



Date: 2020-11-16
File / dossier : 6.02.04
Edocs pdf : 6404711

**Written submission from
Swim Drink Fish Canada /
Lake Ontario Waterkeeper**

**Mémoire de
Swim Drink Fish Canada /
Lake Ontario Waterkeeper**

**Regulatory Oversight Report for
Uranium and Nuclear Substance
Processing Facilities in Canada: 2019
and Update on Cameco
Corporation's Vision in Motion
Project**

**Rapport de surveillance
réglementaire des installations de
traitement de l'uranium et des
substances nucléaires au Canada :
2019 et mise à jour sur le projet
Vision in Motion de Cameco
Corporation**

Commission Meeting

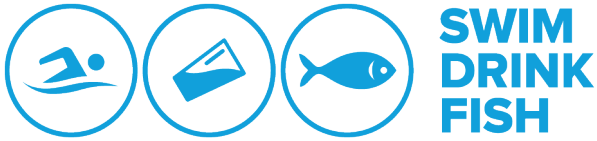
Réunion de la Commission

December 8, 2020

Le 8 décembre 2020

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Submissions of Swim Drink Fish Canada/Lake Ontario Waterkeeper

Re: Commission meeting to consider CNSC Staff
Regulatory Oversight Report for Uranium and Nuclear
Substance Processing Facilities in Canada: 2019

Notice of Public Meeting, Ref. 2020-M36

November 16, 2019

Submitted to:
Participant Funding Program Administrators cncs.pfp.ccsn@canada.ca and the CNSC
Secretariat cncs.interventions.ccsn@canada.ca

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Executive Summary

Swim Drink Fish Canada/Lake Ontario Waterkeeper (“Waterkeeper”) is a grassroots environmental organization that uses research, education, and legal tools to protect and restore the public’s right to swim, drink, and fish in Lake Ontario.

Waterkeeper has received participant funding to intervene in this current Canadian Nuclear Safety Commission (CNSC) Meeting to review the CNSC staff 2018 Annual Regulatory Oversight Report (ROR) for Canadian Uranium and Nuclear Substance Processing Sites. Waterkeeper’s funding agreement requires the organization to prepare and deliver written submissions evaluating the accessibility of the ROR and quality of publicly disclosed information in other online sources concerning nuclear processing facilities located in the Lake Ontario Watershed.

Over the last decade, Waterkeeper has intervened before the Commission Tribunal, and assisted other community groups to do the same, for most uranium processing facilities located along the north shore of Lake Ontario and its tributaries. These have included the Port Hope Conversion Facility (PHCF) and BWXT Nuclear facilities in Toronto and Peterborough. Waterkeeper’s current submissions reviewing the 2019 Processing ROR briefly summarize, consolidate, and build on long-standing recommendations made by the organization over these years. The majority of the recommendations in these submissions propose ways to improve the collection, communication, and public dissemination of information concerning these facilities’ impacts on the lake and its ecosystems.

These submissions similarly distinguish between ‘disclosure gaps’ on the one hand (i.e. information that is generated by facility operators and not disclosed to the public), and “collection/generation gaps” on the other hand (i.e. areas in which no or insufficient information is being gathered). The discussion and recommendations that follow in these submissions focus primarily on areas in which RORs and facility websites can improve the quality and breath of data disclosure. However, they do also note areas in which more information and data may need to be collected in order to subsequently disclose publicly.

Background

About Swim Drink Fish Canada/Lake Ontario Waterkeeper

Swim Drink Fish Canada/Lake Ontario Waterkeeper (“Waterkeeper”) is a grassroots environmental organization that uses research, education, and legal tools to protect and restore the public’s right to swim, drink, and fish in Lake Ontario. As a non-political registered charity, Waterkeeper focuses on research and justice issues in the public interest. It is dedicated to protecting and celebrating the Lake Ontario watershed, including the wetlands, streams, rivers, and creeks that flow into the lake.

Waterkeeper also works with communities to facilitate the use of environmental laws to protect their rights to swim, drink, and fish. The organization participates in legal processes to help ensure that environmental decisions are made on the basis of sound and tested scientific evidence by independent decision-makers and in the public interest. Waterkeeper is intervening before the Canadian Nuclear Safety Commission (CNSC) in the current Regulatory Oversight Report (ROR) Commission Meeting in order to ensure the Commission Members consider the public’s need for a swimmable, drinkable, fishable Lake Ontario when reviewing the adequacy and responsibility of operations by uranium processing facilities’ in the watershed in 2019.

For over a decade, Waterkeeper has intervened before the Commission Tribunal, and assisted other community groups to do the same, for most uranium processing facilities located along the north shore of Lake Ontario and its tributaries. These have included the Port Hope Conversion Facility (PHCF) and BWXT Nuclear facilities in Toronto and Peterborough. Waterkeeper’s current submissions reviewing the 2019 Nuclear Processing Facilities’ ROR briefly summarize, consolidate, and build on long-standing recommendations made by the organization over these years. The majority of the recommendations in these submissions propose ways to improve the collection, communication, and public dissemination of information concerning these facilities’ impacts on the lake and its ecosystems.

