

## Community Liaison Committee Meeting Record

**Meeting Date:** March 11, 2021

**BWXT NEC:** Natalie Cutler, Director, Communications & Government Relations  
Jon Lundy, VP Strategy and Business Services  
Ted Richardson, Director, Fuel Operations  
Dave Snopek, Director, EHS & Regulatory Affairs  
Kathleen Augustin, Communications & Community Relations Specialist

**CLC Members:** J. Aherne, D. Gannon, S. Hay, J. Ingram, R. Keenan, C. Lemelin, B. Roxburgh, C. Shadbolt.

**Absent:** None.

**Guests:** **Canadian Nuclear Safety Commission (CNSC) Staff:**  
Julian Amalraj, Senior Project Officer – Nuclear Processing Facilities Division  
Andrew McAllister, Director – Environmental Risk Assessment Division  
Kiza Sauve, Director – Health Sciences and Environmental Compliance Division  
Slobodan Jovanovic, Chief Analyst – CNSC Laboratory  
Michael Ilin, Environmental Risk Assessment Specialist  
Adam Leroux, Project Officer – Nuclear Processing Facilities Division  
Haidy Tadros, Director General – Directorate of Nuclear Cycle and Facilities Regulation  
Meghan Gerrish, Senior Communications Advisor, Media Relations

**Ministry of the Environment, Conservation and Parks (MECP) Staff:**  
David Bradley, District Manager - Peterborough District Office  
Jamie Mugford, Issues/Project Coordinator - Peterborough District Office

**Action Items:**

Action Item	Responsible	Status
1. Add discussion on safety scenarios to the agenda for a future meeting.	K. Augustin	Open
2. Review utilizing radio and newspaper advertising options.	N. Cutler and K. Augustin	Ongoing
3. Provide input on who else could be included in the target audience.	CLC Members	Ongoing
4. CLC to review BWXT NEC's current website, FAQ and provide feedback and ideas on newsletter content.	CLC Members	Ongoing
5. Share video content and infographics with CLC.	N. Cutler and K. Augustin	Ongoing
6. Have medical isotope guest speaker in 2021.	N. Cutler and K. Augustin	Open
7. Share revised Terms of Reference with CLC for 2021.	K. Augustin	Closed
8. BWXT to recruit for the CLC throughout the year (encourage interested parties to apply during discussions)	N. Cutler and K. Augustin	Ongoing
9. Have representatives from MECP and CNSC attend a future meeting to discuss beryllium sampling and results.	D. Snopek, N. Cutler	Closed
10. Incorporate feedback from 2020 year end evaluation.	N. Cutler and K. Augustin	Ongoing

## **Discussion Notes:**

Due to the COVID-19 pandemic, the meeting was held virtually. The meeting began with a roundtable of introductions, overview of the agenda and a safety moment.

Natalie Cutler reviewed the action items from the previous meeting, noting that some of the items were covered in this meeting. She marked the following two items as complete: BWXT NEC to share the revised Terms of Reference with CLC for 2021 and BWXT NEC to have representatives from the MECP and CNSC attend a meeting in 2021. Natalie reviewed the remaining action items.

Next Natalie reminded the CLC that the CLC Co-Chair position is still available and asked interested members to contact her if they are willing to take on this role. She then asked the CLC members if they had any updates, whether they were hearing any questions, concerns and/or comments in the community, if they had suggestions for CLC meeting topics and if they had any other feedback. One CLC member mentioned a recent appeal by the community organization named CARN which stands for Citizens Against Radioactive Neighbourhoods. Jon Lundy noted that the Canadian Environmental Law Association (CELA), on behalf of CARN, has submitted an application for judicial review for the recent decision made by the CNSC on BWXT NEC's licence. He noted that CELA/CARN would like the addition of pelleting in Peterborough's new licence to be removed from the CNSC's decision. He also explained that while this is going on, BWXT NEC is continuing its operations and that anyone who intervened during the hearing may be notified of this judicial review application.

