I, we've spoke about their CBM program before. It's I think very interesting. It's great to see that Athabasca Chipewyan First Nation has taken the initiative to have their own community monitors.

We certainly will want to take up Jack on his invitation to come to his community to speak directly to the Elders. It's something we've tried to work on over the years, just the timing hadn't worked out in terms of their schedule of meetings, et cetera.

But I think it's very important because ACFN is the closest community to Cluff, and also there are a few new projects that are going to be happening in their traditional territory as well that they would be interested in hearing more about from us as the regulator and Crown agency. So I think we'll work with the ACFN and Jack to set something like that up and learn more about their program.

And I encourage Jack also to talk more with Orano to talk about their ongoing monitoring.



Obviously, because of the post-decommissioning phase, there is limited amount of monitoring occurring. And Orano does run a process in terms of selecting the monitors for that. But certainly encourage them to talk more about that.

As we've heard today a lot from a number of the Indigenous intervenors the importance of having their own people on the ground and learning more about the monitoring that's going on. So as part of our discussions with ACFN, if we go to the community, we'll talk about the current monitoring that's going on and what we found through our own independent environmental monitoring so we can disseminate that information as well. But certainly happy to learn more about their program as well.

Thank you.

**MR. FLETT:** Thanks, Adam. Appreciate that.

**THE PRESIDENT:** Thank you.

**MR. FLETT:** [indiscernible - poor quality audio]

**THE PRESIDENT:** Ms Penny? Mr. Berube?

Okay. Thank you very much, Mr. Flett.  
Thank you for the intervention.

So we'll now move to our next oral presentation, which is by the Métis Nation of Saskatchewan, Northern Region 2, Local 62, as outlined in CMD 19-H3.10.

Ms Marlene Hansen is presenting by video conference.

Ms Hansen, the floor is yours.

**CMD 19-H3.10**

**Oral presentation by the**

**Métis Nation of Saskatchewan**

**MS HANSEN:** For the record, I am Marlene Hansen. And on behalf of the Buffalo Narrows Local, we'd like to take this opportunity for having an opportunity here today to have a voice on behalf of our community.

My submission is a little different. And but I'm feeling really good about it.

My submission is made in memory of Phil Chartier.

My introduction is my name is Marlene Hansen and I was born and raised in Buffalo Narrows. My family members have been hunters, fishers, and gatherers for many generations, and I have been involved with the Métis since I was 16 and mentored by Phil Chartier.

Current State and Issues

Just a minor flaw. I did have a measurement tool that I was hoping that everyone could have seen, but I didn't happen to get it in in time. So I guess

you can just have to bear with me. But I did leave it with the lady in front, so if you wanted, you could have it. So.

Anyway. There are a number of points I will address at this time regarding the decommissioning of Cluff Lake mine.

First I would like you to look at the ladder of participation I have given you, which I didn't, and hopefully you can get. You will notice that this ladder has 12 rungs whereby there is a progression from the lowest to the highest levels of participation. During this speech, take a look at this ladder, and reflect on the level you believe Orano has engaged the Buffalo Narrows Métis Local community.

It is important you comprehend that our understanding differs significantly from yours.

This is our understanding of our [sic] efforts to engage us in your operation. We believe that Orano has engaged us primarily at the non-participation level, specifically at the manipulation rung. We find that has been a lack of accountability and transparency regarding mine operations and reclamation process.

The community members have issues regarding Orano not following sustainable management and culturally respectful principles and practices. This

involves both ecological sustainability and the extent to which you have honoured community participation and the rights of the Métis and other Indigenous peoples to live in a whole and healthy environment.

It was stated in the letter written to Rodney Gardiner, dated February 15th, 2019, that pending successful transfer of the property into the provincial institutional control, the decommissioned Cluff Lake site will be monitored and maintained for hundreds of years under the administration of the provincial government at the cost of Orano. Nowhere are the Métis communities included or even informed about the planning process.

The provincial government has established the Environment Quality Committee, the EQC, which is controlled by the provincial government and does not recognize, involve, or represent the Métis, who are a distinct people and who have had a northwest Métis land claim since 1994 and are a rights-bearing community.

This is a specific response to recommendations made by Orano regarding the submission on September 17th, 2018, in Canadian Uranium Safety Commission March 15th, 2019.

