

Canadian Nuclear
Safety Commission

Commission canadienne de
sûreté nucléaire

Public hearing

Audience publique

Janvier 26th, 2022

Le 26 janvier 2022

Public Hearing Room
14th floor
280 Slater Street
Ottawa, Ontario

Salle des audiences publiques
14^e étage
280, rue Slater
Ottawa (Ontario)

via videoconference

par vidéoconférence

Commission Members present

Commissaires présents

Ms. Rumina Velshi
Dr. Sandor Demeter
Dr. Timothy Berube
Mr. Randall Kahgee

M^{me} Rumina Velshi
D^r Sandor Demeter
M. Timothy Berube
M. Randall Kahgee

Registrar:

Greffier:

Mr. Denis Saumure

M^e Denis Saumure

Senior General Counsel:

Avocate-générale principale :

Ms. Lisa Thiele

M^e Lisa Thiele

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via videoconference / par vidéoconférence

--- Upon commencing on Wednesday, January 26, 2022

at 9:00 a.m. / L'audience débute le mercredi

26 janvier 2022 à 9 h 00

Opening Remarks

THE PRESIDENT: Good morning and welcome to the public hearing of the Canadian Nuclear Safety Commission on the application by New Brunswick Power for the renewal of the licence for the Point Lepreau Nuclear Generating Station.

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

I would like to begin by recognizing that participants in this hearing are located in many different parts of the country. I am speaking to you from Toronto, in the traditional territory of many nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples, and now home to many diverse First Nations, Inuit and Métis peoples.

I would also like to acknowledge that the Point Lepreau Nuclear Generating Station, which we will be talking about today, is located in the territory covered by the Peace and Friendship Treaties with the Maliseet,

Passamaquoddy and Mi'gma peoples.

I will pause for a few seconds in silence so that each of us can acknowledge the Treaty and/or traditional territory for our respective locations. Please take this time to provide your gratitude and acknowledgment for the land.

--- Pause

LA PRÉSIDENTE : Je vous souhaite la bienvenue, and welcome to all those joining us via Zoom or webcast.

Under my authority to do so in section 22 of the *Nuclear Safety and Control Act*, I have established a four-member Panel of the Commission to conduct this licence renewal hearing.

I will preside over the hearing, and I have with me on the Panel, Dr. Sandor Demeter, Dr. Tim Berube and Mr. Randall Kahgee, who are, like me, present remotely for this virtual hearing.

Ms. Lisa Thiele, Senior General Counsel to the Commission, and Denis Saumure, Commission Secretary, are also joining us.

Today's safety moment is on the topic of emotional health.

Mental health and coping with the COVID-19 pandemic continue to be two topics of great interest. As

winter has firmly set in, gathering restrictions and economic shutdowns continue to remain in place, and day-to-day activities continue to be impacted far beyond what was predicted and anticipated. Previous activities and coping mechanisms we relied on to ensure our well-being and that of our families and loved ones need to evolve and change to keep ourselves present and healthy.

Mental and emotional health plays a key role in overall well-being and if left unattended can have long lasting impact on our life and on those around us. Navigating these fast-changing times and coping with seasonal changes requires resilience, willingness to be kind to oneself, allow ourselves to not be perfect and supporting each other.

Some other things to keep in mind:

- Seek information from credible sources and find balance between staying informed and being information overloaded;
- Intentionally unplug and spend time with family and friends, whether it is people in your household or virtually meeting with family and friends;
- Small gestures can have a big impact, and supporting each other can be as simple as calling or messaging a neighbour or friend who lives alone, active listening to a colleague who needs someone to talk to about

the uncertainty they are experiencing or saying a genuine thank you to our frontline workers;

- Do something for yourself and practise self-compassion: exercise, read a book, play a musical instrument, go for a walk, paint or draw something that inspires you;

- Lead by example, be creative, and remember that mental and emotional health is just as important as all other aspects of our lives that we need to learn to navigate during the ongoing COVID-19 pandemic. Finding ways to give back not only helps those around us but can also help provide a sense of purpose and give ourselves a much needed emotional boost.

With that, I will now turn the floor to Mr. Saumure for a few opening remarks.

Denis, over to you.

M^e SAUMURE : Bonjour, Mesdames et Messieurs. Bienvenue à l'audience publique de la Commission canadienne de sûreté nucléaire.

During today's business, we have simultaneous interpretation. 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, reflétant 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 three-month period after the closure of the hearing.

As a courtesy to others, please mute yourself if you are not presenting or answering a question.

As usual, the President will be coordinating the questions to avoid having two people talking at the same time. During the question period if you wish to provide an answer or add a comment, please use the "Raise Hand" function.

President Velshi.

CMD 22-H1.A

Adoption of Agenda

THE PRESIDENT: Thank you.

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 22-H1.A.

Do I have concurrence?

For the record, the agenda is adopted.

Denis, over to you for some introductory remarks.

MR. SAUMURE: Thank you.

This is Part 1 of the public hearing. The Notice of Public Hearing and Participant Funding 2022-H-02 was published on August 17, 2021. A revised notice was posted on October 13, 2021 to announce a change of dates for Part 2 of the hearing.

Part 2 of the public hearing is now scheduled for May 11 and 12, 2022 and will be held in Saint John, New Brunswick if we are able to hold an in-person public hearing at that time.

The public is invited to participate either by oral presentation or written submission at the Part 2 hearing. March 28, 2022 is the deadline set for filing by intervenors.

Participant funding was available to intervenors to prepare for and participate in Part 2 of the hearing. The Funding Review Committee, independent of the Commission, reviewed the applications. Funding will be provided to seven applicants. The PFP decision is

available on the CNSC website.

The submissions from NB Power and CNSC staff for today's public hearing were filed on December 22, 2021, and the presentations were filed on January 19, 2022.

All the documents presented today are available electronically on the CNSC website or upon request to the Commission Registry.

I want to note that representatives from other provincial and federal governmental departments are joining us remotely and will be available for questions later this morning.

President Velshi.

THE PRESIDENT: We will begin with the presentation from NB Power, as outlined in CMDs 22-H2.1 and 22-H2.1A.

I will turn the floor to Mr. Power from New Brunswick Power for this presentation.

Mr. Power, please proceed.

CMD 22-H2.1/22-H2.1A

Oral presentation by NB Power

MR. POWER: Bonjour, President Velshi, Members, guests.

Just one second here. Excuse me.

--- Pause

MR. POWER: Jason Nouwens will start off the first few slides and then he will turn it back over to me if that's okay.

Okay, Jason.

MR. NOUWENS: Thank you for that, Mark.

Jason Nouwens, for the record. Thank you and good morning.

President Velshi, Members of the Panel, CNSC staff, observers and guests, my name is Jason Nouwens and I'm the Director of Regulatory and External Affairs at the Point Lepreau Nuclear Generating Station.

Next slide, please.

Before we start our presentation, we would like to recognize and honour the significance and culture and First Nations people. We have people joining us from various parts within and outside of Canada. In peace and friendship we invite you to reflect upon the ancestral lands where you now sit and respect the contributions that Indigenous peoples have made historically and presently and how we may all work together as we move into the future.

I will now introduce our team.

Presenting with me today is Mark Power, who is our Site Vice President at the Point Lepreau Nuclear Generating Station.

We also have various members of our station and corporate team, including:

- Jennifer Allen, our Station Health Physicist;
- Joel Armstrong, our Station Director;
- Kathleen Duguay, our Manager of Community Affairs and Nuclear Regulatory Protocol;
- Jennifer Lennox, Director of Engineering and Chief Nuclear Engineer;
- Andrea McGathey, Environmental Technical Specialist;
- Pierre Michaud, our Manager of Strategic Engineering;
- Derek Mullin, our Superintendent of Deterministic Safety Analysis;
- Austin Paul, First Nations Specialist and Community Liaison;
- Nick Reicker, our Manager of Regulatory Affairs and Emergency Preparedness;
- Herb Thompson, Computer Design Supervisor; and
- Krista Ward, our Director of Continuous Improvement and Emergency Services.

Next slide, please.

The presentation will consist of a general

overview, a description of our station operational activities, First Nation, community and public engagement initiatives, followed by some closing remarks.

Next slide, please.

Point Lepreau Nuclear Generating Station is a CANDU design, as you all know, and we do consider it the foundation of our provincial power supply. We do provide more than one third of New Brunswick's in-province energy requirements and normally the station is ready for 705 megawatts of clean energy to the grid.

Next slide, please.

This short slide signifies the significance of our staff to our operation. It is the fundamental foundation of how we operate the station.

As our qualified and competent workforce, we have approximately 900 highly-skilled and trained employees, all committed to the safety of the workers, the public and the environment.

We have received several safety awards over the last several years and have surpassed two million person-hours without a lost-time accident. This is testament to the commitment from all of our staff to safety.

To ensure that we are always competent and ready to respond to anything, we have an extensive and

continuous training program which includes an onsite full-scale control room simulator. This full-scale control room simulator looks and acts exactly like the control room and allows us to have very extensive and rigorous training programs to make sure that our control room staff are always ready to respond and highly competent in a world-class manner.

In addition to the control room simulator, we have an onsite full-scale fuelling simulator which allows us to practise the evolutions required to maintain our fuelling.

In addition to these large-scale simulators, we also have mechanical and instrumentation labs and implement a number of tabletop and hands-on drills and exercises every week to make sure that our staff are always highly trained and competent.

Next slide, please.

As you know, we are here today to request a 25-year operating licence and these bullets represent a subset of our commitment to that:

- We will meet and/or exceed all regulatory requirements;

- We are committed to implementing and maintaining a strong safety culture;

- We are committed to continued

investments in the station to make sure the reliability and the investments from a physical standpoint are always maintained as part of our commitment to reliability and safety;

- We will continue to implement safe and sustainable long-term operations;

- We are committed to continuous performance improvement;

- We have always been and always will be stewards of the environment; and

- The final bullet is we will commit to maintain open and transparent relationships with First Nations people, all of our communities and anyone with an interest in our operations. We understand that our operation is founded on the social licence of those in our communities to support our operations.

Next slide, please.

We will now move into station operations and a discussion of some of the detailed areas of our station, and I will turn it over to Mark Power.

Mark, over to you, please.

MR. POWER: Thank you, Jason.

And to start over, good morning, bonjour, President Velshi, Members of the Panel, CNSC staff, observers and guests. For the record, my name is Mark

Power, I'm the Site Vice President at the Point Lepreau Nuclear Generating Station. I will now present to you some information about our station operations.

Next slide, please.

Our Navigating for Excellence Program that we have implemented allows us to communicate our consistent multi-year plan that engages all staff in ownership of our plant. They can clearly see that station goals that we are setting this year and for future years under each of the following areas of safety excellence, leadership excellence, operational excellence, process excellence and equipment excellence. We also have a business acumen attribute to this program. This is so that we can continue to set challenging goals for our station that everybody contributes to on our journey to excellence.

We have circulated little handbooks that everybody in the station carries with them and we use this book regularly as kickoffs to safety messages and refer to it. This is a part of our day-to-day operation and the entire workforce is engaged in this program.

Next slide, please.

To ensure nuclear safety at our station, we have a robust design, multiple barriers of defence-in-depth as we call it, continued safety improvements in our station, current and up-to-date probabilistic safety

assessment that is updated every five years; seismic assessments that are validated with current technology. These principles all contribute to our strong and stable safety performance over our existing licensing period.

Next slide, please.

As we have already heard on this presentation, our staff are our most important asset. We invest in their development and education. We have a robust succession plan for our organizational depth and this drives ownership and accountability at all levels of our organization.

Next slide, please.

Our Management System Process Model maps our processes and procedures to all current codes and standards. It is a systematic way for us to ensure we meet our requirements, goals and objectives with safety and quality.

Our Corrective Action Program is our improvement engine to help us drive continuous improvement through self-assessments, benchmarking and effective use of our operating experience. We have a strong internal and external Nuclear Oversight Program.

Next slide, please.

Some more of our main control room staff. As I have indicated, our staff are our greatest asset here

at Point Lepreau. We are very proud of them.

Next slide, please.

Progressing with some more of the safety and control areas framework, which allows us a consistent approach with clear expectations on safety objectives, where we continually assess our performance against them to ensure that we protect their health, safety, security and the environment.

Specifically under human performance, we use a lot of human performance tools and training; initial and continuing training for all staff following the systematic approach to training model; management and leadership development; certified training programs for control room operators, shift supervisors, our Station Health Physicist; and talent development and succession planning and recruitment.

