



Date: 2020-11-16
File / dossier : 6.02.04
Edocs pdf : 6424324

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

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

**Regulatory Oversight Report for
Canadian Nuclear Power Generating
Sites in Canada: 2019**

**Rapport de surveillance
réglementaire des sites de centrales
nucléaires au Canada : 2019**

Commission Meeting

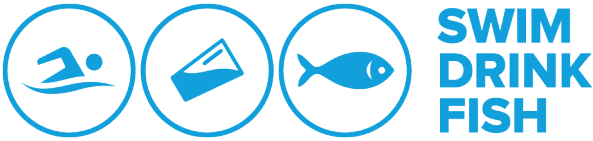
Réunion de la Commission

December 9, 2020

Le 9 décembre 2020

*This page was intentionally
left blank*

*Cette page a été intentionnellement
laissée en blanc*



Submissions of Swim Drink Fish Canada/Lake Ontario Waterkeeper

Re: Commission meeting to consider CNSC Staff
Regulatory Oversight Report for Canadian Nuclear
Generating Sites for 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

Table of Contents

Executive Summary	3
Background	4
About Swim Drink Fish/Lake Ontario Waterkeeper	4
Current Intervention Opportunity.....	4
Waterkeeper’s past work on related issues	5
A Lake Ontario-based public interest perspective on public engagement	6
The public’s “Right to Know” and ability to swim, drink, fish	6
General quality of data in the ROR	7
Nuclear generating facilities and the Lake	9
Improvements to Regulatory Oversight Reports and persisting concerns	11
Improved accessibility of this year’s reports	11
Need for longer public review timeframes	12
Need for more institutionalized access to information procedures	13
Conclusion	13
Summary of recommendations	14

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 Nuclear Substance Generating 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 generating facilities located in the Lake Ontario Watershed.

For over a decade, Waterkeeper has intervened in numerous licence and licence renewal proceedings for both Darlington and Pickering nuclear sites. The organization has also regularly participated in Nuclear Generating ROR meetings for the past three years. Over this time, it has conducted numerous technical reviews of nuclear generating facilities and made several recommendations to improve environmental monitoring and public communication efforts by both the nuclear industry and the CNSC.

Waterkeeper’s current submissions reviewing the 2019 Generating 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 nuclear generating facilities’ operations during 2018.

Waterkeeper has intervened before the Commission Tribunal for over a decade concerning the four generating facilities located on the north Shore of Lake Ontario: the Pickering Nuclear Generating Station (PNGS), Darlington Nuclear Generating Station (DNGS), and their respective waste storage areas the Darlington Waste Management Facility (DWMF) and Pickering Waste Management Facility (PWMF). These submissions briefly summarize, consolidate, and build on long-standing recommendations made by the organization over these years to improve the collection and public dissemination of information concerning their 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 generating facilities located in the Lake Ontario Watershed.

Waterkeeper has retained Pippa Feinstein to review the ROR, assess available online information for nuclear generating 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 generating facilities; the CNSC website and its webpages for generating facilities in the Lake Ontario Watershed; the webpages for reviewed generating facilities maintained by their owners

and operators; information available through the federal Open Government data portal; publicly available information concerning these generating 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 nuclear generating facilities discussed in the current ROR are located in the Lake Ontario Watershed: the Pickering Nuclear Generating Station (PNGS), Darlington Nuclear Generating Station (DNGS), and their respective waste storage areas the Darlington Waste Management Facility (DWMF) and Pickering Waste Management Facility (PWMF).