Renew the Cluff Lake decommissioning licence for a five-year agreement: Agree.

Amend the Cluff Lake decommissioning

licence to replace Appendix A location for licence areas; replace the reference in Appendix B or from the detailed decommissioning plan with a detailed post-decommissioning plan; remove Appendix C; authorize effluent discharge limits; modernize the Cluff Lake decommissioning licence to reflect the Cluff Lake project post-closure status:  
Disagree.

Justification: The fact that there has not been direct consultation with the distinct Métis community, there is no awareness and no trust.

Accept a revised financial guarantee:  
Disagree.

Justification: We are hearing that the proper and agreed-to required environmental regulations and specifications for the work agreed has not been achieved. However, if you are going to revise the financial guarantee, the remaining resources should be reallocated directly to the Métis rights-bearing community. This will assist us in replacing the non-renewable resources that were taken off our territory and allow us to diversify in to alternative economies.

This again reinforces our understanding that Orano has been involved with the Métis Local 62 principally at the manipulation level on the above ladder of participation.

### Impact Due to Mining and Land Reclamation

Our land, water, and air we breathe have been contaminated with significant destructive impacts on us, the flora and the fauna, and our traditional ways of living. There are significant scientific studies and local stories validating this destruction. We value all nature and depend on it for our sustenance.

### Further Recommendations

Our Elders' message: Do what is right.

The Buffalo Narrows Métis Local community supports mining; however, our past experience with Orano has not only given us concerns about ecological impacts and the engagement process, but we are also worried about the plight of your employees who have been laid off, their family members, and our community. We have become quite dependent on Orano and other existing mines for jobs you have provided to us.

Moving forward, how do we work together to develop democratic relationships, increase stakeholders' participation, reaching higher rungs on the participation ladder, support those impacted of the lay-offs from your community, and create a better balance between ecological viability, our economy, and our whole way of living? How do we use financial resources not yet spent to realize local development, continue to recover our lands, and

monitor progress, and to develop our capacity to ensure sustainability of mining practices?

Moreover, how do we become equal shareholders? I recommend we work collaboratively, find appropriate and effective monitoring tools to guide, monitor and enforce progress regarding ecological sustainability and stakeholder participation, devise viable work plans to support this collaboration, develop creative ways to support our community post-decommissioning.

Example, create local business development and employment opportunities and train our residents, especially our youth, in the fields of eco-management, environmental assessment and community economic development and otherwise develop local capacities to work towards ensuring greater understanding about traditional Indigenous respect for place and being one with the land.

We are not willing to forfeit our health for economic development, but we are willing to work with you to ensure that we have the best of both worlds.

Thank you very much.

**THE PRESIDENT:** Thank you.

We'll start with you, Dr. Lacroix.

**MEMBER LACROIX:** Thank you for your intervention. In your written submission you mention that you've witnessed bullying at meetings. Could you expand on

this?

**MS HANSEN:** I was a part of the process where the bullying took place. We would go to the meetings, they would have meetings -- they would set public meetings, we would go in. Because we were connected to -- our communities are small and we were connected to Métis and we'd recognize and identify ourselves as Métis leaders, and we would ask questions that were given to us by some of the employees of the mine that had concerns, but we wouldn't mention, because of the fear that the employees had.

So when we started to ask questions we were shutdown, we were basically yelled, ostracized by our community members because we looked at -- we were looked at as rebels, troublemakers, you name it.

Yeah, it was really difficult, because I believe that that is where we go to inform our people and let our people know what's happening, to be open and upfront. If the issues weren't occurring that the employees were bringing to us and we were trying to address them, then why were we treated and asked to leave meetings and shut off the mic and... Yeah.

**MEMBER LACROIX:** Orano, could you comment on this?

**MR. HUFFMAN:** Dale Huffman, with Orano. I



think the comments that are made aren't about a specific event that I'm unaware of. So maybe if you could elaborate on the timeframe of the event, that could be helpful.

I think, like I said before, we've got a long history of engagement with northern stakeholders. We've most recently visited all the northern communities, met with leadership, met in the communities, went to the high schools, had presentations. By all measures we got very positive feedback.