These are further supported by fitness for duty programs; minimum shift complement and hours of work requirements; as well as workplace total health (physical, mental, social) through prevention, early intervention and support.

Next slide, please.

Point Lepreau implements and maintains an operational program to ensure the safety of the public, environment and station during normal and/or highly

unlikely accident conditions through many means such as:

- industry leading performance metrics;
- reporting and trending under REGDOC-

3.1.1;

- executing planned and unplanned outages with safety and quality;

- operating the station within the Safe Operating Envelope; and

- having a well-established severe accident management program.

Next slide, please.

Safety analysis. At Point Lepreau we are committed to maintaining the design and safety basis of the station through many different means:

- deterministic safety analysis;
- computer software quality assurance;
- hazard analysis, including seismic, high

winds and tsunamis;

- probabilistic safety analysis compliant with REGDOC-2.4.2, which was recently updated in November of 2021;

- severe accident analysis; and

- management of safety issues, including research and development through CANDU Owners Group.

I would like to reinforce our tight ties

to the industry best practices through our comprehensive programs and participation with the industry to ensure we are correct and up to date with the most recent codes and analysis.

Next slide, please.

A periodic safety review has been completed in the last year in accordance with REGDOC-2.3.3, Periodic Safety Reviews. The purpose of the PSR is to evaluate our station against modern codes and standards, and to identify any factors that would limit safe, long-term operation covering a 10-year period. The resulting outputs of the PSR are captured in the Integrated Implementation Plan (IIP). NB Power is committed to completing additional PSRs as required by REGDOC-2.3.3 throughout the duration of the licensing term, which is required every 10 years.

Through our Integrated Implementation Plan mentioned above, we commit to maintaining the plant in a state that is comparable to a new nuclear plant.

Next slide, please.

Under the SCA of physical design, Point Lepreau ensures all design changes are executed in accordance with the design configuration process, which includes:

- configuration management and change

control;

- our pressure boundary program;
- oversight by the Authorized Inspection

Agency, or AIA;

- site characterization;
- structures, systems and component design

utilizing a defence-in-depth approach;

- robust design documentation;
- increase and sustained integrity of

plant, processes and equipment.

Next slide, please.

Under fitness for service, Point Lepreau has several programs and processes in place to manage equipment fitness for service and equipment performance of the systems, structures and components through:

- equipment reliability and maintenance

programs;

- system performance monitoring;
- maintenance backlog reduction;
- aging management;
- chemistry control;
- periodic inspection and testing of

pressure retaining systems and components; and

- robust fuel channel management plan and

fitness for service assessments under the CSA documents

listed there.

These programs help us assure that our systems and components are regularly reviewed and that appropriate maintenance and testing is completed.

Next slide, please.

Under radiation protection, our program ensures that radiation doses and contamination levels are maintained as low as reasonably achievable, or ALARA, through:

- application of the ALARA principle;
- effectively managing worker dose control;
- effectively managing radiological hazards through work planning; and
- radiation protection program performance consistent with industry best practices.

As you can see in the pictorial on the right-hand side, the smallest circle in the centre of those other circles, this indicates a total radiation dose due to emissions from Point Lepreau since station operation in 1984, a very small portion compared to natural background or legal limit for dose from emissions.

Next slide, please.

Conventional health and safety. At NB Power, safety is everyone's responsibility and is

fundamental to our success. A strong safety culture and a healthy workplace environment are at the heart of everything that our staff do and are demonstrated through many different means such as:

- shared commitment between NB Power and the IBEW Local 37;

- low level reporting for accidents and injuries;

- as Jason had indicated, we have surpassed 2 million person-hours without a lost-time accident; and

- we have an active Joint Health and Safety Committee which allows our management employee representatives to work hand-in-hand to promptly and effectively resolve any safety concerns that should arise. Next slide, please.

Under environmental protection, NB Power is committed to ensuring the protection of our environment in which we operate and that of our community through maintaining certification and registration to ISO 14001, which was updated in 2015; radiological and conventional environmental monitoring and sampling; progression of *Fisheries Act* authorization with compensatory off-setting; updated environmental risk assessment, which was updated in 2020, including a thermal plume assessment; and supporting

local organizations for migratory bird observations and the monarch butterfly sanctuary.

Regarding the monarch butterfly, we have an official monitoring station here at site where we tag these butterflies before they embark on their journey to the west coast of California or mountainous areas of central Mexico. We have many guests and visitors that come to observe this at our station. We are very proud of this monarch butterfly waystation that we have here at Point Lepreau. Next slide, please.

Under the SCA of waste management, NB Power is committed to the safe and reliable processing of active and inactive waste and storage of these materials through waste characterization, waste minimization at the source, volume reduction of legacy low-level, intermediate-level waste, maintaining a solid radioactive waste management facility and management of used fuel, maintaining a preliminary decommissioning plan and cost estimate study with associated financial guarantees, which was also updated in 2020. Next slide, please.

These are some of our highly trained and qualified emergency response team that are always poised to ensure our safety at our site. Next slide, please.

Under emergency management and fire protection, NB Power is committed to ensuring the ability

to respond to radiological and conventional emergencies in a timely, effective, and coordinated manner. This is carried out by means of a comprehensive all-hazards approach to emergency management. This is demonstrated through the following methods: updated technical planning basis for radiological emergencies, which was updated in 2021; strong local and regional partnerships with Musquash Fire Department, Saint John Fire Department, and NB Emergency Measures Organization and other response agencies; we have annual fire and mutual aid drills; completion of the Synergy Challenge, which was completed in 2021, was an emergency exercise; enhanced emergency facilities and infrastructure located on site; and dedicated emergency facility in St. George as a secondary location should we have to relocate; continuing training, drills, and exercises with all emergency response organization members.

We are proud of the drills and the annual exercises that we do with our local community. Next slide, please.

Under security, Point Lepreau has established a comprehensive nuclear security program that uses the security-in-depth model. The nuclear security program supports the station's fundamental nuclear safety objective to protect the public, site personnel, and the

environment from harm through highly trained and qualified members, robust security equipment and facilities, cyber security program in compliance with CSA N290.7 to -14, and established relationships in agreement with local, provincial, and federal law enforcement agencies along with continuous training and drills and exercise programs. Next slide, please.

Safeguards and used fuel: NB Power meets all federal and international obligations for safeguards and is committed to the safe use of nuclear material. We here at Point Lepreau implement the IAEA safeguards in accordance with the Canadian obligations to the IAEA through ensuring all new and used fuel bundles are stored safely on site, that our nuclear material accounting and control is regularly completed, access and assistance to the IAEA for impromptu or scheduled visits, and safeguards equipment, containment, and surveillance upgrades and maintenance. Next slide, please.

Investing in the future. We here at Point Lepreau are committed to ensuring safe and reliable operation. We have a comprehensive age management program, long-term asset management plan, upgrades and replacements to turbines, large motors, and station transformers. We have a moderator D₂O replacement initiative underway, implementation of a 24-month outage frequency, and we are

committed to continue to upgrade our site with capital investments. The transition to the 24-month outage frequency to be more in line with industry as a single-unit station, this allows us more white space for implementing our improvement initiatives in between the outages. Next slide, please.

I'm getting to the favourite part of my presentation. This is on the First Nations and community engagement. Here is Awson (ph) here with his father, one of our employees.

We at Point Lepreau are committed to maintaining excellence in community relations. We support community activities that improve lives, protect the environment, celebrate culture, encourage education, and build healthy communities in areas adjacent to the station. We recognize the importance of well-established relationships and place a special emphasis on our relationship with First Nations and the local community. Part of that culture is to ensure strong engagement, partnership, and transparency with our communities. Next slide, please.

We have a strategic approach to First Nations affairs, which enhances and complements corporate policies and guides NB Power in its relationships with First Nations. The approach is built upon three

interdependent pillars: engagement and community relations, which focuses on building and maintaining relationships with First Nations groups and communities. Education, cultural awareness and sensitivity focuses on educating NB Power's organization to understand and appreciate First Nations' culture. Since our last licence renewal, an online orientation has been made available for all employees and contractors here at Point Lepreau and NB Power. And under employment, it focuses on improving Indigenous employment opportunities both directly and indirectly. We are committed to ensuring a welcoming and supportive environment of respect, recognition, and inclusion that embraces and values diversity. Next slide, please.

NB Power understands the importance of "designing with, and not for" when collaborating with First Nations. I'll highlight a few examples.

Engagement and community relations: We have an independent environmental program that was designed with MTI and WNNB to respond to their interest, additions, and innovations approaches, which made the sampling programs effective.

First Nations affairs is involved in the Community Relations Liaison Committee and engages with fishers and the facilities. Studies are being designed and

developed with First Nations organizations in response to their expressed interest.

Under education, we have an online cultural orientation, as I mentioned, experimental cultural awareness opportunities provided such as the Blanket Ceremony, National Truth and Reconciliation Day, the Moose Hide Campaign, and Red Dress Campaigns, all that we fully support here at the site.

In 2021, we had a workshop of First Nations youth was held on site to learn about -- where they could learn about station operations, potential careers, and connect with the land. And we have a dedicated Indigenous employment officer is on staff to advocate, champion, and coordinate Indigenous hiring. They work with several agencies promoting Indigenous employment. Next slide, please.

Under community engagement, we at New Brunswick Power are committed to responsive communications built on the principles of transparency and openness. A public information program for the Point Lepreau station is robust and designed to ensure our members of First Nations and local communities, the public, and stakeholders to ensure they receive information about our station operations in a way that it meaningful to them. Our program meets the requirements as outlined in CNSC's

REGDOC-3.2.1.

In this particular picture, we have Kathleen, one of our community liaison managers. She's out with the local fishers. And for the last several years, we had a large showing from the station that would go and meet and greet with the local fishers on the first day of the fishing season to kick off their effective season. We would meet them there at 4:00 or 5:00 in the morning at the dock. We'd provide them coffee and hats and we would wish them well for their season, because they are part of us and a part of our community.

Many of these local fishers are on our Community Liaison Committee that we regularly meet with. They are our eyes and ears out on the water around our station. And they remind us that their central interest is water, quality of the Bay of Fundy, which we sit on.

We have very strong engagement and partnership and transparency with our local communities. They help us uphold these commitments. Next slide, please.

Many of the communication activities in our public information program are designed to allow us to seek feedback and commitment from public and stakeholders during our activities such as through surveys following public open houses, sessions, and webinars as part of discussion during stakeholder briefings, and regularly

through our community liaison community meetings that I already mentioned.

It is very important to us as we embark on this new long-term licence is that we have an effective Community Liaison Committee that is going to be sustainable going forward, so we recently engaged with them to ensure that they are having a mentoring program and having people that would start to mentor underneath them so that we can sustain this Community Liaison Committee as strong as it is with our relationships with the local communities and to ensure that they have a sustained program going forward over the next 25 years.

Our members will proactively consider who will replace them on the committee for their respective group and sector. Prior to their departure, the current members will provide mentorship to the incoming members and ensure transfer of institutional knowledge. This is also an opportunity to identify and introduce youth onto the committee.

We have a continuous improvement culture here in everything we do. We are already considering ways of evaluating our program and seeking input before a more formal and frequent basis, including issuing a questionnaire to all community committee members with questions specifically seeking input on our program. In

December, we just hosted a webinar in support of this hearing. We are reaching out to the registrar of that session so that we can ask for their feedback on the webinar and program overall.

And the picture you can see here is *From the Point*. It's one of the articles that we regularly share with the local community. We put it out into their mailboxes and hand them out door to door within about a 25-kilometre range to ensure that they are up to date and current with anything that we are -- have ongoing here at the station. And as you can see, in this particular one we are referencing the licence hearing that we are talking about here today. Next slide, please.

We already mentioned our Navigating for Excellence. This is our Mission 2022 handbook. We issue this once a year. Other methods of internal communication are we have station bulletins, Navigating for Excellence handbook, employee engagement initiatives to ensure that our employees are aware of and engaged in all of our activities. We have an open-door policy here at Point Lepreau. I invite anybody to come as well as the senior leadership team does to come and see them at any issues or concerns they may have. We have regular all-hands sessions with the leadership, leadership forums. We have union leadership engagement activities. We are continually

communicating and engaging with our staff. Next slide, please.