This current intervention opportunity

There are two central aims of this intervention. The first is to review and provide feedback concerning the accessibility and comprehensiveness of the ROR prepared for this December’s Commission Members’ meeting. The second is to more generally assess the comprehensiveness, consistency, and accessibility of publicly available environmental data and information concerning the operations at nuclear processing facilities located in the Lake Ontario Watershed.

Waterkeeper has retained Pippa Feinstein to review the ROR, assess available online information for nuclear processing facilities, and prepare these written submissions and recommendations. Ms. Feinstein has regularly appeared as counsel for Waterkeeper over the last six years, and over this time developed significant expertise concerning public access to information in the Canadian nuclear context.

Sources reviewed for this assessment include: the current ROR for uranium and nuclear processing facilities; the CNSC website and its webpages for processing facilities in the Lake Ontario Watershed; the webpages for reviewed processing facilities maintained by their owners and operators; information available through the federal Open Government data portal; publicly available information concerning these processing facilities published by municipal, provincial and other federal agencies; and past Waterkeeper interventions concerning public information sharing practices and policies.

Waterkeeper’s past work in related issues

Four of the uranium processing facilities discussed in the current ROR are located in the Lake Ontario Watershed: the Port Hope Conversion Facility (PHCF), Cameco Fuel Manufacturing facility (CFM), and BWXT’s facilities in Toronto and Peterborough, Ontario.

For over a decade, Waterkeeper has actively monitored the activities of, and intervened in regulatory processes concerning Cameco and BWXT facilities. In particular, the organization has:

- intervened before the CNSC in 2008 when Cameco first applied to implement its (then) Vision 2010 project to improve conditions at its PHCF which borders the Port Hope Harbour;
- submitted comments to the Ontario Ministry of Environment in 2009 when Cameco applied for its Certificate of Approval from the provincial ministry concerning releases of liquid effluent from the PHCF;
- intervened before the CNSC in 2011 offering expert analysis and recommendations concerning the Environmental Impact Statement (EIS) and licence for Cameco’s proposed refurbishing and decommissioning work at the PHCF;
- assisted community organizations with their presentations at a special Commission Member Meeting in Toronto in 2014 to review the Toronto BWXT facility and its operations;
- intervened before the CNSC during the 2016 licence renewal hearing for the PHCF;
- intervened before the CNSC in 2017 and 2019 to follow-up on several Cameco and CNSC staff undertakings from the 2016 licence renewal proceedings during the Commission Meeting to consider CNSC staff’s ROR for nuclear processing facilities;¹ and
- intervened before the CNSC in the relicensing hearing for BWXT’s Toronto and Peterborough facilities in 2019.

Throughout this time, and in these interventions, Waterkeeper has consistently highlighted the need for greater transparency and accountability, both of CNSC as the primary regulatory body

¹ For a more detailed overview of past work, see “Submissions of Swim Drink Fish Canada/Lake Ontario Waterkeeper Re; CNSC Review of the Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2016”, November 13, 2017, online: <http://www.waterkeeper.ca/blog/2017/11/23/waterkeeper-reviews-nuclear-safety-report-environmental-protection-performance>, and Lake Ontario Waterkeeper, Waterkeeper’s comments for the Nuclear Safety Commission’s BWXT Relicensing hearing, online: <http://www.waterkeeper.ca/blog/2020/1/31/waterkeepers-comments-for-the-nuclear-safety-commissions-bwxt-relicensing-hearing>.

overseeing these facilities, as well as the owners and operators of them (in this case BWXT Nuclear and Cameco). This has included recommendations that CNSC staff provide more detailed information and data to support its assessments of facilities' environmental impacts. Waterkeeper has also called for the broadening of environmental monitoring plans, especially concerning the need for nuclear processing facilities to better understand the interactions between groundwater contaminants and sanitary sewer and stormwater management infrastructure.

These current submissions similarly distinguish between 'disclosure gaps' on the one hand (i.e. information that is generated by facility operators and not disclosed to the public), and "collection/generation gaps" on the other hand (i.e. areas in which no or insufficient information is being gathered). The discussion and recommendations that follow in these submissions focus primarily on areas in which RORs and facility websites can improve the quality and breath of data disclosure. However, they do note areas in which more information and data may need to be collected in order to subsequently disclose publicly.

A Lake Ontario-based public interest perspective on public engagement

Public interest perspective and the "Right to Know"

The public has a right to a healthy Lake Ontario. The preamble of the Great Lakes Protection Act (GLPA) states that "all Ontarians have an interest in the ecological health of the Great Lakes-St. Lawrence River Basin".² Ontario's Environmental Bill of Rights acknowledges that Ontarians have the right to a healthful environment.³ By extension, the public has a right to sufficient information to assess how the operations of nuclear facilities may affect their right to a healthful environment and whether potential impacts of nuclear facilities' may be considered acceptable.