CNSC Staff provided an update to the CLC. CNSC Staff noted that the CNSC has responsibility for regulatory oversight of BWXT NEC and that this was the first CLC meeting the CNSC has attended in Peterborough. CNSC Staff then explained the role of the CNSC at Toronto CLC meetings, stating that the CNSC typically has attended two (2) meetings per year, provided information to the community members, and read meeting minutes. The CNSC has used feedback from meetings and CLC members to understand perspectives from the community and determined the effectiveness of programs in place.

Next CNSC Staff provided an overview of the CNSC and the recent licence decision. CNSC Staff explained that the Commission is independent from CNSC Staff and that they operate at arm's length, and they are not for or against the nuclear industry; their mandate is public safety and to protect the environment. Next, CNSC Staff reviewed the CNSC Commission decision on BWXT NEC's licence, issued on December 18, 2020. He noted that the licence was split, meaning that there were now two licences covering operations at BWXT NEC's Toronto and Peterborough facilities. CNSC Staff further noted that the Peterborough licence now includes authorization to operate and modify the Peterborough nuclear fuel facility for production of fuel pellets, but with a number of licencing conditions. CNSC Staff also advised that there will be an Independent Environmental Monitoring Program (IEMP) sampling campaign in Peterborough in 2021 and that there is public outreach planned on the beryllium sampling process and results.

CNSC Staff then provided an overview of beryllium in soil, highlighting that beryllium is naturally present in soil and background range for soils in Ontario is 2.5mg/kg. CNSC Staff noted that primary emissions of beryllium are from burning coal, fuel oils and from petroleum-based products. CNSC Staff continued to note that the criteria for beryllium concentrations in soil are set through the Canadian Council of Ministers of the Environment (CCME) soil quality guidelines (which are 4 mg/kg for environmental and 75 mg/kg for human health) and that the average beryllium concentration found in the CNSC’s 2020 soil resampling was 0.50 mg/kg (using the partial digestion method) which is well below the CCME guidelines. Jon Lundy asked CNSC Staff how the CNSC and MECP collaborates to understand who is responsible for regulating beryllium emissions and what standards are used, noting that beryllium is an industrial substance, not a nuclear material. MECP Staff stated that there is overlap in the regulatory roles and that the MECP still regulates non-radioactive emissions. MECP Staff noted the MECP reviews the application to the Ministry and if appropriate, would issue an Environmental Compliance Approval (ECA). CNSC Staff stated that all nuclear activity and associated activity at a licenced facility is regulated by the Nuclear Safety and Control Act and that the CNSC reviews all operations and submissions (i.e. the ECA).

Next, CNSC Staff shared a map of the CNSC’s 2020 soil resampling campaign. CNSC Staff noted that the locations were the same as previous sampling with a few added at the Prince of Wales Public School. CNSC Staff shared that at the school, they took nine composite samples (each of which is five samples in one spot that get mixed together). CNSC Staff then noted that there were eight other samples taken including one reference sample at a distant location and that all were at background levels.

CNSC Staff then outlined the lab analysis and shared the differences between partial digestion and total digestion sampling. CNSC Staff noted that total digestion was used by the CNSC to analyze soil samples from 2014-2020 and that the July 2020 samples were also analyzed by partial digestion which is the more appropriate method to use for comparison to federal and provincial guidelines. CNSC Staff explained that they will use the partial digestion for future lab analyses of soil samples. CNSC Staff shared the below table which highlights the differences between total digestion and partial digestion.

<b>Total Digestion</b>	<b>Partial Digestion</b>
<ul style="list-style-type: none"> <li>• Very conservative; used for geological studies and forensic work.</li> <li>• Total decomposition of sample.</li> <li>• Digests environmentally available and environmentally inaccessible portions of elements.</li> <li>• Misleading to compare to the MECP soil standard and CCME SQG.</li> </ul>	<ul style="list-style-type: none"> <li>• Used to determine the bio available portions of elements.</li> <li>• Partial decomposition of sample.</li> <li>• Digests environmentally available portions of elements only.</li> <li>• Allows direct comparison to the MECP soil standard and CCME SQG.</li> </ul>

CNSC Staff then shared a table showing the CNSC's measured beryllium concentrations in soil from 2014-2020. CNSC Staff shared that only the partial digestion results should be compared to federal and provincial guidelines.