So we are requesting a 25-year licence renewal to 2047, which will cover the remainder of our anticipated operating period. With this licence request, NB Power is committed to providing New Brunswick with safe, reliable, and non-emitting electricity for an additional 25 to 30 years. And our commitment that will go along with this is committing to maintaining excellence in nuclear power operations at Point Lepreau. We are committed to maintaining strong regulatory confidence and adhering to the latest applicable codes and standards, REGDOCs, CSAs, et cetera, and determining the safety case for inclusion into our station's *Licence Conditions Handbook* through the requested 25-year licensing term. Under the requirements of REGDOC-2.3.3, there will be additional reassessments of the PSR, Periodic Safety Review, every 10 years throughout this requested 25-year licensing term.

In summary, we are asking for the CNSC to grant us a 25-year operating licence for our station. Next slide, please.

Our senior management team with full support of our station staff take full responsibility and accountability of ensuring the station is operated safely here at Point Lepreau. Our people are our strength. And

as I mentioned already, we are very proud of our staff as our greatest asset. Every worker at Point Lepreau plays their part to ensure our station operates safely to the highest standards.

We have a highly trained and qualified workforce who take pride in their work. They are the reason that Point Lepreau had such a long history as a backbone of New Brunswick's electricity system. And this has never been more true than in the past two years of COVID, when their professionalism, dedication, and expertise made sure our province's homes and hospitals could rely on a safe and steady supply of power at a time when it was needed most.

To our staff, it's a very professional and personal responsibility. They don't just work here at Point Lepreau; they are their families live and engage in the communities that surround us. Thanks to our staff, Point Lepreau has an excellent safety record, and I thank you for letting me discuss it with you today.

This concludes our presentation, and we will welcome the opportunity to address any questions you may have. Thank you.

THE PRESIDENT: Thank you very much, Mr. Power and Mr. Nouwens for your presentation.

We will now move to the presentation from

CNSC staff as outlined in CMDs 22-H2 and 22-H2.A.

Dr. Viktorov, over to you, please.

CMD 22-H2/22-H2.A

Oral presentation by CNSC staff

DR. VIKTOROV: Good morning, President Velshi, Members of the Commission, and everyone who joins us today. For the record, my name is Alex Viktorov. I am the director general of the Directorate of Power Reactor Regulation at the CNSC.

With me today are Ms. Anu Bulkan, director of the Gentilly-2/Point Lepreau Regulatory Program Division, and staff from the division including Mr. Patrick Collins, senior regulatory program officer, Dr. Sam Gyepi-Garbrah, senior regulatory program officer, and Ms. Heather Davis, power reactor site office supervisor for the Point Lepreau Nuclear Generating Station. Many other CNSC inspectors and technical staff are also present and will be available to answer any questions from the Commission.

The CNSC acknowledges that the Point Lepreau Nuclear Generating Station is located within the territory covered by the Peace and Friendship Treaties with the Maliseet, Passamaquoddy, and Mi'kmaq peoples.

CNSC staff would like to bring the

Commission's attention to minor errors in CMD 22-H2. These errors are administrative in nature and have no bearing on CNSC staff's conclusions or recommendations. The corrected information is summarized in an annex of this presentation.

Most notably, there are several places in the CMD that request the Commission to accept the preliminary decommissioning plan and the associated financial guarantee. CNSC staff would like to clarify that CNSC staff accept the preliminary decommissioning plan, and the Commission is requested to accept the financial guarantee only.

The proposed licence contains licence condition 11.2, which states that:

"the licensee should implement and maintain a decommissioning strategy."

CNSC staff would like to clarify that the wording of the licence condition should state

"the licensee shall maintain a decommissioning plan."

In this presentation, CNSC staff will provide an overview of our assessment of the New Brunswick Power Corporation's licence renewal application for the Point Lepreau Nuclear Generating Station, including highlights of their performance during the current licensing period.

We will also discuss important matters of regulatory interest, in particular public outreach and Indigenous engagement.

Finally, we will present CNSC staff's overall recommendations and conclusions.

New Brunswick Power Corporation, or NB Power, submitted an application for the renewal of the Point Lepreau Nuclear Generating Station, or NGS, power reactor operating licence for a period of 25 years, as we have just heard. In developing recommendations, CNSC staff have assessed NB Power's request, including information provided with the application, evaluated past performance, and considered planned safety improvements.

Point Lepreau NGS is a single-reactor CANDU station that started commercial operation in 1983. After undergoing refurbishment, it was returned to commercial operation in 2012. NB Power's solid radioactive waste management facility is also located on the same site.

Currently, NB Power holds a consolidated licence for the operation of the Point Lepreau NGS and the waste management facility and for activities associated with nuclear substances and prescribed equipment and approved import and export activities.

The Commission issued the current operating licence on the 1st of July 2017 for a period of

five years. NB Power's operating licence will expire on June 30th, 2022. The proposed licence would authorize the same activities as the current licence. There are no new licence conditions being proposed. If renewed, the proposed licence would commence on July the 1st, 2022.

I will now pass the presentation over to Ms. Anu Bulkan, who will discuss NB Power's licence renewal application and CNSC staff's regulatory oversight during the current licensing period.

MS. BULKAN: Thank you, Dr. Viktorov.

Good morning, President Velshi and Members of the Commission. For the record, my name is Anu Bulkan, and I am the director of the Gentilly-2 and Point Lepreau Regulatory Program Division.

We will now share key highlights from CSC staff's review of New Brunswick Power's licence application.

CNSC regulatory document REGDOC-1.1.3 outlines the requirements regarding an application to renew a licence to operate a nuclear power plant. CNSC staff confirmed that New Brunswick Power's application meets the requirements of REGDOC-1.1.3.

CNSC staff note that New Brunswick Power requested a licence term of 25 years. CNSC staff confirmed that the licence application was complete, satisfied

regulatory requirements, and established an adequate licensing basis for continued safe operation. The proposed renewal does not encompass any changes to the currently authorized operations.

After assessing the application and supporting documentation, CNSC staff recommend a licensed term of 20 years.

While New Brunswick Power's application stated that they are exploring the potential of a small modular reactor, this activity is not included in the current application. If New Brunswick Power chooses to undertake any of these activities, they will be required to submit a new application for Commission approval.

CNSC staff considered New Brunswick Power's performance as a key input into our assessment. We will now provide a brief overview of the regulatory oversight of New Brunswick Power's licensed activities.

The CNSC has a mature regulatory framework that sets robust regulatory requirements and expectations for the safe operation of nuclear power plants. Although it is New Brunswick Power's responsibility to ensure the safe operation of the Point Lepreau Nuclear Generating Station, CNSC staff perform rigorous regulatory oversight activities to confirm New Brunswick Power's compliance with applicable regulatory requirements and assess their

performance during the licensing period.

The CNSC implements a Safety and Control Area Framework that consists of 14 areas. This framework provides a common approach that ensures comprehensive and consistent oversight of licensed activities and facilitates streamlined assessments, recommendations, and reporting to the Commission. A consistent approach also sets clear expectations for New Brunswick Power to meet safety objectives and continuously assess their performance against these objectives to protect health, safety, security, and the environment. The use of a consistent framework promotes improved communications among the Commission, CNSC staff, licensees, members of Indigenous nations, communities and representative organizations, and members of the public. It should be noted that the Safety and Control Area Framework does not limit the CNSC in its conduct of regulatory oversight activities. Additional topics or safety areas may be added at any time.

CNSC staff assess New Brunswick Power's programs and processes to confirm compliance with regulatory requirements and to verify that any changes are in the conservative direction of continued safe operations. CNSC staff conduct inspections in accordance with an established five-year baseline inspection program. The table on the slide shows the number of inspections that

were conducted throughout the licensing period. CNSC staff note that the inspection program was modified in response to the COVID-19 pandemic conditions. Despite the pandemic, CNSC staff continue to maintain an adequate level of oversight.

CNSC staff have established multiple reporting avenues with associated processes for providing routine updates on New Brunswick Power's performance to the Commission and for informing the Commission of emergent situations. CNSC staff report on New Brunswick Power's annual performance during the Regulatory Oversight Report for nuclear power generating sites every year. The report summarizes the outcomes of CNSC staff's regulatory oversight, the status of integrated implementation plan actions, or IIP actions, and highlights of the safety performance of the Point Lepreau Nuclear Generating Station and the solid radioactive waste management facility. CNSC staff provide routine updates on Point Lepreau during the status report and power reactors at every Commission meeting. The update informs the Commission of the current operating status and of any emergent issues. CNSC staff use Event Initial Reports, or EIR, to notify the Commission of significant events and of events that may require a Commission decision. There were no EIRs reported to the Commission during the current licensing period.

I will now pass the present to Mr. Patrick Collins, who will provide key highlights of CNSC staff's assessment of New Brunswick Power's performance during the current licensing period.

MR. COLLINS: Thank you, Ms. Balkan, President Velshi, and members of the Commission. For the record my name is Patrick Collins. I am a Senior Regulatory Program Officer for the Gentilly-2/Point Lepreau Regulatory Program Division.

CNSC Safety Performance Ratings for Point Lepreau Nuclear Generating Station from 2017 to 2020 are outlined in the table. These results were previously -- previously reported to the Commission during the annual Regulatory Oversight Report Commission meetings. CNSC staff note that the use of the "Fully Satisfactory" rating was discontinued in 2019. This is a change in methodology and does not reflect a decline in performance. CNSC staff note that NB Power's performance was either Fully Satisfactory or Satisfactory in all SCAs throughout the current licensing period. The trend demonstrates stable safety performance and indicates that NB Power will continue to comply with regulatory requirements during the proposed licence period.

CNSC staff assessed NB Power's performance during the current licensing period in all SCAs. CNSC

staff note that NB Power has an established and maintains adequate programs and processes in all SCAs. The safety significance of all inspection findings were rated as complaint, negligible or low. CNSC staff confirmed that NB Power takes corrective actions to address noncompliant findings.

The following slides highlight notable items from the selected SCAs as depicted. CMD 22-H2 contains details of oversight in all 14 SCAs.

The Management System SCA covers the process and programs required to ensure an organization achieves its safety objectives, continuously monitors its performance against these objectives, and fosters a healthy safety culture. CNSC staff confirm that NB Power transitioned from CSA N286-05 to a more modern version of the CSA management system standard, CSA N286-12, during the current licensing period. NB Power ascertains the effectiveness of the management system through independent assessments and self-assessments. NB Power updated their safety culture governance to align with REGDOC-2.1.2 safety culture. NB Power has a business continuity process that was updated to include COVID-19 prevention and mitigation strategies. Based on CNSC staff's assessments of NB Power's application and past performance, CNSC staff conclude that NB Power demonstrated adequate provisions in

the management system area.

The Human Performance Management SCA covers the activities that enable effective human performance through the development and implementation of processes that ensure licensees have personnel with knowledge and skills to safely carry out their duties. CNSC staff confirm that NB Power maintain human performance management processes to manage personnel training, initial certification and requalification of certified staff, minimum staff complement, and fitness for duty. NB Power transitioned from a five-crew to a six-crew shift, which resulted in a larger pool of employees available to support minimum staff complement. CNSC staff note that there was one instance where minimum staff complement was affected by the COVID-19 pandemic. NB Power developed a training excellence plan which strengthens training-related processes and procedures based on a systematic approach to change. NB Power maintained qualified personnel to perform the duties of all certified positions. NB Power is in the process of implementing REGDOC-2.2.4, *Fitness for Duty, Volume II: Managing Alcohol and Drug Use*.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude that NB Power demonstrated adequate provisions in the Human Performance Management area.

The Operating Performance SCA includes an overall review of the conduct of licence activities and the activities that enable effective operating performance. CNSC staff confirm that NB Power maintains operating performance processes to ensure safe operation of the station. In compliance with CSA N290.15 requirements for Safe Operating Envelope for nuclear power plants, NB Power maintains a clearly defined safe operating envelope which is supported by deterministic safety analysis.

NB Power conducted planned maintenance outages to complete repairs and testing according to approved governing processes. As part of reporting requirements, NB Power reported events in accordance to REGDOC-3.1.1, *Reporting Requirements for Nuclear Power Plants*. NB Power completed a Periodic Safety Review, known as - known as a PSR, in compliance with REGDOC-2.3.3, *Periodic Safety Reviews*, to support continued safe operation that conforms to modern codes and standards.