I can't speak perhaps for predecessors from decades ago, if that's the case, but I can speak for the way what we are now. Bullying behaviour is just not part of our values. We are out to meaningfully engage with people. Perhaps we're not as successful at it as we'd like to be, but it is our intention to solicit information and feedback and communicate on our project.

We can certainly show that when people are opposed to our project there are opponents or intervenors in our project, what we try to do is facilitate them, their knowledge. We given them all the documents that they want, we will meet with them, discuss those. We encourage them to participate. We guide them to intervenor funding at the CNSC.

So I can speak to the behaviours that you can see in us now. I don't know the specifics of the event

that is being talked about.

Thank you.

**THE PRESIDENT:** Ms Penny.

**MEMBER PENNEY:** Thank you for the presentation. This is a question for CNSC. In the written submission by Mrs. Hansen she's asking who, and so it's for the next five years, if that's the licence length we're talking about, who's taking the role of enforcement for ensuring the decommissioning work is done to the level promised.

So the question is to CNSC. Is that the CNSC responsibility?

**MS TADROS:** Haidy Tadros, for the record. That is correct. Our role is to enforce compliance, and compliance deals with everything that is currently found and is being proposed through this licence hearing.

**MEMBER PENNEY:** Thank you.

**THE PRESIDENT:** Thank you very much for your intervention.

With that, we're finished all the oral interventions. I'd really like to thank all the intervenors for their submissions and making themselves available to help the Commission with our decision making. So, again, thank you all for that.

**CMD 19-H3.11**

**Written submission from Emile Burnouf**

We'll now move to the written submissions. The first submission is from Mr. Emile Burnouf as outlined in CMD 19-H3.11.

Any questions from Commission Members on this submission? Anyone with any questions? Okay, no questions on that one.

**CMD 19-H3.3**

**Written submission from Cameco Corporation**

We'll move to the next one, which is from Cameco Corporation as outlined in CMD 19-H3.3.

Any questions on that submission?

**CMD 19-H3.8**

**Written submission from the  
Saskatchewan Mining Association**

Hearing none. Then the next one is from the Saskatchewan Mining Association outlined in CMD 19-H3.8.

Any questions on that?

Okay. Well, that was quick. That concludes the written submissions.

We'll do a final round of any questions that Commissions Members still have that they haven't had an opportunity to ask. We'll start with you, Dr. Lacroix.

**MEMBER LACROIX:** Right. This is in the document submitted by CNSC, CMD 19-H3. On page 23 it says that CNSC anticipates a revised hydrogeology and groundwater modelling and risk assessment technical information documents from Orano.

Could you elaborate on this expected technical information? What sort of information are you looking for?

**MS TADROS:** Haidy Tadros, for the record. I'll ask my colleague Ron Stenson to fill in the detail. But, as was mentioned during the round of interventions, these technical information documents are submitted by Orano. They're quite lengthy, they're voluminous, there's I believe up to five documents that contain a massive amount of data and information with regards to monitoring information.

But if you're asking specifically around the hydrology and the groundwater modelling, perhaps Ron can provide some detail there.

**MR. STENSON:** Thank you. Ron Stenson, for

the record. The original documents that came in in 2015 range CNSC staff had a number of comments and questions to get more clarity and to try and reduce the uncertainty involved in some of the long-term modelling, and some of the assumptions that Orano had made in creating the models and their predictions.

So there was a number of meetings that followed, and we specified the kinds of parameters that we were interested in, the kinds of options that they were looking at, and asked them to update their projections and give us an explanation of how they met the requirements or minimized the risk that we were seeing in the original documents.

So whether it's for any specific technical information document, it's all basically that. It's a response to either the province, but primarily CNSC's comments on the original documents. We anticipate that we'll receive the revised documents sometime this fall accompanying the long-term monitoring plan.

Thank you.

**MEMBER LACROIX:** One more question. How do you validate these models concerning the contaminant mobility over a long period of time?

**MS TADROS:** Haidy Tadros, for the record. I'd like to ask our colleagues from the environmental risk

assessment to take that question.

**MR. GOULET:** For the record, my name is Dr. Richard Goulet. So when we receive the documents, like when you see in our EPR reports, you see long-term predictions, like what's going to be the peak concentrations of elements.