CNSC Staff then shared a graph which outlined the data interpretation using the total digestion method from the 2014-2020 sampling. CNSC Staff shared that the uncertainties for total beryllium data using two standard deviations (95% confidence level) were the following: 80% uncertainty in 2014, 50% uncertainty in 2018, less than 20% uncertainty in 2019 and 2020 and that the high uncertainties impact the interpretation of the dataset. CNSC Staff continued to note that considering the uncertainties, the dataset indicates that beryllium values are not statistically different and that data cannot be used to support any conclusions on potential trends. CNSC Staff also noted that the total digestion data cannot be compared to the MECP soil standard and CCME SQG.

Next, CNSC Staff shared another graph which outlined the data interpretation using the partial digestion method from the 2020 sampling. CNSC Staff shared that beryllium concentrations in soil derived by partial digestion in 2020 were compared to the MECP upper limit of natural background in Ontario and the most restrictive CCME SQG. CNSC Staff noted that the maximum value observed was six times lower than the CCME SQG and 117 times lower than the CCME human health guideline (75 mg/kg). CNSC Staff continued to share that the 2020 data was similar to the partial digestion results of the survey conducted in 2005 by the MECP. Since there is no measurable increase in beryllium concentration in soil around the facility in 15 years, there is no evidence that the BWXT NEC facility emissions have affected soil quality in Peterborough.

CNSC Staff shared that the province sets the Ambient Air Quality Criteria (AAQC) for all contaminants, noting that it is a concentration of a contaminant in air that is protective against adverse effects, regardless of the source. She shared the AAQC is based on the most sensitive effect from the contaminant and the AAQC is set as a concentration ( $\mu\text{g}/\text{m}^3$ ) with averaging times appropriate for the effect that they are intended to protect against. CNSC Staff continued to note that the AAQC is set for a point outside the facility where the highest concentration of the contaminant is expected to occur (the point on impingement) and that for beryllium, the AAQC is set at  $0.01 \mu\text{g}/\text{m}^3$  with an average of 24 hours.

Next, CNSC Staff displayed a table and graph which outlined beryllium air concentrations from BWXT NEC's Peterborough facility, noting that beryllium air concentrations measured at the stacks are below Ontario's AAQC of  $0.01 \mu\text{g}/\text{m}^3$ . CNSC Staff then shared a hypothetical beryllium calculation graph that focused on the school yard at Prince of Wales Public School. CNSC Staff shared that the Commission noted errors and requested clarity on units so CNSC Staff drafted CMD 20-H2D to provide clarity and corrections on the beryllium equations and calculations. CNSC Staff outlined that this demonstrates that beryllium emissions from BWXT NEC's Peterborough operations are at a level that could not result in the change in beryllium soil concentrations.

CNSC Staff concluded that results of the soil resampling affirm CNSC Staff conclusions presented to the Commission in CMD 20-H2 during the March 2020 public proceedings and that sampling data

demonstrates that there is no risk to the environment and to human health at the Prince of Wales Public School and on other properties adjacent to BWXT NEC's Peterborough facility. CNSC Staff continued to note that there is no evidence that the BWXT NEC facility emissions affected soil quality in Peterborough and that beryllium values measured by the total digestion of soil samples in 2014-2020 are not statistically different given the measurement uncertainties, and cannot be used to support any conclusions on potential trends of beryllium levels in soil. CNSC Staff shared that the CNSC will continue regulatory oversight of BWXT NEC to monitor emissions and IEMP sampling in publically accessible areas to confirm that the public and environment are protected and that it will include sampling in 2021 and in future years. CNSC Staff then noted that the soil samples will be analyzed using partial digestion and that BWXT NEC will also be conducting soil sampling in Peterborough (which had also been completed in 2020). CNSC Staff asked the CLC if they had any specific needs or questions on air monitoring in Peterborough or soil sampling. CNSC Staff shared contact details with the CLC to ensure they have a means to engage with them directly if needed.