Based on CNSC staff's assessments of NB Power's application and past performance, CNSC staff conclude NB Power demonstrated adequate provisions in the operating performance area.

A PSR involves a comprehensive assessment of the current state of the plant as well as the plant performance to determine the extent to which a nuclear

power plant conforms to modern standards and best practices. It identifies any factors that would limit safe and long-term operation. This enables the determination of reasonable and practical modifications that should be made to the plant or programs to enhance safety of the facility to a level approaching that of a new nuclear power plant. REGDOC-2.3.3 is consistent with International Atomic Energy Agency's Safety Standards Series, Specific Safety Guide number SSG-25, *Periodic Safety Review for Nuclear Power Plants*. The requirements and guidance in this document are consistent with modern, national, and international practices addressing issues and elements that control and enhance nuclear safety. In accordance with international practice, ten years is considered an appropriate interval between PSRs. REGDOC-2.3.3 provides the four phases of conducting a PSR. The first phase is the PSR Basis Document, which is an agreement between a regulator and the licensee of the scope of the PSR.

The second phase is Safety Factor Reports, which contain the detailed technical assessments that compare the plant and the programs to modern standards.

In the third phase, the Global Assessment Report summarizes the findings of Safety Factor Reports to provide an overall assessment of the safety of the plant and identifies practical safety enhancements.

The Integrated Implementation Plan, known as -- known as an IIP, documents actions and timelines for implementing the safety enhancements.

In accordance with REGDOC-2.3.3, the licensee's PSR Basis Document, Global Assessment Report, and Integrated Implementation Plan, shall be submitted to CNSC staff for acceptance. CNSC staff report on the IIP to the Commission during the Regulatory Oversight Report for nuclear power generating sites. The proposed draft Licence Conditions Handbook includes compliance verification criteria that requires NB Power to complete a PSR in accordance with REGDOC-2.3.3 every ten years.

CNSC staff confirm that NB Power completed a second PSR, known as PSR-2, that covers the ten year period from 2022 to 2032. CNSC staff reviewed NB Power's technical assessments that compared the plant and programs to modern standards and confirmed that the results were appropriate. CNSC staff notes that NB Power submitted an Integrated Safety Review, which is now known as PSR-1, in 2010. PSR-1 led to the design enhancements and major upgrades during refurbishment, which was between 2008 and 2012.

The current PSR-2 did not identify any major changes. PSR-2 identified areas of improvements that are -- that consist -- that consisted mainly of procedural

updates, alignment with regulatory documents, and modern codes and standards. CNSC staff confirmed that NB Power documented actions to address the results of PSR-2 in the Integrated Implementation Plan. The IIP consists of actions to address 41 aggregate findings with associated timelines for completion. CNSC staff reviewed and accepted the IIP on June 30th, 2021. Any deviations from the IIP require CNSC staff concurrence. CNSC staff will update the Commission on the IIP during the Regulatory Oversight Report for Nuclear Power Generating Sites.

Based on CNSC staff's assessment of NB Power's PSR and IIP safety enhancements, CNSC staff conclude that NB Power will implement safety enhancements during the proposed licensing period.

The Safety Analysis SCA pertains to maintaining the safety analysis that supports the overall safety case for each facility. CNSC staff confirm that NB Power effectively managed safety analysis programs and that safety analysis submissions were compliant with regulatory requirements. REGDOC-2.4.1, *Deterministic Safety Analysis*, requires that the safety report is updated every five years. As per REGDOC-2.4.1, NB Power submitted a revised safety report, including all updated Deterministic Safety Analysis. NB Power completed Trip Coverage Analysis for representative accidents that

considered the protected conditions at mid-life and end of life. The analysis demonstrated that safety margins are adequate considering the effects of aging. REGDOC-2.4.2, *Probabilistic Safety Assessment (PSA) for Nuclear Power Plants*, requires that the PSA is updated every five years or sooner if the facility undergoes major changes. As required by REGDOC-2.4.2, NB Power submitted all updated PSA methodologies and all PSA updates. The final submission was received at the end of 2021 and CNSC staff review is ongoing.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude that NB Power demonstrated an adequate safety case in the safety analysis area.

The Fitness for Service SCA covers activities affecting the physical condition of system structures and components to ensure that they remain effective over the time in performing its intended design function when needed. CNSC staff confirm that NB Power maintained a Lifecycle Management Plan for major components to ensure their continued fitness for service. NB Power has updated their Aging Management Program to align with REGDOC-2.6.3. NB Power inspected major reactor components, including the primary heat transport and auxiliary systems, feeders, fuel channels, and steam generators to confirm

their fitness for service. NB Power adequately updated their Cable Preservation Program.

Under the *General Nuclear Safety and Control Regulations*, subsection 12(2), CNSC staff requested NB Power to provide information regarding the hydrogen equivalent concentration in their pressure tubes. NB Power responded to the letter stating that the analysis completed to date has determined that pressure tube fitness for service continues to be demonstrated for Point Lepreau.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude NB Power demonstrated adequate provisions in the fitness for service area.

I will now pass the presentation to Dr. Samuel Gyepi-Garbrah, who will continue with the highlights of the CNSC staff's assessment of NB Power's performance.

DR. GYEPI-GARBRAH: Thank you, Mr. Collins.

President Velshi and members of the Commission, for the record my name is Samuel Gyepi-Garbrah. I am a Senior Regulatory Program Officer for the Gentilly-2/Point Lepreau Regulatory Program Division.

The Radiation Protection Safety and Control Area covers the implementation of the radiation protection program in accordance with the radiation

protection regulations. The program has ensured that contamination levels and radiation doses received by individuals are monitored, controlled, and maintained as low as reasonably achievable, ALARA.

CNSC staff confirmed that there were no exceedances of regulatory dose limits or radiation protection-related action levels at Point Lepreau Nuclear Generating Station. As shown in the table, the maximum effective dose received by a nuclear energy worker is -- in the current licence period was 13.3 millisieverts, which is approximately 27 percent of the regulatory dose limit of 50 millisieverts per year. From 2017 to 2020 no measurable dose was assigned to a non-nuclear energy worker.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude NB Power is capable of protecting the health and safety of workers in the radiation protection area.

The Environmental Protection SCA covers programs that identify, control, and monitor all release of radioactive and hazardous substances and their effects on the environment from facilities or as a result of licensed activities. NB Power maintains an environmental protection program and engages in monitoring activities.

NB Power submitted an updated environmental risk assessment in accordance with

CSA N288.6-12, *Environmental Risk Assessment at Class 1 nuclear facilities and uranium mines and mills*, and maintains an effluent and emissions monitoring program in accordance with the *Class 1 Nuclear Facilities Regulations* and the CSA standard N288.5-11, *Effluent monitoring programs at Class 1 nuclear facilities and uranium mines and mills*. CNSC staff confirmed that the risk to the environment and human health from all the Point Lepreau Nuclear Generating Station is low to negligible.

CNSC staff conclude that NB Power has made adequate provisions to protect the health and safety of persons and the environment.

CNSC staff conducted an Environmental Protection Review under the *Nuclear Safety Control Act* and associated regulations to confirm that there are adequate provisions to protect the environment.

Environmental Protection Review informs the Commission on whether the licensed application provides adequate protection of the environment.

The purpose of the report is to share CNSC staff's findings from the review of NB Power's environmental protection and environmental compliance activities, this includes any possible environmental releases as part of normal operations and the risk that radiological or hazardous substances pose to the

environment and human health.

The report draws on information provided by New Brunswick Power and CNSC staff's independent monitoring and technical assessments.

CNSC staff arrived at the same conclusion as NB Power, that potential risks from radiological and hazardous releases to the atmospheric, aquatic, terrestrial and human environments from the Point Lepreau Nuclear Generating Station operations are low to negligible and consistent with natural background.

Potential risks to human health are not impacted by operations at the Point Lepreau Nuclear Generating Station and are indistinguishable to health outcomes found in the general public.

CNSC staff conducted an independent environmental monitoring program during 2020 and 2021. Due to COVID-19, some planned independent environmental monitoring program samples from 2020 were completed in 2021. CNSC staff developed the 2020 and 2021 site-specific sampling plan with input from indigenous communities to ensure meaningful results. The samples taken included air, water, soil, sediment, vegetation and foodstuffs collected in publicly accessible areas around the Point Lepreau site. The results for samples completed in 2020 indicate that the environment and people in the vicinity of the Point Lepreau

Nuclear Generating Station continue to be protected. The results from the 2020 and 2021 program will be available on the CNSC's independent environmental monitoring program webpage.

The emergency management and fire protection SCA covers emergency plans and emergency preparedness programs which exist for emergencies and for non-routine conditions. CNSC staff confirmed that NB Power maintains an emergency preparedness program and conducts exercises in accordance with *REGDOC-2.10.1, Nuclear Emergency Preparedness and Response*. NB Power also maintains a fire protection program in accordance with *CSA N293-12, Fire Protection for Nuclear Power Plants*, and has a fully qualified industrial fire brigade.

NB Power maintains appropriate equipment for medical response, hazardous materials response and other conventional hazards at the Point Lepreau Nuclear Generating Station.

NB Power commissioned a new offsite emergency operations centre. NB Power conducts drills and exercises, including full-scale exercises, Synergy Challenge 2018 and 2021, based on emergency response plans that are in accordance with *REGDOC-2.10.1*.

NB Power implemented this suggestion from the 2019 International Atomic Agency Emergency Preparedness

peer review Mission to Canada by featuring a simulated nuclear emergency triggered by a security event during Synergy Challenge 2021.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude NB Power has made adequate preparations to respond to emergencies.

The waste management SCA covers internal waste-related programs that form part of the facility's operations up to the point where the waste is removed from the facility. For the Point Lepreau Nuclear Generating Station, this safety and control area covers the nuclear power plant, the on-site solid radioactive waste management facility and the planning for decommissioning of the Point Lepreau Nuclear Generating Station facility.

CNSC staff confirmed that NB Power maintains a waste management program that includes practices to minimize the production of waste and protect workers and the environment.

NB Power maintains records for the inventory of radioactive waste and radioactive waste transfers. NB Power submitted an updated preliminary decommissioning plan, which includes a cost estimate for the decommissioning of the Point Lepreau Nuclear Generating Station. CNSC determined that the preliminary

decommissioning plan meets the requirements of *Regulatory Guide 219* and *CSA N294-09*. The preliminary decommissioning plan must be updated and resubmitted for CNSC staff review every five years at the minimum.

Based on CNSC staff's assessment of NB Power's application and past performance, CNSC staff conclude that NB Power has made adequate provisions to manage waste in a manner that protects the health and safety of persons and the environment.

The solid radioactive waste management facility provides storage of solid radioactive material generated from the operations of the Point Lepreau Nuclear Generating Station in accordance with the their governing documents. The solid radioactive waste management facility consists of three phases. Phase I of the facility stores operational waste. Phase II stores spent fuel in dry storage canisters. Phase III stores waste generated from the refurbishment of the Point Lepreau Nuclear Generating Station.

CNSC staff confirmed that NB Power submits quarterly solid radioactive waste management facility reports as per *Licence Condition 15.4* as described in the *Licence Condition Handbook*. In 2003, NB Power's proposal for the extension and modification of the solid radioactive waste management facility underwent an environmental

assessment under the *Canadian Environmental Assessment Act*, and the Commission rendered a positive environmental assessment decision. The Commission's environmental assessment decision remains valid for the Phase II extension of the solid radioactive waste management facility.

The Phase II extension that was authorized by the Commission in 2003 has been planned to provide adequate storage capacity for the entire production of spent fuel until the end of life of the Point Lepreau Nuclear Generating Station.

As proposed in *Licence Condition 15.2*, NB Power is required to obtain written approval from the Commission or a person authorized by the Commission prior to the start of operations at the Phase II extension of the solid radioactive waste management facility. The same as in 2017, CNSC staff recommend that the Commission delegate authority to CNSC staff to approve the start of operations of the Phase II extension.

Based on CNSC staff's assessment of NB Power's application and past performance CNSC staff conclude that NB Power implements adequate provisions at the solid radioactive waste management facility to protect the environment and the health and safety of persons.

CNSC staff conclude that NB Power has

regulatory requirements in all safety and control areas during the current licensing period and has therefore demonstrated the ability to comply with the conditions of the current licence. No workers or members of the public around the Point Lepreau Nuclear Generating Station received radiation doses in excess of the regulatory dose limits and all radiological releases were well below regulatory limits.