More specifically, the CNSC and nuclear licence holders are responsible for informing the public of any impact they may have on the swimmability, drinkability, and fishability of the Lake Ontario Watershed. Meaningfully supporting this public 'Right to Know' about the nuclear energy industry's impacts on the lake necessarily requires public access to environmental data.⁴ While government and industry representatives can assert that members of the public are safe and that ecosystems are unaffected by nuclear facilities, these assurances need to be supported with comprehensive and publicly accessible data.

² *Great Lakes Protection Act*, SO 2015, c 24, Preamble.

³ *Environmental Bill of Rights*, SO 1993, c 28, Preamble.

⁴ The public 'Right to Know' in environmental contexts has been most developed in the US, constituting a guiding principle in recent federal and state legislation and policy, see: <https://19january2017snapshot.epa.gov/www3/epahome/r2k.htm>. Also, see generally the work of the Environmental Data & Governance Initiative, online: <https://envirodatagov.org/environmental-data-justice/>; and the Right2Know Network, online: < <https://ourrighttoknow.ca/campaigns/right-to-know-network/> >. See also: Peter H Sand, "The Right to Know: Environmental Information Disclosure by Government and Industry", January 2005.

The CNSC’s mandate requires it to provide and ensure the provision of environmental information to members of the public. Section 9(b) of the *Nuclear Safety and Control Act* specifies that the CNSC’s objectives include:

disseminat[ing] objective scientific, technical and regulatory information to the public concerning the activities of the Commission and the effects, on the environment and on the health and safety of persons, of the development, production, possession and use [of nuclear substances].⁵

The federal government, and by extension CNSC, is also responsible for implementing the current Open Government National Action Plan, to create “a governing culture that fosters greater openness and accountability, enhances citizen participation in policymaking and service design, and creates a more efficient and responsive government”.⁶ Open Science, which would include the publication of environmental data, is also a special priority area for the plan.

The CNSC’s own internal regulatory document concerning public information and disclosure requirements for all regulated facilities states the “primary goal of a public information and disclosure program... is to ensure that information related to health, safety and security of persons and the environment, and other issues associated with the lifecycle of the nuclear facilities are effectively communicated to the public.”⁷

Robust public disclosure protocols at regulated nuclear facilities are a cornerstone of ensuring the industry’s transparency and accountability. They are an important way by which more trusting relationships can develop between industry and the public, not to mention an important way in which facilities can obtain social licenses to operate in communities. Licensees often claim the safe and responsible operation of their nuclear facilities. However, providing sufficient information to the public that supports these claims is vital.

General quality of data in the ROR

The ROR briefly discusses public engagement by both CNSC staff and licensees, however only two pages out of the 100-page report are devoted to the subject. Much of the discussion focuses on community events that CNSC staff and representatives of licensees attend, and the maintenance of websites and social media presences.⁸ Most of this activity certainly raises awareness of the existence and general operations of nuclear facilities in host communities, however, this is not sufficient evidence of meaningful public engagement with the nuclear sector. Waterkeeper also submits that fulsome public disclosure of disaggregated environmental data should be understood by CNSC staff as a cornerstone of meaningful public engagement.

⁵ *Nuclear Control and Safety Act*, RSC 1997, c 9, at s 9(b).

⁶ *Ibid.*

⁷ REGDOC-3.2.1 *Public Information and Disclosure*, s 2.1, online: <<http://nuclearsafety.gc.ca/eng/acts-and-regulations/regulatory-documents/published/html/regdoc3-2-1/index.cfm>>. Note, this was the same in the previous *Public Information and Disclosure*, Regulatory Document 99.3, March 2012, s 2.1. There is a REGDOC 3.1.1 which concerns public reporting requirements of licensed nuclear facilities, however it only applies to nuclear power plants.

⁸ Waterkeeper BWXT submissions, *supra* note 1 at 19-21.

It is important to note that for Waterkeeper's purposes, the RORs, including the present ROR for uranium and nuclear processing facilities, remain an insufficient source of environmental information in and of themselves. Appendices G, H, and I to the ROR provide the most detailed data sets concerning the environmental performance of nuclear processing facilities. However, the use of aggregated and highly digested data deprives the public of a better understanding of how operations and the ecological footprints of nuclear facilities can change over the course of a year with seasonal and other environmental changes over time. Further, inconsistencies in the ways this data is reported in the ROR and inconsistencies with the regulatory limits used to contextualize reported data, frustrate the public's ability to compare facilities' environmental performance or get a sense of broader collective impacts of these facilities on Lake Ontario and its tributaries. Each of these concerns is discussed in more detail below.