Throughout the CNSC's portion of the meeting, a number of questions were raised by the CLC and company which are included below:

1. Why are the CCME's environmental guidelines lower than the human health guidelines? CNSC Staff shared that the environmental guidelines are based on interim remediation criteria for soil in Ontario.
2. Why does the CNSC monitor beryllium in soil and where does beryllium come from in soil? Is this to determine atmospheric inputs? CNSC Staff noted that the IEMP monitors emissions to soil for beryllium because it is a substance used by the licensee. CNSC Staff also shared that during the hearing, Mike Rinker shared a detailed response to this question which noted that beryllium is naturally present in the environment from other sources including the facility. CNSC Staff also shared that the soil quality is not impacted by the emissions and there is no risk to the community.
3. Could you detect a breach in emissions (i.e. ten times the atmospheric limit)? CNSC Staff noted that if this is based on the assumption of a breach from the facility, there are many protective measures in place to ensure that doesn't happen. CNSC Staff outlined that there are action levels and the facility and equipment handling beryllium are maintained under continuous negative air pressure to ensure beryllium particulates are captured and removed before release through the stacks.
4. We cannot say there is an increasing trend or no trend because there is a limited data set (comment). CNSC Staff noted that the CNSC recognizes the CLC members view of limitations and shared that BWXT NEC is also conducting soil sampling which will increase data over time.
5. At the school there was a concentration which was measured 22 times the allowable limit – why was this not flagged by the CNSC? CNSC Staff noted that this was not true and that the values were still so low and within the margin that is safe. CNSC Staff stated that there is a defence-in-depth approach to controlling emissions and to ensure that a breach would not happen.
6. What would cause the observed increase in soil be? CNSC Staff noted there was no increase of beryllium in soil since 2005 based on partial digestion (standard) data.

7. Why did you choose to use partial digestion (the total digestion method caused many issues within the community)? CNSC Staff noted that the CNSC was incorrect to compare total digestion to the soil standards which are based on the partial digestion method. CNSC Staff shared that the CNSC realized and corrected this error in their CMD and outlined that the CNSC lab is a scientific lab which used a conservative perspective.
8. Will BWXT NEC begin to do air monitoring? Jon Lundy shared that BWXT NEC has discussed this possibility and does not believe that it is required, but does understand that the community would like more data and more information. He shared that emissions are at background levels and that the company will be happy to add more beryllium emissions data on the website and plans to do this soon.
9. If air monitoring is completed, aren't the standards for meeting safety guidelines based on soil levels? CNSC Staff noted that there are also air standards and that the CNSC's IEMP takes some ambient air samples during the campaign as well and that those results have always been non-detect. CNSC Staff also shared that the licence has release limits for beryllium and uranium and that those standards are also based on public/community safety levels.
10. Is the IEMP conducted by an external company? If yes, is it the same company each year or tendered out? CNSC Staff noted that the IEMP is always completed by CNSC staff, using the CNSC laboratory.
11. Can the MECP comment on the CNSC switch to using partial digestion? MECP Staff shared that the partial digestion method is the appropriate measure to use. MECP Staff also noted that the most recent sampling (both by CNSC and BWXT NEC) were reviewed by the MECP and that the MECP agrees with the conclusions from both reports. MECP Staff also shared that they noticed the previous elevated levels as an issue and that there appeared to be issues with the previous analytical methodology that was used. MECP Staff reiterated that the total digestion method analyzes the whole soil sample, including bits of rock on the soil sample, and that the partial digestion method is the appropriate method to use as it measures the environmentally available portion of beryllium in the soil sample and is the appropriate method for comparison to the soil standards which are based on this method.

CNSC Staff asked the CLC what the community wants in terms of soil sampling. One CLC member noted that he doesn't have concentration level concerns but his issue with trends in the soil sampling to reflect the atmosphere. He also shared that it would be better for the CNSC to do more than just a five day IEMP sampling. CNSC Staff shared that the overall goal is to increase the time series to have more robust data than just the IEMP. The CLC member also shared that it would be helpful to continue to do both total and partial digestion sampling. CNSC Staff noted that they would take the conversation offline with the CLC member to discuss further to ensure the meeting did not run over time. Another CLC member noted that they automatically expect off site monitoring as well as stack monitoring. A different CLC member noted that while they know the air monitoring is not required, that they think the community would appreciate it.