NB Power maintained a sufficient number of qualified staff and effectively managed and continue to manage the impacts of COVID-19 to ensure the continued safe operation of the Point Lepreau Nuclear Generating Station.

CNSC staff note that safety enhancements will continue to be made during the proposed licence period to maintain the plant and processes in a state that is comparable to a new plant as committed by NB Power in its integrated implementation plan. CNSC staff confirmed that NB Power demonstrated stable performance and met the applicable regulatory requirements throughout the current licensing period.

I will now pass the presentation to Ms. Heather Davis, who will discuss CNSC's consultation and engagement, and other matters of regulatory interest.

MS. DAVIS: Thank you, Dr. Gyepi-Garbrah.
For the record, my name is Heather Davis

and I am the CNSC's Power Reactor Site Office Supervisor for the Point Lepreau Nuclear Generating Station.

CNSC staff reached out to indigenous nations, communities and representative organizations that may have an interest in the proposed licence. The indigenous nations, communities and representative organizations are listed on the slide and were identified because they had expressed interest in being kept informed of CNSC licensed activities occurring in proximity to their traditional and/or treaty territories.

CNSC staff sent letters of notification in July of 2021 to the indigenous nations, communities and representative organizations identified on the previous slide. The letters sent provided information regarding the proposed licence renewal application, the availability of funding to facilitate participation in the hearing process and details on how to participate in the Commission's public hearing process.

CNSC staff conducted follow-up phone calls in August of 2021 to ensure they had received the letters of notification and to answer any questions about the regulatory process. CNSC staff met multiple times a year with the Wolastoqey Nation of New Brunswick, Mi'gmawe'l Tplu'taqnn and Peskotomuhkati nations and communities.

CNSC staff have also conducted a number of

collaborative activities with the nations and communities, including a tour of CNSC's lab in Ottawa, the independent environmental monitoring program sampling and visits to their communities, offices and cultural centres. To date, CNSC staff have not been made aware of any specific concerns with regard to the proposed Point Lepreau licence renewal.

CNSC staff are committed to continuing to address concerns and provide information pertaining to regulatory activities. NB Power's application does not include any new activities or changes in the ongoing licensed activities that could introduce new impacts on the environment. CNSC staff conclude that the licence renewal will not cause any new adverse impacts to any potential or established indigenous and/or treaty rights.

The CNSC made funding available through its participant funding program to assist indigenous nations, communities and representative organizations, members of the public and stakeholders in participating in the regulatory process for the proposed Point Lepreau renewal and to provide value-added information to the Commission through informed topic-specific interventions.

The deadline for applications was October 15 of 2021. A funding review committee, independent from the CNSC staff, reviewed the funding

applications received and made recommendations on the allocation of funding to eligible recipients. Based on the recommendations from the funding review committee, the CNSC awarded a total of \$176,741.98 in funding to seven recipients for their participation in the regulatory review process, including participation in the Commission hearing.

In accordance with section 17 of the *Canadian Nuclear Safety Commission Rules of Procedure*, a notice of public hearing has been issued and posted on the CNSC website, inviting written comments and requests for appearances before the Commission. The CNSC also communicated information about the regulatory process for the renewal of NB Power's reactor operating licence to indigenous nations and communities, the public and stakeholders, and through various methods, including feature articles, graphics on the CNSC website, CNSC meetings and webinars, along with social media.

CNSC staff continue to inform the public of our regulatory activities through regular website updates, publicly webcast Commission proceedings, social media and regular discussions with key audiences near the Point Lepreau Nuclear Generating Station.

I will now present information on other matters of regulatory interest related to this application.

NB Power is required to make adequate

provision of financial guarantees for the safe decommissioning of the Point Lepreau Nuclear Generating Station. The financial guarantee is based upon the preliminary decommissioning plan and associated cost estimate prepared by NB Power and accepted by CNSC staff. Every five years, NB Power is required to update their financial guarantees for decommissioning to ensure that it remains valid, in effect and sufficient to meet the decommissioning needs according to the most up-to-date PDP.

For the five-year review period, NB Power submitted a revised PDP associated with the cost estimates and proposed financial guarantee funding schedule of the *CNSC Financial Security and Access Agreement* for the Point Lepreau Nuclear Generating Station decommissioning financial guarantee.

CNSC staff assessed the NB Power's 2020 financial guarantee proposed and determined that it met the criteria of *CNSC Regulatory Guide G-206*. The total value of NB Power's 2020 financial guarantee was \$755 million against a funding requirement of \$714.5 million.

NB Power is required to report annually to the CNSC on the status of its financial guarantee. Based on the *Financial Guarantee Annual Report*, as of March 31, 2021, the actual amount of the financial guarantee is \$842.8 million. CNSC staff concluded that the proposed

financial guarantee is adequate for the future decommissioning of the Point Lepreau Nuclear Generating Station.

The process for obtaining a *Fisheries Act* authorization is separate from that of the CNSC licence renewal as they are covered by different legislation. Under the *Nuclear Safety and Control Act*, the CNSC assesses the ongoing operations of nuclear power plants to ensure that there are no significant adverse environmental effects to fish populations, taking into consideration the implementation of mitigation measures.

The purpose of the *Fisheries Act* is to provide a framework for the proper management and control of fisheries and the conservation and protection of fish and fish habitat, including by preventing pollution. In a memorandum of understanding signed between the CNSC and Fisheries and Oceans Canada, it outlines areas for co-operation and administration of the *Fisheries Act*. DFO remains accountable for issuing *Fisheries Act* authorizations, including approving the offset measures.

NB Power submitted an application for a *Fisheries Act* authorization to DFO in June 2019 and DFO deemed the application to be complete. Although the application was deemed to be complete, the 90-day limit within which a decision on the application must be made is

currently ceased due to indigenous consultation requirements. Further, the FAA offset project proposed by NB Power is currently undergoing a provincial environmental assessment. In accordance with the applicable legislation, NB Power is progressing through DFO processes to obtain an FAA.

CNSC staff note that the renewal of a licence under the *NSCA* is not contingent on NB Power having completed the *Fisheries Act* authorization process.

A public information and disclosure program is a regulatory requirement of licensed applicants and licensees of Class I nuclear facilities. In *REGDOC-3.2.1, Public Information and Disclosure*, the primary goal of the PIDP is to ensure that information related to the health, safety and security of persons and the environment, and other issues associated with the life cycle of nuclear facilities are effectively communicated to the public. CNSC staff reviewed NB Power's PIDP and confirmed that the PIDP identifies clear goals and objectives in terms of dissemination of information to three levels of target audiences, including the local community of Maces Bay and surrounding areas, the broader public of New Brunswick and local indigenous nations and communities. The PIDP is available to the public and is posted on the licensee's website. The PIDP provides

information on the facility, operations, health and safety and environmental monitoring. CNSC staff confirms that NB Power's public information and disclosure program meets the regulatory requirements.

I will now pass the presentation to Ms. Anu Bulkan, who will provide an overview of the proposed licence and licence condition handbook.

MS. BULKAN: Thank you, Ms. Davis.

Anu Bulkan, for the record.

The power reactor operating licence describes the licensed activity, sets the licence duration and contains standard licence conditions. The proposed operating licence would authorize the same activities as the current operating licence and does not include any new licence conditions.

The key difference between the two licences is the licence duration. Other changes include the removal of *Licence Condition 3.4* that required New Brunswick Power to complete a periodic safety review prior to the next licence renewal. New Brunswick Power has met that requirement. The requirement to conduct a periodic safety review every 10 years is now included in the *Licence Conditions Handbook* as compliance verification criteria under the operating performance safety and control area. Periodic safety reviews are conducted in accordance with

REGDOC-2.3.3 as approved by the Commission.

CNSC staff note that the licence includes two licence conditions, 3.2 and 15.2, that reference the delegation of authority for a reactor restart following a serious process failure and for the start of operations at the solid radioactive waste management facility Phase II extension respectively.

The proposed *Licence Conditions Handbook* describes compliance verification criteria for each licence condition, identifies applicable CNSC *REGDOCS* and *CSA* standards and provides guidance to the licensee.

The proposed *Licence Conditions Handbook* compliance verification criteria includes a total of 25 regulatory documents, 15 of which are unchanged from the current *Licence Conditions Handbook*, four that are new and six that have been updated. The new and updated *REGDOCS* can be seen in the table on the right.

The proposed *Licence Conditions Handbook* compliance verification criteria includes a total of 26 *CSA* standards, 13 of which are unchanged from the current *Licence Conditions Handbook* and 13 that have been updated. The updated *CSA* standards can be seen in the table on the right.

CNSC staff have determined, based on the *REGDOCS* and reference standards, that there is no reduction

in regulatory requirements since the last licence renewal.

The Commission has historically granted a power reactor operating licence for a duration of 10 years or less. New Brunswick Power's current operating licence has a term of five years. New Brunswick Power has applied to have its power reactor operating licence renewed for a period of 25 years. CNSC staff recommend a licence duration of 20 years. While there is no precedent in Canada for a longer term or lifetime licences there is widespread international experience in the area. In Canada, the Commission has flexibility regarding the setting of licence durations. There are no requirements outlining specific licence durations identified in the applicable acts and regulations.

CNSC staff's regulatory oversight is independent of the licence duration and will continue to be conducted to confirm compliance with regulatory requirements. The Commission has the right to revoke or amend the licence at any time due to slippage in performance or if New Brunswick Power requests a change in operations, for example, commencing end of commercial operations or refurbishment.

CNSC staff would like to highlight that the following key items align with a 20-year licensing term up to 2042. The Point Lepreau Nuclear Generating Station

was returned to service in 2012 after a refurbishment that extended the plant life for up to 30 years. This is clearly stated in the 2012 record of decision from the New Brunswick Power refurbishment Commission hearing. New Brunswick Power is required to perform a periodic safety review and implement the associated integrated implementation plan every 10 years.

The fitness for service of the pressure tubes limits operations to 210,000 effective full-power hours, which correlates to approximately 30 years. New Brunswick Power cannot operate beyond the current limit without Commission approval regardless of the licence period.

CNSC staff estimate that New Brunswick Power would be required to refurbish or commence end of commercial operations in approximately 20 years and would be required to seek Commission approval at that time.

I will now pass the presentation to Dr. Viktorov for CNSC staff's overall conclusions and recommendations.

DR. VIKTOROV: Thank you, Ms. Bulkan.
Alex Viktorov, for the record.

With respect to paragraphs 24(4)(a) and (b) of the *Nuclear Safety and Control Act*, CNSC staff finds that the application provided adequate evidence that New

Brunswick Power is qualified to carry out the activities authorized by the licence and will, in carrying out that activity, make adequate provisions for the protection of the environment, the health and safety of persons and the maintenance of the national security and measures required to implement international obligations to which Canada has agreed.

Having considered the application, as well as the relevant supporting information, CNSC staff recommend that the Commission grant a renewal of the operating licence for a 20-year term.

CNSC staff submit that the Commission accept the CNSC staff's conclusions and recommendations presented in CMD 22-H2 and exercise its authority under the *Nuclear Safety and Control Act* to renew the licence authorizing New Brunswick Power to continue to operate the Point Lepreau Nuclear Generating Station until June 30, 2042.

CNSC staff recommend that the Commission accept New Brunswick Power's financial guarantee.

CNSC staff also recommend that the Commission authorize a delegation of authority, as indicated in *Licence Condition 3.2*, for reactor restart following a serious process failure, and *Licence Condition 15.2* of the Phase II extension of the solid radioactive

waste management facility.

This concludes CNSC staff's presentation. We are available to answer any questions that the Commission may have.

Thank you.

THE PRESIDENT: Thank you, CNSC staff, for the presentation.

We will now take a break before beginning the rounds of questions from Commission members. We will resume the hearing at 10:55 a.m. Eastern Time. Thank you.

--- Upon recessing at 10:39 a.m. /

Suspension à 10 h 39

--- Upon resuming at 10:55 a.m. /

Reprise à 10 h 55

THE PRESIDENT: Welcome back. We'll now open the floor for questions from Commission Members to both New Brunswick Power and CNSC Staff.

And, as mentioned earlier, there are representatives from other government departments available to answer questions.

So we'll start with Dr. Demeter.

MEMBER DEMETER: Thank you. I'll start with one of the big questions, and I'm sure that other

people will probe other aspects of it.