Inconsistencies in data reporting

Several distinctions made between facilities used by CNSC staff to support the variation in data reporting in the ROR are not as definite as asserted. For example, Appendix G contains annual release volumes of uranium to air in the vicinity of all uranium processing facilities for 2019. The data in this appendix is also the data that has been uploaded to the Open Government portal. Uranium releases to surface water and radium-226 in liquid effluent released to surface water are only provided for the Blind River Refinery and no other facilities. No other uranium discharges from any other facility is reported in Appendix G (and thus not uploaded to the Open Government Portal either). CNSC staff assert that this distinction in reporting from the different facilities is due to the fact that the Blind River Refinery is the only uranium processing facility that releases directly into local surface water bodies.⁹ However, this effectively excludes the facilities in the Lake Ontario Watershed (the Port Hope Conversion Facility, Cameco Fuel Manufacturing facility, and Toronto and Peterborough BWXT facilities) which can routinely or via infrastructure failures release uranium into municipal sewer systems before ultimate discharge into the lake and its tributaries.¹⁰

For more facility-specific environmental data provided in Appendix I to the ROR, there are several inconsistencies in the way the data is reported that frustrates the public's ability to compare facilities and get a comprehensive picture of the environmental performance of processing facilities in the watershed. The ways in which discharges are discussed and data reported differs widely from facility to facility. For example, air emissions from the PHCF are reported as daily averages, while emissions to the air from the CMF are reported as total annual discharges, and air emissions from the BWXT Toronto and Peterborough facilities are reported as annual maximum concentrations. Ambient air measurements in the vicinity of the PHCF are not reported, but the highest annual average from the CMF is reported, and contaminants in ambient air around both BWXT facilities are reported as annual average concentrations.

⁹ Regulatory Oversight Report for Uranium and Nuclear Substance Processing Facilities in Canada: 2019 ("Nuclear Processing ROR"), Appendix G, at 47.

¹⁰ Note: municipal waste treatment facilities are limited in their ability to remove all nuclear-related contaminants from received wastewater before discharge into receiving waters, and are unable to dispose of removed nuclear processing waste separately from other wastes.

These inconsistencies in emissions reporting are present in the ROR's discussion of liquid effluent which is reported in a description of AL exceedances at the PHCF, provided as a table with total annual discharges from the CMF, and annual maximum effluent concentrations from both Toronto and Peterborough BWXT facilities.

Groundwater is only monitored at the PHCF and CMF, and not at either BWXT facility. Groundwater data and trends at the PHCF are reported with some detail in the ROR as CNSC staff explain the numbers of monitoring wells, their general locations, and sampling frequency. The discussion includes an explanation of the movement and concentrations measured for nitrate, ammonia, and radium-226 in monitored contaminant plumes. Staff then provide annual total mass of uranium, fluoride, ammonia, nitrate, and arsenic removed from groundwater pumping wells. For the CMF, CNSC staff merely assert they have seen the groundwater data, refuse to provide any, and instead assure that the facility is not contributing to groundwater concentrations of uranium. While this may well be the case, these communications inconsistencies do not promote a great deal of transparency.

The ROR's treatment of surface water data is similarly varied, with average and maximum contamination values provided for the PHCF, a few select measurements provided for the CFM, and none for the BWXT facilities.

Annual averages for soil measurements around the PHCF are provided in the ROR, while no data accompanies CNSC staff's assurance that soil measurements around the CFM establish its containment. Raw and averaged soil samples are provided for the Toronto and Peterborough facilities respectively.

For future RORs, it would ensure more transparency, accessibility, and accountability if CNSC staff could better standardize how environmental data is reported from facility to facility, and include rationales for how data is reported (whether averaged or not, and over what time periods and why). There will inevitably be some variation between facilities, as monitoring plans for each differ given their distinct operations. However, the current way data is currently being reported in these RORs involves more variation than necessary or useful from a public interest perspective.

Recommendation 1: CNSC staff should standardize how environmental data is reported from facility to facility, and include rationales for how sampling results are reported.

Inconsistencies in references contextualizing reported data

In addition to the variations in data reporting, the use of the regulatory limits posted to contextualize reported environmental data are similarly inconsistent. For air and liquid emissions, and gamma radiation releases, licence limits are provided to contextualize presented monitoring results. While ambient air measurements for the CMF and BWXT facilities and fluoride at the PHCF are contextualized with reference to provincial Ministry of Environment, Conservation, and Parks (MECP) regulatory limits. For soil sampling and surface water, federal Canadian Council for Ministers of the Environment (CCME) guidelines are used. While, not all emissions are regulated by the same environmental regulations and guidelines, wherever possible licence limits and relevant regulatory limits should be provided to contextualize reported monitoring data.

Recommendation 2: consistently provide licence limits and appropriate regulatory limits to contextualize reported environmental data and provide rationales for the selection of regulatory limits.

Finally, it is important to register persisting concerns Waterkeeper has over CNSC staff's reliance on the Independent Environmental Monitoring Program (IEMP) to support its assurances of nuclear facilities' containment. In the current ROR for uranium and nuclear processing facilities, CNSC staff cite the IEMP as a source that confirms the safety and environmental containment of the BWXT facilities in Toronto and Peterborough. Staff explain that the IEMP is not meant to constitute a comprehensive data set capable of establishing the general environment performance standards of the facilities, but rather that it supplements licensee monitoring programs.¹¹ However, IEMP programs are more specific than this explanation conveys. IEMP monitoring locations are chosen by CNSC staff in private consultation with members of the public and meant to respond to specific areas of public concern. It is not often clear which members of the public provide their input, nor is it clear how members of the public can influence the selection of monitoring locations. Regardless, it is important to note that the IEMP does not solely rely on established Western-scientific monitoring methods, and thus is not meant to supplement existing monitoring programs on the same terms.