So the role of the groundwater model is actually to verify earlier the predictions. So instead of waiting 300 years, we have groundwater wells where we can actually compare the models that the proponent presents to us and we can compare that to the actual measurements. If they fit, it's adding to our confidence that eventually the plume, when it's going to reach let's say Cluff Lake, for instance, it's going to be at those levels.

So that's the kind of questions that we ask. So using the groundwater modelling and just making sure that the measurements are similar, that gives us confidence. So that's how we build our confidence to the long-term predictions.

**THE PRESIDENT:** Ms Penney.

**MEMBER PENNEY:** This is a question for CNSC. So I think Orano is asking and you're recommending that we reduce the footprint of what is licensed. We've heard that, CNSC, you've asked Orano to consider the new Saskatchewan surface water quality guideline for uranium 15

micrograms per litre. I think we heard it explained a little earlier by Saskatchewan and also by CNSC that it's meant to be a trigger for an evaluation of risk or additional monitoring, or whatever.

Then we heard Orano confirm that Snake Lake stays in the licence, you're not asking that to be taken out. But Island Lake, you are requesting it be taken out.

So my question to CNSC is when I look at Table 2 of the EPR and I look at uranium concentrations in the surface water quality for the period of time, it's 2015 to 2017, for Island Lake it's 76 to 143 for uranium, but for Snake Lake it's .4 to 5.6. So how is Staff justifying leaving Snake Lake in and taking Island Lake out, or at least recommending that?

So if someone could illuminate that for me I'd appreciate it. Orano have their hand up.

**MR. HUFFMAN:** Dale Huffman. Would you like us to answer it first? It's what we've asked for, so we'll take the first shot at that.

**MEMBER PENNEY:** Sure.

**MR. HUFFMAN:** I'll pass it to Diane Martens.

**MS MARTENS:** Diane Martens, for the record. Yes, when we were looking at the proposed parcels

to stay in the licence for transfer to institutional control one of the considerations is the need for those administrative controls.

For Snake Lake the sediment attenuation that is offered to the contaminant transport coming from the Tailings Management Area is an important part of the decommissioning strategy.

**MEMBER PENNEY:** So just let me stop you there. So what you just said, is the continuing flow from the Tailings Management Area into Snake Lake makes you feel that there's going to be additional contaminants introduced, is that what you just said?

**MS MARTENS:** Decommissioning, the contaminant transport happens over a very long time, which is part of the strategy to make sure that all the concentrations on the surface remain very low. So, yes, you are correct. There is a long-term contaminant transport expected from the Tailings Management Area.

When we look at protection -- I'm just going to do a short aside -- is that Snake Lake is only a few metres down-gradient of the Tailings Management Area. Tailings were placed there since the 1980s. We've yet to monitor and measure contaminants that have arrived in Snake Lake. That's almost 40 years, so the design is working quite well.



**MEMBER PENNEY:** Right. But that doesn't explain why you're asking to take Island Lake out when it already has surface water contaminant levels much higher than Snake Lake.

**MS MARTENS:** Because the assessed risk with Snake Lake is, we believe, acceptable, there's no unacceptable risk, and the sediments don't require the same protection from disturbance as is required in Snake Lake.

So should the Island Lake sediments be disturbed or the Island Lake Fen, there would be no downstream impacts, there would be no exceedance of the surface water quality objective. In that way, we don't believe those areas require long-term administrative controls.

Snake Lake and Claude Lake, being immediately downstream of those sources, the Claude Waste Rock Pile, and the Tailings Management Area do, they do require administrative controls.

**MEMBER PENNEY:** But there's already higher concentrations in the surface water at Island Lake than at Snake Lake. So why is your risk analysis telling you that there is no risk associated with Island Lake? I'm confused.

**MS MARTENS:** The protection of Snake Lake, Snake Lake will actually have better water quality over the

long-term, but it will have a future peak. So Snake Lake will have increasing concentrations and then they'll decrease, but the peak remains safe. Island Lake has a higher concentration, but the peak is in the past, and it's only going to improve. The inventory that is in the sediments doesn't require protection from disturbance.