I'm going to ask some questions about the extension of the licensing period with the request from NB Power, 25, and recommendation of Staff of 20 years.

I'll note that historically at one time licences were five years and there was an extension to 10 with enabling factors such as RORs and mid-term meetings in communities to try to facilitate public participation.

But as early as of 2018 Bruce was renewed for 10 years and there was no discussion of extending that beyond the 10 years. And I'd like to know, from a regulatory oversight and safety point of view, what's changed between 2018 and 2022 for Staff to strongly recommend doubling the licensing period?

What's the rationale at this point, four years after that licence was given, and the last one for Bruce, to move to 20 years?

DR. VIKTOROV: Alex Viktorov, for the record. I assume the question is to Staff?

MEMBER DEMETER: Yes, it's for Staff, yes.

DR. VIKTOROV: Indeed, it's a first application for a longer licence duration for a nuclear power plant in Canada. You know, in its unprecedented context CNSC Staff closely examined all the circumstances and the implications of a longer licence duration.

When we arrived at the conclusion, a recommendation of 20 years, we are confident that we can stand by it and the licensee safety performance, as well as oversight, will not suffer from a longer licence duration.

We based our conclusion on several considerations, such as a stable licensee safety performance. It has been proved in many years of operation.

Commitment to ongoing safety improvements, in particular driven by established periodic safety review process. We, on our side, on the regulatory side, have a well-established, recognized, strong oversight program that is capable of verifying licensee performance in all aspects of safety.

And of course we benchmarked current practices internationally, and in most countries go either with 40 years, 20 years or lifelong licences. Canada was actually, still is, an outlier in the sense that we have relatively short licence durations.

Now, what has changed compared to previous situations when we went for a shorter licences? Perhaps nothing fundamentally has changed, but there has been gradual incremental changes that, again, allow us to gain confidence in ongoing safe performance of a particular applicant, or the industry in general.

Again, we have established a periodic safety review process. Ten years ago it was a novelty for us, we just embarked on the path of conducting periodic safety reviews.

Equally, about 10 years ago, as you are well aware, the Fukushima accident happened, which has driven many changes within the industry as there were many ongoing activities that resulted in certain changes in operation oversight. By now, they have all been completed and we are confident again that our facilities in Canada are well-positioned to withstand hazards.

And of course, over years, we have strengthened, shored-up, matured our regulatory program and oversight practices. We have transitioned from the old less systematic system of regulatory documents to a pretty complete structure of REGDOCs that cover all 14 safety and control areas.

So all this combined gives us confidence that with a longer licence period there will be no reduction in safety oversight of performance at any nuclear power plant, in this case we're dealing with Point Lepreau.

And I will ask if any of my colleagues would like to provide additional details with regards to how we arrived at the recommended licence duration?

MS. BULKAN: Anu Bulkan, for the record.

I would like to supplement Dr. Viktorov's response by highlighting the fact that CNSC Staff did do international benchmarking with our peers to understand how they are able to administer longer term licences.

Regulators worldwide consistently identified two key elements that allowed them to move forward with longer term licences. The first is a well-established and mature regulatory program, which CNSC Staff believe that we are in a place where we have that. And the second is the requirement within the regulatory framework to conduct a periodic safety review.

I would like to highlight that the Commission approved REGDOC-2.3.3 in 2015 for the conduct of periodic safety reviews. Since then, CNSC Staff have had the opportunity to gain extensive experience with respect to regulating the conduct of periodic safety reviews.

THE PRESIDENT: Dr. Demeter, any follow-up questions?

MEMBER DEMETER: I do have, but I'll give an opportunity for other Members to ask questions and, if they're not addressed, I'll come back to it.

THE PRESIDENT: Okay. Any other Members on the issue of the term of the licence?

Dr. Berube?

MEMBER BERUBE: Yes, questions for CNSC

Staff. I'm looking at your document H2, Table 2 on page 14, which breaks down basically the international licensing periods. And they range basically from 10 years to lifetime licences, as you mentioned.

Which is interesting, because when you look at it, it seems to be like it's a large subjective component as to, you know, where the actual authorities are actually putting these licence provisions in and how long the terms are. So even though we are conservative, there might be reasons for that.

Part of the reasons that I am concerned with is part of our licensing programs really bring into effect the public engagement, Indigenous engagement activities. And also now that things are changing fairly radically with the climate, climate change issues coming over that period of time also factor into this. And how all those are modelled at this point, I am unsure.

So my questions to you are basically in this area. To what extent have you given these three factors weight in this recommendation for a 20-year licence?

DR. VIKTOROV: Alex Viktorov, for the record. I'll attempt to address these points one by one.

Again, certainly public engagement is one of the considerations that's upfront and draws attention in

many decisions we make or recommendations we develop. And the relicensing is one of the opportunities, but only one of them.

We emphasize that even with longer licence durations there will be ongoing other opportunities which are well-established, such as annual regulatory oversight reports on nuclear generating sites, essentially monthly station updates, event reports as necessary, or the Commission has the authority to request an update at any given time to consider overall performance or any particular aspects of performance.

And that may include, of course, any rapidly evolving aspects that we are facing, be it climate change or technology or anything else.

Again, that's not taken away and will be with us. Again, it will fall onto Staff to avail and exercise the other available means of updating the Commission and involving public.

Again, we interact, engage, maintain our relationship with public not just through the Commission meetings. There are many other opportunities and options when we do update the public on regulatory activities.

I'm not sure if I've covered all the points.

MEMBER BERUBE: I just wanted to verify

that basically you've taken into effect the IPCC models on climate change over the next 25 years to look at this and see how that impacts potential site stability?

I mean, this is a big term that we're talking about. We're going from five years to a 25-year ask, to a 20-year recommendation on your behalf, and so that is pretty much an entire generation. And so there's larger considerations.

And so on this particular case, because it's sitting on the Bay of Fundy, we have to seriously look at what's going on with climate change.

So anyway, you'll probably not have details at this point. But, for Part 2, I'm going to want to dig into that to some extent to see where that's at.

THE PRESIDENT: Dr. Viktorov, did you want to add anything now or...?

I've got some questions around the term. So, first, let me start off with New Brunswick Power, and I've got a few questions for you. Let me start first with what's your reaction to Staff's recommendation of 20 years?

MR. NOUWENS: Jason Nouwens, for the record. Thank you for the question.

So Staff recommended 20 years. You know, we do understand that the basis for the recommendation, it's -- you know, in a way it's hard to argue with their

perspective that the 20-year licensing really lines up with the 2012 decision for restart following refurbishment for a 30-year operation. It also lines up with two PSR cycles. So we do understand their basis.

Nothing to challenge that there's anything wrong with a 20-year basis. We still believe that 25 years for our facility is still the I guess requested licence term and does fit our lifecycle.

And, you know, not to get into too many details, but the 30-year nominal life following refurbishment is largely based on the fuel channel life, and that's at 210,000 effective full-power days(sic), as you heard in the CNSC presentation.

But, as you know, Bruce Power and OPG units have been extended up to 295,000 for OPG and 300,000 for some of the Bruce units. So in our analysis we -- you know, it's early to say or to I guess finalize it, but we already know that it's a reasonable expectation to extend the 210,000 effective full-power days(sic) based on the analysis we have done to date and the materials of the fuel channels and their ongoing inspection program.

So, you know, our perspective on a 25-year licence is that that more accurately reflects what we anticipate the life of the station to be. However, technically, we don't see any fault with the basis provided

CNSC recommended 20 years.

THE PRESIDENT: Thank you. And you meant equivalent full-power hours and not days.

And so maybe I'll ask my next question to CNSC Staff. You know, you've tied in your argument of the 20 years to whatever the life-limiting component may be, and in this case you've used pressure tubes. And you've just heard from New Brunswick Power that there's some uncertainty given some previous decisions.

How did you discount the option of a lifetime licence? Again, as you've said, the Commission can shut the plant down anytime if conditions change or if we're concerned about the performance. What was the rationale for not going with a lifetime recommendation for a licence?

DR. VIKTOROV: Alex Viktorov, for the record. I suppose we can start with the absence of a request for a lifetime licence, and that would have been an even more fundamental change in our philosophy, which allows us to bring to the Commission this pretty fundamental aspect of operations.

Not trying to bite off too much at one time. Again, our legislative framework does not preclude lifetime licences, and we may eventually go this way. But, at this time, we believe it's prudent to take it step-by-

step. And, as I said, Staff is very comfortable with recommending 20 years.

But there's really no fundamental change if we go from 20 to 25 years. We would be able to conduct oversight relying on the modern regulatory framework.

Thank you.

THE PRESIDENT: Thank you. And the next question's to New Brunswick Power.

Tell me what you see as advantages of a 20 or 25-year licence versus a 10-year licence, which has been the norm to date?

MR. NOUWENS: Yes. Thank you very much for question. Jason Nouwens, for the record.

And I appreciate you correcting on the effective full-power hours versus days on my previous response.

What we see as the advantage, I guess, of a 25-year operating licence is the stability in our long-term operations. And we really would look at a 25-year licence as a reflection of the continued safety and reliability that we dedicate ourselves to everyday here at the station.

And in addition though, I want to clarify that a request for a 25-year licence and the reasons why we believe that that is appropriate is as much about the

regulatory framework that we operate in and the advancements in that.

You know, we've heard some of that already around the annual regulatory oversight report, which is typically in December. But we've also seen very strong and intrusive advancements in the licensing basis with the *Licence Condition Handbook*, which is essentially live now.

It used to be that we would update our regulatory requirements and codes and standards every five years, now that's done continually. So if a new CSA or REGDOC is implemented next year, we would be implementing that, if it was appropriate we'd implement it right away and the *Licence Condition Handbook* would be updated immediately.

So we see a lot of advancements in the openness and transparency, and intrusiveness from a regulatory framework point of view that, you know, leads us to the conclusion that an operating licence of 20 or 25 years would bring no loss of intrusiveness to our regulatory point of view.

And our commitment will always remain the same whether it's 20 years or 25 years, that we are dedicated to run a safe station everyday and ensuring that decisions we're making are systematic and thorough, and making safety priority number 1.

So it's those sort of reasons that lead us to conclude that a 25-year licence would be reflective of both our performance and the industry's performance.

And I do just want to point out one thing as well. You know, we clearly know that the Commission has the ultimate authority and we appreciate your time in this. I know that we had some media, you know, last week that talked a little bit about licence renewal. And I just want to clarify that we always know that our perspective is one of pride and safety.

The CNSC has their recommendations, but we want to recognize that the Commission has the ultimate authority to hear us and make the final decision.

THE PRESIDENT: Thank you. Dr. Viktorov?

DR. VIKTOROV: Alex Viktorov, for the record. I feel we can strengthen our response when we get to environmental and climate. In particular, the Executive Vice-President, Ramzi Jammal would like to step in and share his views.

MR. JAMMAL: Thank you, Dr. Viktorov. Commission Members, with respect to the licensing term, I'd just like to reiterate two things, the licensing term on its own with respect to the international benchmarking is not an indicator for is it safe or unsafe.

If I'm repeating myself, but I'd just like

to reconfirm the fact that the daily regulatory oversight is not linked to the licence term, it's linked on two major issues that the Commission approves; it's the licensing basis itself, and the safety analysis report.

And we report back to you any deviations from the licensing basis with respect to let it be pressure tubes. I fully agree with the fact that's being presented by the President of the Commission, it's premature to have that discussion. Really, it's the safety report that is the driver.

The maturity of the PSR is for continuous enhancement. And the PSR review is done within the licensing basis that will be approved by the Commission.

With respect to the environmental changes or even operational changes, we have a cyclical review of the environmental review assessment that's being done on a five-year cycle or sooner, depending on the operations, in order to review all of the environmental impacts; let it be long-term elements from floods, changes in environment, the weather changes and so on and so forth. These are embedded into the safety case and through the cyclical review of the environmental review assessment.

With respect to the engagement of the public, we put the ROR as one of the fundamental pillars for the long-term licence, for the engagement of the public

and the Indigenous peoples.

It is one year to wait for the public engagement on the ROR. We find out there is a presentation coming to the Commission on the improvements with respect to the ROR. It's one of the instruments, but it's not the best instrument. So we are looking at many many things with respect to public engagement.

But as a Commission and Staff of the Commission, the public trust is key for us to be effective regulators. Our regulatory oversight has multiple regulatory tools from issuing the orders, that the Commission staff issued an order to the operators with respect to the pressure tubes. That was never done before. But at the same time, it's a demonstration of the maturity of the program that we have oversight and we always implement. And those are key fundamental principles.