Further, as the IEMP results are the only disaggregated and geospatially-presented nuclear data publicly available online, it is especially important to be clear about what the program is and is not.

Recommendation 3: that CNSC staff clarify the IEMP's purpose and how monitoring is determined in future ROR references.

Nuclear and uranium processing sites in the Lake Ontario watershed

CNSC staff's ROR has ultimately found that over the course of 2019, all nuclear and uranium processing sites operated safely and made adequate provision for nuclear workers, the public, the environment and fulfilled international legal obligations.¹² Each of the four uranium processing facilities in the Lake Ontario Watershed is discussed briefly below, with a focus on the quality of information publicly available in the ROR and other online sources concerning each facilities' impact on swimmability, drinkability, and fishability.

Port Hope Conversion Facility (PHCF)

The PHCF has been operating on the northern shore of Lake Ontario, on the Port Hope Harbour since 1935. Cameco Corporation is the current owner and operator of the site, holding a CNSC licence to do so. It has developed and is implementing a "Vision in Motion" project to address legacy contamination issues on its property, parallel to larger efforts by Canadian Nuclear Laboratories (CNL) that seek to address legacy contamination issues in Port Hope Harbour and a series of other locations across the municipality of Port Hope (the "Port Hope Area Initiative").

¹¹ Nuclear Processing ROR, *supra* note 9 at 22.

¹² Nuclear Processing ROR, *supra* note 9 at 1.

A year ago, the facility began reporting contaminant exceedances in its sanitary sewers. This was an important step toward greater transparency at the site, and has resulted in more public reporting concerning groundwater infiltration of some of the aging sanitary sewer infrastructure, an issue Waterkeeper had become aware of in its earlier reviews of the site. This is an issue Cameco has also been aware of and has undertaken to remediate in its Vision in Motion project.

The current uranium and nuclear substance processing ROR notes 18 exceedances of the daily Action Level (AL) for discharges into the sanitary sewer system at the PHCF. The daily AL was set at 100 µg/L for uranium. CNSC staff assure that all these discharges were still below the monthly mean release limit of 275 µg/L.¹³ There were also five reportable liquid release events from the PHCF into Port Hope Harbour. These included the release steam condensate and releases into the harbour from a failed sewer pipe connection. CNSC staff assures there were “no impacts to the environment or to the health and safety of the public”¹⁴ but the publicly available data concerning the releases’ volumes or concentrations of any contaminants in releases is insufficient.

Incidents reported on the Cameco website note AL exceedances, but do not include actual measurements (or estimates) of liquid releases.¹⁵ More data should be publicly disclosed to better facilitate public understandings of the functioning of the PHCF sanitary sewer system before it is repaired as part of Cameco’s Vision in Motion project. First, not providing disaggregated data refuses the public an understanding of spikes in releases, potentially exceeding mean release limits provided in the ROR. Second, uranium is an indicator contaminant at the PHCF site, and thus not necessarily the only substance that may be present in groundwater infiltrating the sewer infrastructure. As such, where possible, information concerning the liquid release of other contaminants should be released publicly. Finally, no information is provided in the ROR concerning how Port Hope’s municipal wastewater treatment plant may be prepared for spikes in radioisotope contaminants. Some discussion of Cameco’s and/or CNSC staff’s cooperation with municipal water authorities should be addressed in publicly available materials.

Waterkeeper urges CNSC staff and Cameco to make more data available to the public online in posted event reports. In particular, a date should be provided noting when the report was posted to the Cameco website in addition to the actual event date.¹⁶ All available environmental data concerning the quantity, or estimated quantity, of the release as well as concentrations of released

¹³ Nuclear Processing ROR, *supra* note 9 at 11.

¹⁴ Nuclear Processing ROR, *supra* note 9 at 17. Note: only events involving liquid releases to the lake have been included in this discussion. For this reason, only select events at the PHCF have been included, other events at the PHCF and events at other facilities have not been addressed in this report as they did not involve discharges into surface lake water.

¹⁵ Cameco Corporation, Environment and Safety, online: <https://www.cameco.com/businesses/fuel-services/conversion-port-hope/environment-safety>. Note: the provision of data in these reports is uneven, as actual measurements are often provided for ambient air after exceedances in air emissions. Liquid effluent or sanitary sewer discharges are not afforded the same treatment.