So the inventory, although the concentrations are higher right now, they are recovering and we don't require those sediments for long-term protection of the environment. Whereas with Snake Lake, we want those sediments to stay in place because they are important for long-term protection.

**MEMBER PENNEY:** I'm not for a minute suggesting that you take Snake Lake out, I'm just wondering why you are wanting to take Island Lake out.

So, CNSC, same question.

**MR. McALLISTER:** Andrew McAllister, Director of the Environmental Risk Assessment Division. I'll try to give it sort of a risk assessment context, and some of my other colleagues in licensing or elsewhere may be able to chime in.

I think, and it's sort of been alluded to in the discussion so far, you know, what were those lakes receiving at the time of operation and what are they receiving now?

Island Lake was impacted by the operations of the mine. They have since removed that source term or prevented that source term from continuing, and so we have a situation where it's a lake that, you know, was contaminated and is recovering.

The use of the uranium guideline is, as has been indicated previously, it's sort of that -- we think of risk assessment in a tiered system, it's sort of that first tier where you look at your sort of most stringent guidelines or benchmarks and decide if further analysis is needed.

In this case, it's above that, however the additional analysis shows that there's not unreasonable risk to humans or wildlife.

On the other hand, Snake Lake during operations was not historically impacted. However, given the remediation determined it's now going to be receiving source term contaminants and therefore -- you know, I don't want to put words in the licensee's mouth, but one of the premises for why they've chosen to keep it in, as it continues to receive, is that whereas Island Lake, as indicated, the worst is over so to speak and it's in recovery mode.

Hopefully that -- I don't know if that helped clarify things. I don't know if my colleagues in

licensing wish to add to that?

**MS TADROS:** Haidy Tadros, for the record. So maybe just to help summarize. I'll focus, I believe, more on your question around Island Lake in terms of the amounts that currently in Staff's document on Table 2 show a much higher level of concentration of uranium than Snake Lake.

So the information that's found in Table 2 is information and data that is reflective of the past from 2015 to 2017. So, as was noted, the concentrations there, one, do not reflect the current concentrations of what is there, and the predictions are that concentration today has gone down and will continue to go down.

So from a licensing perspective, looking at what Staff has assessed in terms of risk today, Island Lake does not represent a risk given the values of what the uranium concentrations are, but in the future Snake Lake will and, hence, why the footprint is now being recommended to not include Island Lake, but include Snake Lake. Because all predictions tend to indicate that Island Lake will continue to decrease, so there really isn't that hard value of concentration that we are concerned with at this point.

**MEMBER PENNEY:** A quick follow-up. But if we take it out of the licence there's no obligation for

anyone to monitor the water quality in Island Lake, right?

**MR. HUFFMAN:** Dale Huffman, for the record. We would imagine that Snake Lake will be monitored as part of the -- or, sorry, Island Lake will be monitored as part of the long-term monitoring program, whether it's in the licence or not.

**MR. McALLISTER:** Just, CNSC, I think that remains our expectation as well. I think, you know, we're mindful of everything's connected, right, and so you need to be able to look at both your near field and, as you get a bit further afield. So we have two watersheds in question, and anticipate monitoring at different points in those watersheds moving forward.

**MEMBER PENNEY:** Well, if the expectation is that it will be monitored, why take it out?

**MR. HUFFMAN:** Dale Huffman, for the record. We don't feel that Snake Lake needs the protection of institutional control.

**MS MARTENS:** Island Lake.

**MR. HUFFMAN:** Dale Huffman, for the record. We don't think Island Lake needs the protection of institutional control in the future. Currently, we monitor on site and off site, it's not a restriction on where the monitoring is taken. You can separate those two issues.

For Snake Lake and Claude Lake, the lake

bottom sediments are important, so we want those protected. If you mess with the lake bottom sediments there you're going to mess with the contaminant transport, and they need to be protected.

**THE PRESIDENT:** Okay. Got your answer? Okay, Mr. Berube.

**MEMBER BERUBE:** Just one point of clarification. It has to do with the reseeded of the cover. I'm just curious because it was brought up earlier, that there was some belief that the reseeded that you've selected -- first of all, I'd like to know how you select that reseeded, what's going to be populated and what isn't going to be populated, and whether or not there's provision to actually change that if it's necessary to turn it to natural state, full natural state?