On the international benchmarking, when we look at the powers of the inspectors of the Commission, the power of the designated officers, and the power of the Commission itself, there's no other regulatory body in the world that has it, to date, where an inspector can shutdown an operation, and the designated officer can actually shutdown the operation, and we go through the regulatory process.

So this is one of the pillars that we put

in place. In addition to it, we have the peer review processes and at the same time the international group looks at the OSR, which is the operational safety review that Canada has signed on and we are able to put an added pillar from an international perspective.

That's all for the record for now.

THE PRESIDENT: Thank you, Mr. Jammal.

Let me just wrap this a bit up, unless my colleagues have additional questions on term. And I see Dr. Demeter does.

For Part 2, I know that the Commission will greatly benefit from hearing from both the Applicant as well as from CNSC Staff on -- you know, it's fine to talk about all these other mechanisms available for engagement, but when it comes to engaging with the Commission itself it's only through the RORs and licensing renewals. And we've seen that with RORs it's fairly limited engagement of the public.

And we want to hear your thoughts on how do we make sure that if the Commission were to entertain a longer licence term that we do not compromise the opportunities for the public to engage with the Commission around a facility and its performance.

So let me turn to Dr. Demeter and then Mr. Kahgee.

MEMBER DEMETER: Thank you. I just wanted to -- I understand that the regulatory work will happen in the background by Staff, as is per usual. And according -- like, Mr. Jammal said that the -- you know, the safety case won't be implemented -- or won't be impacted.

What will be impacted is the public perception of regulatory oversight. So the Commission's role is to both challenge Staff and to challenge the intervenors and challenge licensees on the safety case. And so I think from an external public perception point of view the frequency and ability to do that will move from every 10 years to every 20 years.

The RORs are presented to us largely for information, there's not a lot of room for detailed granular discussions. And I know decisions can be made on an ad hoc basis. But I think the role of the Commission, as an oversight to the regulatory body and to the licensee, will be diminished with going from 10 to 20 year from a public perception point of view.

And the one thing for the next meeting is when you did that table, looking at the different countries, it'd be interesting to analyze those differences based on those countries enabling legislation to look at what the role of the public is with regards to informing the public. We've got unique language about informing the

public relative to risk to the environment, health, and so forth. And does that play into the factor of the hearings which allow much more public involvement?

RORs do not involve oral -- does not allow oral presentations except for limited groups, and very limited public participation other than written interventions in the RORs.

So I see that this does diminish the role of the Commission as an oversight body, looking at Staff, licensee and intervenors, and I think that needs to be assessed within that complex table as one of the factors.

That's more of a comment, and obviously it will be more probed at Part 2 of the hearing.

THE PRESIDENT: Thank you, Dr. Demeter.

Before I come to you, Mr. Nouwens, Mr. Kahgee, did you have any questions or comments on the licence term?

MEMBER KAHGEE: Yes. Thank you, President Velshi, and thank you to CNSC Staff and New Brunswick for your presentations this morning.

I did have a question following up with respect to Dr. Berube's question specific to First Nation engagement and reconciliation, particularly in reference to historical, ongoing and future operations, especially in relation to any planned projects.

I want to probe a little bit deeper on that. But I think I'm going to wait until the second part of the hearing to do that once we have the benefit of any interventions. But I just want to flag that for CNSC Staff and New Brunswick Power because I don't think it was addressed in your response to Dr. Berube.

But I do want to come back and probe a little deeper to President Velshi's question with respect to the rationale for the licence. I think New Brunswick Power and CNSC have done a good job in terms of setting out what the reasons are for licence and extension in terms of past and ongoing performance, the safety culture and the regulatory compliance measures that are in place, and will be in place going forward.

But what I haven't heard to any great extent is the rationale or reason why. Why a 20-year licence? What does a 20-year licence get you, or a 25-year licence get you, that a 10-year licence doesn't? I would like to know the why.

THE PRESIDENT: Thank you, Mr. Kahgee. So over to you, Mr. Nouwens, and maybe you can try answering that question.

MR. NOUWENS: Thank you, yes. So the why, as I sort of alluded to a little bit before, we looked at a 25-year licence as a reflection of the advancements of both

the regulatory framework that we operate under, but also the safety performance of the station.

So specifically, the why is we believe a 25-year licence would set the framework for us for, you know, for the expected end of our operations.

And we see that the advancements of the other regulatory pieces, and I've got some on my screen here that I can highlight around the regulatory oversight report; that's inspection framework, and in particular the periodic safety review which is very very intrusive, it's a very intensive exhaustive review of about 200 codes and standards to make sure that our performance is on par with the best in the industry.

So that is a significant tool in the industry to make sure that regardless of whether it's 10 years or 30 years, every 10 years we're reflecting the best advancements in the world and taking advantage of any of those improvements that we could implement in the station.

So in our perspective, a 25-year licence would demonstrate the regulatory certainty and the framework of the operation of our station, it would more reflect what our anticipated commitment is surrounding a safe station for the life of the station.

So I don't know if I really specifically answered your question from a benefit point of view. You

know, we could certainly do licence renewal every 10 years, there's certainly not an issue with that at all with going through the process.

We just feel that the process and the rigour and the framework that we operate under from a regulatory point of view really more reflects a 25-year operating licence, which would reflect our anticipated end of life or decision to refurbish this station for a second time.

THE PRESIDENT: Okay, thank you. Let's move on to some other areas of interest. And we'll turn to Dr. Berube.

MEMBER BERUBE: Yes, this is for the operator actually. We spoke quickly about equivalent full-power hours. And I'm going -- the third reactor, you know, was actually re-tubed recently.

But today, what is your average full-power hours from your tubes?

MR. NOUWENS: Jason Nouwens, for the record. We're essentially at 10 years operation. But I'll turn this question over to Pierre Michaud, he's our Manager of Strategic Engineering, for the specific number on what are effective full-power hours.

But I would just highlight that we are essentially 10 years into our refurbished operation and the

210,000 effective full-power hours, which is our current licensing basis, would reflect approximately a 30-year lifetime.

So, Pierre, could you provide where I currently was with respect to full-power hours please?

MR. MICHAUD: Thank you, Jason.

Pierre Michaud, for the record, Manager of Strategic Engineering at NB Power.

The last verified numbers were just in November and those were 64,000, slightly over 64,000 effective full power hours.

MEMBER BERUBE: And if your anticipated 25-year licence was granted as per the ask, what's your theoretical equivalent full power hours at that point?

MR. MICHAUD: So we do anticipate 30 years to get us to 210,000 effective full power hours.

MEMBER BERUBE: Okay. From this point of full lifetime?

MR. MICHAUD: There is a lot of variability and assumptions in there based on planned outages, but that would put us -- 30 years would put us at 210,000. That's design basis.

MEMBER BERUBE: Okay. And periodic sampling of the tubes, how often do you do that? How many do you actually do?

MR. MICHAUD: So there's different types of inspections we do conclude. So volumetric, they were last done in 2019 and we do scrape samples as well. Our next campaign is actually in a few months, in outage 2022, and they're in line with the CSA standards that govern that, so N285.4 specifically.

MEMBER BERUBE: Good, thank you.

THE PRESIDENT: Thank you.

Mr. Kahgee.

MEMBER KAHGEE: I just have a follow-up question with respect to the *Fisheries Act* Authorization if I can. Perhaps DFO can weigh in on this.

My question is to New Brunswick Power. Can you describe in more detail for me the offsetting strategy and rationale for implementing the strategy? Specifically, how did you get there?

MR. NOUWENS: As you mentioned, DFO may want to add to this.

So I'll sort of give you the whole story in a succinct way.

Our original application that we provided specifically looked at Point Lepreau as a station only and was based on studies that we've done on fish entrainment/entrapment. So we did a detailed study that was over a year long and that study looked at what the

typical draw in through our cooling water structure would be. We did some analysis through various parts of the year to understand what the potential impacts would be to the environment and based on that we originally came up, in discussions with DFO and our community members and our First Nations groups, with an original assessment of approximately 50,000 per year in equivalent offsetting that was largely agreed to. This offsetting of 50,000 would be conducted in education for some of our community members and First Nations, but primarily through ghost gear retrieval. So the equivalent -- those efforts would be put towards equivalent ghost gear removal every year in the local bay around Point Lepreau and that was seen by everyone as a large benefit to the marine life around by removing that equipment from the bottom of the ocean.

So we've honoured that agreement of the 50,000 commitment per year since that original application. However, we've superseded that, as you know, with the application that would cover the company from the removal of the Milltown Dam, and that's on the St. Croix River, which is the water between New Brunswick and Maine.

So again, those discussions around the significance of the offsetting and what would be required from a company point of view were developed in discussions again between us, DFO, our First Nations groups that were

interested in the area and our community members as well, and although sometimes it's hard to exactly quantify what the benefit would be, it was agreed by all that restoring that St. Croix River fish passage all the way upstream was of significant benefit.

And so, although, you know, I don't have numbers to put in front of you that this is the number of fish that it would change or the specific analysis, it was agreed by all on the research and the size that was done that that would be a significant offsetting that would bring a great benefit to the marine life in the area and that was seen as being equivalent to the minimal impact that the stations have on the coastline.

THE PRESIDENT: Can we ask DFO to comment as well, please?

MR. PLANTE: Oui. For the record, François Plante, Department of Fisheries and Oceans in Moncton.

So the answer from NB Power is correct. We are working with them right now to find an appropriate offsetting plan in order to offset the death of fish that are occurring on I would say a daily basis because of the operation of Point Lepreau right now. So, as you can understand, finding an appropriate way of offsetting the death of fish is not an easy task. So for that reason, we

are now relying on those studies for impingement and entrapment to find a way to improve the biomass in the Bay of Fundy for a long-term strategy, because after -- the issuance of a licence potentially will also contribute to continue the death of fish at this location because it's part of the way that the plan is operating. So for the long-term death of fish, we are looking for a long-term way of offsetting the loss of capacity or loss of productivity in the Bay of Fundy. This is why now the removal of Milltown Dam, which was there for decades, right now seems to be an appropriate way of improving the situation by providing additional biomass fish and larvae in the system.

THE PRESIDENT: Mr. Kahgee.

MEMBER KAHGEE: Yes, just a follow-up to that. That's helpful. Thank you very much for that. Just some follow-up to that then.

What mitigation measures is New Brunswick Power contemplating or looking at to reduce entrainment beyond the offset measures?

MR. NOUWENS: Jason Nouwens, for the record. I'll answer that in two parts, I guess.

Primarily, the design we have of our cooling water intake and outflow structures, even though it was designed in the '70s, is actually a world-class design and continues to prove that it is that. The intake

structure is located in an area of the ocean, from a tidal level point of view, that has minimal species that would be pulled into the cooling water structure. That's not zero, but there is -- so from a mitigation point of view, we've already implemented a design that is world-class standard or is on par with the world's best as far as cooling water intake and outflow structures.

We are though, however, always looking at improvements. One of the issues that we have, that you might have seen in the documentation, is we sometimes get seals that come into the forebay and every now and again, it's not very often, but we will get some schools of fish that will come in and they will come in and come out, but the seals will follow them into the forebay and sometimes have a hard time getting out. So we are looking at additional measures we could take to prevent the seals from getting in to begin with, and that may be a screen over the intake, or better methods to help them get back out when they get into the forebay. But in addition to that, as I mentioned, we do believe that the design we have is a world-class design that minimizes from the onset the entrainment/entrapment.

THE PRESIDENT: Thank you.

I have a few questions around the Integrated Implementation Plan and maybe I'll start off by

questioning staff on that. It was just kind of short questions.

Is the IIP available to the public, as is the PSR and the Global Assessment Report on the website?

DR. VIKTOROV: Alex Viktorov, for the record.

These documents are not classified and could be available. Whether they are currently available, I will ask Dr. Gyepi-Garbrah to elaborate.

THE PRESIDENT: And perhaps in the interest of time we don't need a response now, but I just wanted to confirm that they are available, would be available.

My second one was a very specific one on one of the IIP action items, was the removal of tritiated moderator water in 2028. We had heard that most of the actions are a lot more procedural or compliance with standards and regulatory requirements. I just wondered what this particular action was. So maybe I can ask New Brunswick Power to elaborate on what is the scope of this work.