Next, Dave Snopek shared that BWXT NEC is in the process of preparing its Annual Compliance Report which is a report of the company's previous year's (2020) performance and is submitted to

the CNSC. He shared that the report should be available online in April. Dave also noted that BWXT NEC plans to conduct its annual soil sampling for beryllium around the same time as the 2020 sampling which was in the summer and that there is planning in place for community and media involvement with consideration of the pandemic at the time.

Natalie then shared that the community survey from 2020 was completed and that the next slides would provide an overview of the data. She began by noting that the 10-minute telephone and online survey was conducted from October 15 - November 30 by Ipsos, an independent market research firm. She shared that 346 surveys were completed in total with 146 in Toronto (73 online, 73 telephone) and 200 in Peterborough (89 online, 111 telephone). The incentive for the community to complete the survey was two draws for \$500 CAD Virtual Visa® Prepaid Card. Natalie shared that BWXT NEC used a multi-prong approach to advertising for the survey which included: mailed postcards to neighbours (~5000 Peterborough and ~6500 Toronto), postings on social media, targeted advertising on social media, website posts, information in the summer newsletter and calls to neighbours (conducted by Ipsos). Natalie noted that both the 2018 and 2020 reports are on BWXT NEC's website and that the information was emailed to the contact list and shared on social media. Overall, BWXT NEC will utilize feedback to identify strengths and areas for improvement in its public information program. Natalie then went over the 2020 report highlights, starting by sharing that the company was pleased with the overall upward trend of familiarity and awareness of BWXT NEC.

- More than ½ respondents are supportive of nuclear energy (support higher in Peterborough).
  - Nuclear energy still falls below other forms of electricity generation (solar, hydro, wind, gas).
- Familiarity of BWXT increased, positive impression increased.
- Increase in recall rate of BWXT NEC.
  - Newsletters and newspapers had the highest recall rate.
  - Preferred method of communication was through newsletters and online.
  - Those who visited website found it informative and catered to the local residents.
- Event attendance low – possibly due to pandemic (lately event attendance low in both communities).
  - More likely to attend a BBQ event.
  - Positive impressions of past events.
- Peterborough community places importance on environmental monitoring and strict regulations.
- Toronto community places importance on Indigenous relations and community involvement.

Next, Natalie shared that the winter newsletter has been added to BWXT NEC's website, mailed to ~5,000 neighbours in Peterborough, emailed to the company contact list and shared on social media. She also shared that there was a public disclosure made on January 28 which was a false sprinkler alarm. Natalie noted that at one of the next meetings, she will ask the CLC for feedback on how the company shares this type of information. Natalie then highlighted media since the CNSC's Record of Decision news release was shared in December. She noted that there were nine articles

(including one opinion editorial) and that the tone was overall negative. She shared the themes of the articles as follows: concerns about the CNSC licence decision, pelleting and emissions, inhalation of particles, beryllium emissions, CNSC reporting, Peterborough Public Health involvement, CARN picketing in Peterborough and noted that recently (March 9-11, 2021) there had been some media on the CELA/CARN application for judicial review on the CNSC's decision.

Natalie then noted that feedback from the 2020 year end evaluations will be included throughout the CLC meetings in 2021. This feedback includes:

- Having external representatives attend meetings (i.e. MECP, NWMO)
- Discussing HR metrics
- Discussing how bundles are used in reactor – possibly have guest from OPG
- Discussing more feedback from the community (concerns, questions, comments)
- Discussing future plans for BWXT NEC
- Discussing reprocessing of equipment
- Discussing the best ways to share information with the community

Natalie also shared a tentative meeting schedule, noting that the new member orientation session was held on February 23 and the plan is to meet again in June and September and conduct a year end evaluation meeting in November. The meeting terminated. Next meeting date to be scheduled in June, 2021.