¹⁶ It appears Cameco may have begun implementing this past Waterkeeper recommendation from July 2020 to the present. If this is the case, Waterkeeper commends the company and this practice should continue going forward.

contaminants (i.e. data prior to dilution in the environment) should be included. Applicable ALs, DRLs, and regulatory limits should also be available (either in the report itself or via an easily accessible hyperlink) so that members of the public can understand reported release amounts and concentrations in context. Further, data should be provided (either in the report itself or via an easily accessible hyperlink) of any measured environmental impacts (i.e. post-dilution data). Finally, for incidents requiring mitigation and/or remediation activities, a description of these activities should be provided as well as any updates on their success (where such records are already required by governing agencies).

These recommendations ultimately apply to the three other facilities discussed below and as such are expressed as recommendations for all four processing facilities in the Lake Ontario Watershed.

Recommendation 4: that uranium and nuclear processing facilities include the following in their online event reports:

- a) The event's posting date to licensees' website;*
- b) quantity and concentration of released contaminants;*
- c) applicable ALs, DRLs, and regulatory limits;*
- d) measured environmental impacts; and*
- e) a description of any mitigation and/or remediation efforts undertaken to address incidents after they occur.*

Recommendation 5: that future RORs and the CNSC's webpages for uranium and nuclear processing facilities include a hyperlink to these event reports.

Recommendation 6: that future RORs and the CNSC's webpage for uranium and nuclear processing facilities include a discussion of cooperation with municipal water treatment plants concerning contaminants received from the PHCF and their treatment and release to the lake.

Port Hope Fuel Manufacturing Facility

The CFM has operated in Port Hope since the 1950s. It produces UO₂ pellets, which it fits into zirconium tubes, and assembles into fuel bundles for the province's nuclear reactors. The facility is located very close to the shores of Lake Ontario, a couple hundred meters from the Marsh Lookout along the Waterfront Trail. While it does not appear to make any direct liquid effluent releases into Lake Ontario, the facility does discharge its liquid effluent into the municipal sewer system. This wastewater is received by the municipal waste water treatment plant which ultimately discharges wastewater into Lake Ontario, after varying levels of treatment (dependant on whether and the type of contaminant received).

The CFM's DRLs are unacceptably high, permitting 280 kg of air effluent and up to 9,500 kg liquid effluent to municipal sewers. Action Levels are a fraction of these limits, however, and actual release limits appear to have generally been below 2 kg as an annual average.¹⁷

¹⁷ Cameco Corporation, 2019 Annual Compliance Monitoring & Operational Performance, March 31, 2020, online: <https://www.camecofuel.com/uploads/downloads/CFM-annual-compliance-report.pdf>.

The CFM's quarterly compliance reports are posted to the facility's webpage and contain maximum and averaged contaminant release values for air and sanitary sewer emissions.¹⁸ Its Annual Compliance Report is also available online and are similarly reliant on averaging environmental monitoring data.¹⁹

A public summary of its 2018 Environmental Risk Assessment is in its online archive as are its 2019 Annual Compliance Report and 2019 Quarterly Compliance Reports.²⁰ Waterkeeper recommends that Cameco release the full 2018 ECA on its website and archive previous years' quarterly and annual compliance reports so they can be cross-referenced to provide the public with an understanding of operations at the facility over time.

Recommendation 7: that Cameco post full versions of its ERAs for the CFM facility on its website and archive past annual and quarterly compliance reports on its website.

BWXT Facilities in Toronto and Peterborough

BWXT operates two fuel processing facilities in Ontario: one is located in Toronto and produces UO₂ fuel pellets; the other in Peterborough where these pellets are assembled into fuel bundles to power the province's CANDU nuclear reactors. Both facilities have been operating since the 1950s.

During this past March's licence renewal hearing for the BWXT facilities in Toronto and Peterborough, the company undertook on the record to post more disaggregated data to its website.²¹ Since then, the company has undertaken to post additional disaggregated environmental data to its website by early 2021.²² This is an important development in the nuclear energy sector and Waterkeeper looks forward to reviewing this data once it becomes available and continuing to provide feedback on the quantity, breadth, and formats of shared data posted.

It is also worth noting that the hearing process had been delayed as Commission Members sought further soil sampling for beryllium in the vicinity of the Peterborough facility and neighbouring school. There had been some indication in earlier available data that concentrations of the substance were increasing in soil around the facility. BWXT has since retained a third party consultant to perform sampling at select areas. The results of that testing were posted in a report

¹⁸ Cameco Corporation, Cameco Fuel Manufacturing, online: <https://www.camecofuel.com/business/cameco-fuel-manufacturing>.

¹⁹ Cameco Corporation, 2019 Annual Compliance Monitoring & Operational Performance, March 31, 2020, online: <https://www.camecofuel.com/uploads/downloads/CFM-annual-compliance-report.pdf>.

²⁰ Cameco Corporation, CFM 2019 Annual Compliance Monitoring & Operational Performance, March 31, 2020, online: <https://www.camecofuel.com/library/media-library/documents?category=153&page=1>.