**MS MARTENS:** Diane Martens, for the record. I'm just going to clarify the question. Is it our selection of grasses and forbs for the TMA and Claude Waste Rock Pile versus trees and shrubs?

**MEMBER BERUBE:** All of it, actually. You are trying to return the site to pre-existing condition, right, so that it can be used for traditional use. So the issue is, how have you decided what to plant and what is the plan going forward with a full return to traditional service?

**MS MARTENS:** Diane Martens, for the record. Thank you for the clarification.

All of the grasses, forbs, trees and shrubs across the site were native species. I think there was a small area that required a faster establishing species for erosion control, which was then advised to us because it would be replaced by other native species and that was on the TMA. And the plan was that all areas would become within the succession states, right, so it's not necessarily going to be climax, but it will be climax to disturbance and back to climax again or some variation of that. And the importance for us on the covers with the grass was to establish that sod formation really quickly because erosion was more important to control in those areas versus like the former location of the DJ and waste rock pile, which was flat and there was no engineered structure, so it was easy to put trees and shrubs at that location. And after fertilization the grasses and forbs shifted, so fertilization favour certain species and as we stopped there was a shift and then it reached equilibrium and now what we see is that the vegetation, regardless of what was planted or where, is on a trajectory within that succession state for a boreal forest. Does that help?

**THE PRESIDENT:** Yes.

Dr. Demeter...?

**MEMBER DEMETER:** Thank you.

Just two quick small points of clarification and one question.

So that whole discussion about Snake Lake and Island Lake, does the Snake Lake water drain into Island Lake? Is that a natural -- okay. That helps me.

The other question, and I think this is more to do between Orano and the province, but I wasn't sure. This is based on Orano's CMD and it's based on the SNC-Lavalin appendix. On page 22 it says:

"In addition, Orano will be required to contribute to an unforeseen events fund and provide additional financial assurance that will be available to the province. ...the Site will continue to be monitored and the environment..."

So this has nothing to do with the CNSC financial guarantee, this is an arrangement between Orano and the Province of Saskatchewan? I just want to clarify that.

**MR. HUFFMAN:** Dale Huffman, for the record.

At the time of the transfer into institutional control, we have three funds to provide. One



is a monitoring and maintenance fund, one is an unforeseen events fund, and then there is -- for a period of time there is a financial assurance for what is considered the worst-case failure, but it occurs between us and the province at the time of institutional control.

**MEMBER DEMETER:** And then the one sort of question I have -- this is more methodological for CNSC.

In Orano's presentation they talk about benchmarking radon levels and the comment here which we will clarify is over the licence period compared to the regional mean radon values and to the CNSC reference level of 60 Bq per metre cubed, and that value is derived from publication 65 of the ICRP.

Since publication 65 of the ICRP they have produced a new publication in 2014 and I don't know if that -- which is much more conservative than the original 1993 publication. So is that being taken into account to change that reference level of 60 Bq per meter cubed? I'm happy if you get back to me later, but the ICRP -- the original ICRP document, this is derived from that which is one-tenth of the household value, but they significantly changed that in the recent past. So I wouldn't mind if you reflect on whether or not CNSC has to revisit that reference value based on updates from ICRP. That's all I'm asking. I don't need an answer right now.

**MS SAUVÉ:** So I'm going to say -- Kiza Sauvé, for the record. I am going to hopefully get back to you during this hearing, so either tomorrow, because it is still part of the same -- I'm not sure if that matters. No. Kelly says no, okay. So we are going to look at getting back to you.

I just want to --

**MEMBER DEMETER:** They are well within that range.

**MS SAUVÉ:** Yes.

**MR. DEMETER:** It's just it seems it's a really dated reference.

**MS SAUVÉ:** Can I just get clarification? Is it outdoor radon or are you looking at worker?

**MEMBER DEMETER:** Well, the other part of the question. It's derived from 65, but 65 doesn't talk about outdoor radon, it talks about indoor radon. It was a value of 600, which you probably took as a conservative one-tenth of that to get 60. In the new one it is 300, so if you go down the same path it would be 30. But I just was curious about the methodology, how you got there and whether it has changed with ICRP 126, which is the newest -

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**MR. McALLISTER:** Dr. Demeter, just to perhaps maybe not fully answer your question, but give you

a sense of the direction we are going.