MR. NOUWENS: Sure. Jason Nouwens, for the record. Thank you for the question.

I just want to highlight something you mentioned that is correct, that a large number of the

improvements in the IIP are administrative or procedural in nature. There are a few that are around specific upgrades to the plant and the one you mentioned is one of the more significant ones for us which will bring some improvement.

So the project at a high level is to remove the moderator water that is currently in the plant and replace it with low-tritiated water in one outage. So our plan is for 2028 to have this work completed. To implement that, we will be making a place in our solid radioactive waste management facility to store that water. In one outage we would take the water out from the reactor building, move it up to that storage facility and then replace the moderator water, again like I said, with low-tritiated D₂O.

And then the second part of that project is the sustainment period where we will be looking at detritiation measures that we could implement year-to-year after that replacement to make sure that we maintain the tritium at a lower level indefinitely.

So two parts. One is a full-scale replacement in one outage and the second part is sustainment.

THE PRESIDENT: Where do you expect your detritiated water to come from?

MR. NOUWENS: Well, likely from OPG. We

haven't finalized that yet, but there is -- as I'm sure you know, there are limited providers for large amounts of D₂O, so likely we will be looking to OPG for that.

THE PRESIDENT: And I think your latest action had a completion date of 2031. What is that action?

MR. NOUWENS: You mean the final --

THE PRESIDENT: The action, yes.

MR. NOUWENS: The final action in the IIP?

THE PRESIDENT: Yes.

MR. NOUWENS: Okay. I'll take that away and come back to you with a factual answer. I don't want to answer just off the top of my head.

THE PRESIDENT: Thank you. Yes. Yes.

And maybe my staff for the last one.

Maybe I'm just drawing a blank here, but I seem to recall that for Darlington, for their IIP, if there were any deviations to the IIP, including to the schedule and the timeline for completion, it required Commission approval and this is all handled by staff.

So first, did I get that wrong? And if I haven't got it wrong, why is there a difference between how Point Lepreau's IIP changes are handled compared to, say, Darlington?

DR. VIKTOROV: Alex Viktorov, for the record,

First, I would like to confirm that the IIP report is available on request. Currently, it's not posted on our website. We got confirmation for this.

Now, why IIP is accepted by staff, it's connected to the change in the REGDOC-2.3.3 revision as was updated with due consultation and approved by the Commission a few years ago. That document gave authority to staff to accept the IIP, the final product of the periodic safety review, which is a change from the previous practice. Again, this transfer, this change happened between, well, Darlington, Pickering, and Bruce relicensing, and Point Lepreau is the first station that will be applying the new version of the IIP.

Nevertheless, first of all, staff will be updating the Commission on the execution of IIP annually, again, through the annual ROR presentation. And any change that might affect safety in a negative direction or modifies the licensing basis will inevitably come to the Commission regardless as a change in the licensing basis.

So changes that are neutral to safety will be handled by staff, while changes that do impact safety in the negative direction will be brought to the Commission attention.

THE PRESIDENT: Thank you, Dr. Viktorov.
Back to Dr. Demeter, please.

MEMBER DEMETER: Thank you.

I have three quick things that I'll look for more information at part 2, the first one being there was a very short summary of the IAEA visits, and there were some minor inconsistencies or minor issues. But you know, when I look back at the ROR report, it's got a more detailed description of the IAEA visits -- planned, unplanned, what was found -- than this report. And I want to drill down in detail how many IAEA visits they had during this time. What were the issues that were found, and how were they mitigated? So that's missing.

Given the interest in KI pill distribution in Ontario, I'd like to see something about the KI pill distribution plan for Point Lepreau. This is a hot topic in other jurisdictions, and it probably will be on the table, so to prepare for that.

Now, the third quick thing is there was major refurbishment to extend the lifespan of the core. And I wanted to get a little bit more detail on what specifically was -- what components were done, and what the impact on the safety case is. Obviously, it's going to extend the lifetime, but were there other things changed in this major refurbishment that may, you know, positively or negatively impact the safety case, and how was that managed, sort of? The refurbishment was a major deal and

it's got sort of a very summary -- so I wanted more details on the refurbishment and the impact on the safety case.

And then my specific question deals with -
- I'll just find my specific question here -- it dealt with something I didn't quite understand. Sorry. I'll just find my ...

THE PRESIDENT: We can come back to you later if you want --

MEMBER DEMETER: Yeah, please do, yeah.

THE PRESIDENT: Yes.

Dr. Berube?

MEMBER BERUBE: Yeah, I've got a number of questions too, but I think we're getting tight for time here.

Some of the things I'm concerned about when we get into part 2 of this is going to be some detailed timelines and some descriptions on heat transfer pump replacements.

Also looking at boiler chemistry, where the boilers are placed during the refit, last refit operations, see what the intended lifespan of the boilers are at this point.

Also want to have some detail on what the foreign material in loop 2 of the PHT is and the nature of how you're actually trying to mitigate that or remove it.

That would give me some indication as to why the -- and how stable the fuel fracture situation is based on that.

So some things to be concerned about in part 2 of this thing. And I'll leave other ideas to my colleagues.

THE PRESIDENT: Okay, thank you.

Mr. Kahgee?

MEMBER KAHGEE: Thank you, President Velshi.

I'll have -- I understand we're getting short on time. I'll have some questions brought for clarification as well in part 2. Looking forward to that and the discussion around Indigenous engagement.

Also some follow-up questions on the technical side, particularly around the compliance verification. I noticed that in CNSC's documentation there's a number of references to compliance verification activities at later dates. I'd be interested to see if there's a detailed schedule or not and talk a little bit about that, what that might look like and how that would be presented to the Commission and to the public as well, so. Look forward to the conversation.

THE PRESIDENT: Excellent, thank you.

I have a specific question for a representative for NRCan, and then I too will just go over

some of the areas that I'm interested in pursuing at part 2.

So Mr. Adams, if you're here, at the last licensing hearing for Point Lepreau, there was extensive discussion around seismic risk and probability assessments, et cetera. And now PSA has happened. And I just wondered, from your perspective, has the hazard assessment shown greater concern, reduced margin, increased margin, or has it remained the same?

And I think there was a comment in staff CMD that Point Lepreau does not have a formal seismic qualification program. And what are the implications of that?

So I just wanted to get your sense overall around the risk: Has it changed? Is it better understood? And should the Commission have any concerns?

MR. ADAMS: Okay. John Adams, Natural Resources Canada, for the record.

We've looked at it. We did the assessment back in 2015. And in 2015, there was quite a significant difference margin between the proponent's seismic hazard assessment and the assessment we do for the *National Building Code* in Canada.

We've begun to look at what has changed over the last five years. The conclusion is that the

values that we are coming up with now are within about 10 per cent of the values used in 2015. They're much closer now. They're higher than they were, but it does look as if the 2015 assessment is not actually inappropriate.

THE PRESIDENT: Thank you very much for that.

And maybe I'll just go quickly through my list of areas I want to have discussed on.

I want to know a bit more about the more recent safety culture assessment that has happened at Point Lepreau, a bit more around the CANDU-specific issues and the three category three that are outstanding, and when are they likely to get resolved. The third one was around the authorized inspection agency maybe not following the CSA standard, so again, wanted to get a bit of update around that.

The one area in staff's submission was around the public information and disclosure program. And whereas for all -- most all the other CSAs without exception staff had said, you know, performance is satisfactory; here is the IIP; we have no concerns; things are looking good for going forward; I found staff's -- the language used for PIDP to be different. It very much said, you know, we encourage Lepreau to do this, I think that may even be so that they can be consistent with the REGDOCs.

So I want to know what the deltas are and what Lepreau is going to do about that.

There is some mention on the waste management side around reduction of low- and intermediate-level waste. So again, more on that and what's being done and what's being planned.

And maybe the last one is around both Indigenous engagement and community engagement. And what I've heard from today's presentations is that frankly there are really no licence-renewal-specific issues that have been identified, whether in the webinars or whatever public outreach you have had. It would be interesting to see from the interventions what the reality really is. So I'm sure we'll be having a lot more discussion in that area, given that we are anticipating a number of interventions.

Oh, and my last one was around fuel defects. I know we talked a lot about it at the last hearing and wanting to know has the situation changed.

So maybe with that, I will go to Dr. Demeter and see if he remembers what his specific question was, and then we'll come to you, Mr. Nouwens.

MEMBER DEMETER: Okay. Yeah, I just have one specific question. And it's just to help me understand what I perceive to be an inconsistency.

So this is from the staff CMD, page 59,

and it says:

"CNSC staff noted that a CANDU Owners Group ... project determined that the Normac NR-5S 400 coating system should not be used for new submerged environments due to decreased adhesion and that existing applications where it is used should be inspected to evaluate the actual in service condition."

But:

"In 2017, CNSC staff accepted NB Power's proposal to change the frequency of the leak rate test ... from three to four years."

I just -- the perception to me is that new technology, new thoughts that it shouldn't be used, and there seems to be a reduction in frequency of inspections. So I just -- am I missing something? That's just to help me clarify the reduction in frequency of inspections and the recommendation that this on a go-forward basis shouldn't be used for new facilities.

So maybe staff or New Brunswick Power can help me understand. Maybe they're dealing with separate things, but the way I read it, it's the same thing.

MR. NOUWENS: Jason Nouwens, for the record.

And the other two items that you brought up, you mentioned for part 2, I assume that you're looking for maybe a high-level answer to this one right now?

MEMBER DEMETER: Sure. If I'm reading it wrong, just let me know.

MR. NOUWENS: Yeah, I can clarify a little bit.

So the difference is the recommendations to not use Normac was specifically for submerged applications. So in our -- at the top of our reactor room, we have a dousing tank which is one of our safety measures. And we use a Normac liner within that tank. So the Normac liner itself has not been qualified for submersible use; however, we have an inspection and testing program that we're using to make sure that it actually is performing adequately, and to date it has shown very strong performance. So that's the aspect around not using Normac that was described.

The other aspect is the reactor room leak rate test, which is independent of the liner itself. The reactor room leak rate test is how we test the entire concrete structure and all the components and isolations within it. And that was the frequency that was changed

from three years to four years based on safety analysis.

So they're related, but they're separate.

MEMBER DEMETER: Okay, thank you.

MR. NOUWENS: Sure.

And if you don't mind, while I have myself unmuted, I just want to follow up on a couple things. We are taking notes of all of the items that have been identified for part 2 to make sure that we are prepared and looking to that.

As a clarification on, President Velshi, your question on the last IIP action, the last IIP action is to implement an uninterruptable power supply on some of our electrical systems. And so that's the final one in that.

And I just wanted to qualify one of the statements that was made around the seismic qualification. And the concern was raised from President Velshi that you mentioned that there's wording to say that we don't have a program. And I just want to qualify that, and we get into more in part 2 if you like. The difference is our governance is set up on a process base, not a program base. And it's really an administrative issue where the wording in the standard says that the utility must have a seismic program; however, we have a process-based governance which sort of splits up the different actions that comprise a

program into different process streams.

So it's a little bit different at Point Lepreau, and we can explain more in part 2 if you want, but we meet the requirements fully. It's really in the wording around "program" versus "process governance."

THE PRESIDENT: Thank you for all that. And I think staff was expecting a submission by the end of last year around that, so maybe that issue will get dispositioned in any case.

Mr. Nouwens, a couple other things for part 2. For the IIP, those actions in that, that are not process-, procedural-related and they're more hardware equipment-related initiatives, I think a summary of those would be helpful.

And the second one is more details around your latest public polling would also be helpful, thank you.

MR. NOUWENS: Okay, thank you.

THE PRESIDENT: Commission Members, anyone with any other final words on this?

Okay, not seeing any hands up, then this concludes part 1 of the hearing. Again, thank you all to the participants for today's session. And Denis, I'll turn it over to you for closing remarks, please.

MR. SAUMURE: Thank you, President Velshi.

As mentioned earlier, this hearing is to be continued with part 2 on May 11-12, 2022, in Saint John, New Brunswick, if we can hold in-person proceedings. Virtual mode of participation will also be available.

The public is invited to participate either by oral presentation or in writing only on hearing part 2. Persons who wish to intervene in part 2 of the hearing must file their submissions by March 28, 2022.

Thank you.

We will proceed with the Commission meeting starting at 1:00.

--- Whereupon the hearing adjourned at 11:53 a.m. /

L'audience est ajournée à 11 h 53