²¹ Canadian Nuclear Safety Commission, BWXT Nuclear Energy Canada Inc. Application for the renewal of the licence for Toronto and Peterborough Facilities, Public Hearing, Transcripts March 3, 2020, online: <https://nuclearsafety.gc.ca/eng/the-commission/pdf/Transcript-2020-03-03-Hearing.pdf> at 56.

²² BWXT Nuclear Energy Canada Ltd, Community Liaison Committee Meeting Record, September 22, 2020, online: <https://www.bwxt.com/bwxt-nec/community/clc-committee> at 4.

online in September 2020.²³ CNSC staff have also since conducted sampling and released their report.²⁴ While Waterkeeper cannot substantively comment on either reports' findings, the increased transparency of both sampling reports (in their use of maps to show sampling locations, their presentation of disaggregated data, and explanations of their methodologies and calculations) constitute helpful templates for further monitoring disclosures by licensees in other areas.

As the Commission is still deliberating in this matter, Waterkeeper will not make any further recommendations for improvements to BWXT information disclosure practices as they have already been discussed in its submissions during the licence renewal process.²⁵

Improvements to Regulatory Oversight Reports and persisting concerns

Improved accessibility of this year's reports

This year's uranium and nuclear processing ROR has employed several measures that assist public access to information. Much of this is done via proactive uses of hyperlinks to CNSC and licensee webpages, and the provision of contact information and identifying information that can facilitate individual information requests by members of the public. These are all positive developments and Waterkeeper commends CNSC staff for their implementation. Waterkeeper also urges that they be standardized and consistently employed in annual RORs for all facilities moving forward – at least until a more formalized registry is set up for Commission meetings and hearings.²⁶

On the first page of the ROR, CNSC staff note the report is available online and that all references in the report will be made available to the public upon request by contacting the CNSC Secretariat. The contact information for the CNSC Secretariat is subsequently provided, including a hyperlink to email the Secretariat directly.

Recommendation 8: an explanation that all CMD references can be obtained from the Secretariat, and the provision of the Secretariat's contact information, should be consistently provided at the start of all RORs as an interim measure before a formalized registry of all evidentiary information is used to house materials supporting CNSC staff CMDs.

²³ Trinity Consultants, Beryllium Soil Sampling Program, September 8, 2020, available online (note: the report is not cached online and most easily found via a Google search).

²⁴ CNSC, CNSC Staff response to Commission's Notice of Continuation of public Hearing, October 28, 2020, online: <https://www.nuclearsafety.gc.ca/eng/the-commission/hearings/cmd/pdf/CMD20/CMD20-H2-D.pdf>.

²⁵ See: Lake Ontario Waterkeeper, "Waterkeeper's comments for the Nuclear Safety Commission's BWXT relicensing hearing", January 31, 2020, online: <http://www.waterkeeper.ca/blog/2020/1/31/waterkeepers-comments-for-the-nuclear-safety-commissions-bwxt-relicensing-hearing>.

²⁶ See page 16 of these submissions for more discussion.

The current ROR also provides hyperlinks to each processing facilities' webpages on the CNSC website. This is another simple but meaningful step toward greater transparency and public access to online information about nuclear facilities as these webpages have been updated and improved in recent years to include information from other government agencies as well as the CNSC's.

Recommendation 9: that CNSC staff ensure links to facility webpages on the CNSC website are provided in RORs moving forward.

Further, the provision of the licence codes in the ROR for each facility further facilitates public information requests of copies of licences and licence conditions handbooks (LCH). Waterkeeper has been requesting proactive licence and LCH disclosure for the last two years. The CNSC has cited its policy of not proactively posting information that is only in one official language. As most licences are not translated they are not proactively posted. The listing of licence numbers, with an explanation of how they can be requested, is a helpful development in this area. The list of changes made to the Licence Conditions Handbooks (LCHs) over the course of the year is a welcome addition to the RORs for the same reason.²⁷ However, again, these measures should still be seen as an interim step until a CNSC-housed licence registry is developed.²⁸

Recommendation 10: that CNSC staff continue to work to ensure easy access to current and archived licences and LCHs for all nuclear and uranium processing facilities.

Providing primary contact people and how to reach them for all facilities discussed in the ROR is also a welcome improvement. This was made into an action item from last year's uranium and nuclear processing ROR Commission Meeting based on a request from Waterkeeper.

Recommendation 11: that the provision of contact information for licensees be standardized and updated in all future RORs, including those for nuclear processing, generating and CNL facilities.

Hyperlinks were also provided in the ROR to the facilities' webpages maintained by licensees, their most recent Annual Compliance Reports (ACRs), the Open Government data portal, and to hearings and meetings of the Commission referenced in the ROR.²⁹

Recommendation 12: future RORs, including those for nuclear processing, generating and CNL facilities, include hyperlinks to licensee websites, facilities' ACRs, the Open Government data portal, and referenced Commission meetings and hearings.

²⁷ Nuclear Processing ROR, *supra* note 9, Appendix C.

²⁸ Note: requiring licensees to post their licences on their websites and including links to these webpages on the CNSC website and future RORs may also constitute an improved interim step before the establishment of a permanent registry.