So this matter has come up in the past, I believe from yourself or perhaps from Dr. Binder, about the choice of reference levels used in reporting in Regulatory Oversight Reports and such, and we have recognized exactly what you pointed out about the use of that. And the way we have moved and the way we actually presented it in the last year Regulatory Oversight Report when we were before you was we went to background levels to use that as a point of comparison. So what we did was we, through work between our Directorate and that of the Uranium Mines and Mills, looked at background in Saskatchewan and then plotted that on the graphs that we presented along with what the radon levels were measured. So that is the direction that we have been going to with respect to reporting on radon levels.

**MEMBER DEMETER:** Thank you.

**THE PRESIDENT:** A question for CNSC staff, and more for my education.

Staff, you made the conclusion that the duty to consult did not apply for this relicensing application. If it had, what additional engagement would you have undertaken?

**MR. LEVINE:** Adam Levine, for the record.

So just to back up in terms of what the

duty to consult is, is it's a common law principle based on section 35 of the *Constitution Act* and through Supreme Court decisions indicating that should an agent of the Crown or the Crown -- and the Commission is an agent of the Crown -- make a decision that could potentially impact indigenous or treaty rights, so if that decision could impede the exercise of those rights or alter their ability to exercise those particular rights, then the Crown has an obligation to consult with those particular communities.

So in this case the decision before the Commission is to renew the ongoing post-decommissioning of the Cluff Lake site and for that reason staff didn't see this decision having any bearing or impact on the current exercise of rights as the site, as we have said, is available for traditional use as is and that would continue under our oversight over this licensing term.

However, to your question, President Velshi, around what would be done differently, and to be clear we have done engagement and consultation just as we would should a duty to consult arise. We have notified the communities of the process, given the opportunity of participant funding, ensured those directly affected had the opportunity to come before you, the decision-makers, the agent of the Crown, to express their concerns, as they have done today, and to ensure that their concerns are

followed up with in a meaningful way. But there is a spectrum of the duty to consult and potential impacts, so if there are further impacts or concerns, like a new mine or something like that, then we would do additional activities and there would be additional process potentially in place like an environmental assessment, et cetera.

**THE PRESIDENT:** Okay. Thank you.

Anyone with any additional questions? No?

So before we conclude the hearing, I will turn the floor to Orano. You have the final word.

Mr. Huffman, the floor is yours.

**MR. HUFFMAN:** Dale Huffman, for the record.

Thank you very much. Thank you to everyone who has participated in this hearing. I know that especially for the intervenors it's a challenge and I'm happy to see folks have turned out and had their say and provided their input.

I think most important at this stage in the Cluff Lake life is to remember that mining is a temporary use of the land and we are at the end and in a way it is breaking new ground. We are not here in this way very often and so we are feeling that out and coming to understand that.

I would like to say that Cluff Lake throughout its life from the very beginning, everything that we have done has been planned and assessed and approved before we carried that out.

Now, things change over time and we have to face that, and we have to accommodate that and we have talked about changing standards and how we deal with those, and we have to deal with uncertainties and we have to deal with making the best decision for the future. So we believe we are at a stage where we have met the decommissioning objectives, and not just met them but we have resolved all the uncertainties that we had when we first talked about decommissioning and we can be confident when we say that the decommissioning objectives have been met.

So I think that's all. I have probably said enough today. I will leave it at that, thanks. Thank you to the Commission and to the staff.

**THE PRESIDENT:** Okay.

Thank you everyone for your participation.  
Kelly, any final remarks?

**MS MCGEE:** This brings the public hearing to a close. 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 and we will advise you accordingly.

The Commission will reconvene tomorrow morning at 9:00 a.m. for the public hearing on the application for the renewal of the licence of Best Theratronics.

For today, if you borrowed interpretation devices, remember to return them at the reception and claim your identification card.

Thank you very much for your attendance and have a good evening.

--- Whereupon the hearing adjourned at 5:36 p.m.,  
to resume on Thursday, May 16, 2019 at 9:00 a.m. /  
L'audience est ajournée à 17 h 36, pour reprendre  
le jeudi 16 mai 2019 à 9 h 00