²⁹ Nuclear Processing ROR, *supra* note 9 at 22 and 5 respectively.

Need for longer public review timeframes

For the last two years, Waterkeeper has recommended at least three months be afforded by the CNSC to intervenors for their reviews of RORs. This three-month period should span from the date on which organizations are notified of the actual granted funding amounts until the date on which written submissions are due. The release of CNSC staff RORs should also be made as soon as possible to the funding announcement date to further assist intervenors in preparing their written submissions.

Recommendation 13: that the CNSC ensure intervenors have at least three months to prepare written interventions for future public meetings. This time period would span from the date on which organizations are notified of the actual granted funding amounts until the date on which written submissions are due.

Recommendation 14: that CNSC staff ensure their ROR is available to intervenors at least two months in advance of due dates for intervenor written submissions.

Need for more institutionalized access to information procedures

More formalized information request procedures spread over longer timeframes, would better support intervenors and ensure experts could provide more value-added information.

The improvements made to this year's ROR are significant and help move toward greater public access to Commission-generated technical information. However, these measures cannot constitute sufficient methods for public disclosure in and of themselves. When reference materials are relied on as an evidentiary record to support CNSC staff assurances of the safety and responsibility of nuclear facilities' performance, they should be proactively published in an accessible and easy to find online registry.

Recommendation 15: The CNSC should immediately initiate a comprehensive review of access to information or interrogatory processes for future Commission meetings and hearings in consultation with stakeholders.

Conclusion

Over the last decade, Waterkeeper has intervened before the Commission Tribunal, and assisted other community groups to do the same, for most uranium processing facilities located along the north shore of Lake Ontario and its tributaries. These have included the Port Hope Conversion Facility (PHCF) and BWXT Nuclear facilities in Toronto and Peterborough. Waterkeeper's current submissions reviewing the 2019 Processing ROR briefly summarize, consolidate, and build on long-standing recommendations made by the organization over these years. The majority of the recommendations in these submissions propose ways to improve the collection, communication, and public dissemination of information concerning these facilities' impacts on the lake and its ecosystems.

These submissions similarly distinguish between ‘disclosure gaps’ on the one hand (i.e. information that is generated by facility operators and not disclosed to the public), and “collection/generation gaps” on the other hand (i.e. areas in which no or insufficient information is being gathered). The discussion and recommendations that follow in these submissions focus primarily on areas in which RORs and facility websites can improve the quality and breath of data disclosure. However, they do also note areas in which more information and data may need to be collected in order to subsequently disclose publicly.

Summary of Recommendations

Recommendation 1: CNSC staff should standardize how environmental data is reported from facility to facility, and include rationales for how sampling results are reported.

Recommendation 2: consistently provide licence limits and appropriate regulatory limits to contextualize reported environmental data and provide rationales for the selection of regulatory limits.

Recommendation 3: that CNSC staff clarify the IEMP’s purpose and how monitoring is determined in future ROR references.

Recommendation 4: that uranium and nuclear processing facilities include the following in their online event reports:

- a) The event’s posting date to licensees’ website;
- b) quantity and concentration of released contaminants;
- c) applicable ALs, DRLs, and regulatory limits;
- d) measured environmental impacts; and
- e) a description of any mitigation and/or remediation efforts undertaken to address incidents after they occur.

Recommendation 5: That future RORs and the CNSC’s webpages for uranium and nuclear processing facilities include a hyperlink to these event reports.

Recommendation 6: That future RORs and the CNSC’s webpage for uranium and nuclear processing facilities include a discussion of cooperation with municipal water treatment plants concerning contaminants received from the PHCF and their treatment and release to the lake.

Recommendation 7: that Cameco post full versions of its ERAs for the CFM facility on its website and archive past annual and quarterly compliance reports on its website.

Recommendation 8: an explanation that all CMD references can be obtained from the Secretariat, and the provision of the Secretariat’s contact information, should be consistently provided at the start of all RORs as an interim measure before a formalized registry of all evidentiary information is used to house materials supporting CNSC staff CMDs.

Recommendation 9: that CNSC staff ensure links to facility webpages on the CNSC website are provided in RORs moving forward.

Recommendation 10: that CNSC staff continue to work to ensure easy access to current and archived licences and LCHs for all nuclear and uranium processing facilities.

Recommendation 11: that the provision of contact information for licensees be standardized and updated in all future RORs, including those for nuclear processing, generating and CNL facilities.

Recommendation 12: future RORs, including those for nuclear processing, generating and CNL facilities, include hyperlinks to licensee websites, facilities' ACRs, the Open Government data portal, and referenced Commission meetings and hearings.

Recommendation 13: that the CNSC ensure intervenors have at least three months to prepare written interventions for future public meetings. This time period would span from the date on which organizations are notified of the actual granted funding amounts until the date on which written submissions are due.

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Recommendation 15: The CNSC should immediately initiate a comprehensive review of access to information or interrogatory processes for future Commission meetings and hearings in consultation with stakeholders.