For over a decade, Waterkeeper has actively monitored the activities of, and intervened in regulatory processes concerning the Darlington and Pickering nuclear sites. In particular, the organization has:

- intervened in the 2008-11 Environmental Assessment of, and site preparation licence for, the proposed Darlington Nuclear New Build Project, expressing concerns over information gaps in the proposal and concerns over the adverse impact of new generating reactors on local lake water quality, fish, and fish habitat;¹
- intervened in 2013 PNGS licence renewal hearings, requesting the further disclosure of monitoring data;
- intervened in the 2015 licence renewal for the DNGS, expressing concerns with the terms of the facility’s new *Fisheries Act* permit, and the lack of stormwater monitoring at the Darlington site;²
- intervened in the PWMF relicensing hearing, underscoring the lack of sufficient environmental data disclosure including the need to release groundwater data and collect and release stormwater data;³
- intervened in the 2018 PNGS licence renewal hearings echoing concerns expressed during the PWMF relicensing process; and
- intervened in last year’s Nuclear Generating 2018 ROR meeting to follow up on promised OPG environmental data disclosure.⁴

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 overseeing these facilities, as well as the owners and operators of them (in this case OPG). This

¹ Lake Ontario Waterkeeper, Darlington New Build: Submissions, March 11, 2011, online: <http://www.waterkeeper.ca/blog/20973>.

² Lake Ontario Waterkeeper, Waterkeeper’s submission to participate in Darlington’s relicensing process, September 30, 2015, online: <http://www.waterkeeper.ca/blog/2015/9/30/bkdrxe4odq9mqsrl1wq37jhoev1k8>.

³ Lake Ontario Waterkeeper, Waterkeeper’s submission for the Pickering Waste Management Facility relicensing hearing”, April 12, 2017, online: <http://www.waterkeeper.ca/blog/2017/4/11/waterkeepers-submission-for-the-pickering-waste-management-facility-relicensing-hearing>.

⁴ See: Written submission from Swim Drink Fish Canada/Lake Ontario Waterkeeper, <http://www.nuclearsafety.gc.ca/eng/the-commission/meetings/cmd/pdf/CMD18/CMD19-M30-6A.pdf>.

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 generating 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".⁵ Ontario's Environmental Bill of Rights acknowledges that Ontarians have the right to a healthful environment.⁶ 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.⁷ 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.

⁵ *Great Lakes Protection Act*, SO 2015, c 24, Preamble.

⁶ *Environmental Bill of Rights*, SO 1993, c 28, Preamble.

⁷ 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].⁸

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”.⁹ 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.”¹⁰

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 Generating ROR focuses very little on public engagement by both licensees and CNSC staff, giving a description of these activities in a mere two pages of the over 200-page report.¹¹ Ontario Power Generation (OPG) is credited by CNSC staff for attending community events, maintaining a website, and expanding its social media presence, all of which is believed to constitute sufficient public engagement for both Pickering and Darlington Nuclear Generating Stations and Waste Management Facilities.¹² While most of this activity certainly raises awareness of the existence and general operations of nuclear facilities in host communities, it is not sufficient evidence of meaningful public engagement with the nuclear sector. Waterkeeper also submits that fulsome

⁸ *Nuclear Control and Safety Act*, RSC 1997, c 9, at s 9(b).

⁹ *Ibid.*

¹⁰ 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.

¹¹ CNSC Staff Regulatory Oversight Report for Canadian Nuclear Generating Sites for 2019 (“Nuclear Generating ROR”) at 53-54.

¹² *Ibid* at 53.

public disclosure of disaggregated environmental data should be understood by CNSC staff as a cornerstone of meaningful public engagement.

It is important to note that for Waterkeeper's purposes, the RORs, including the present ROR for nuclear generating facilities, remain an insufficient source of environmental information in and of themselves. While references to data have increased significantly in this year's ROR, actual data provided to the public has not increased.

Appendix D to the ROR provides the most detailed data concerning the environmental performance of nuclear generating facilities. However, the data provided is extremely limited. Only annual radionuclide releases to air and surface waters are provided from Pickering and Darlington Nuclear Generating Stations.¹³ No data specific to either site's Waste Management Facilities is given. Nor is any data concerning Darlington or Pickering sites' groundwater quality, stormwater monitoring results, or sanitary sewer releases included in the ROR.

The reported annual contaminant releases, while important to know, also prevent public understandings of how emissions can change over time, including how seasonal variation, other environmental changes, and human activity can impact concentrations and quantities of releases. Highly digested data can also effectively mask spikes in contaminant release levels. As such, it deprives the public of a better understanding of how operations and the ecological footprints of nuclear facilities can interact with other environmental stressors or how contamination trends can change over time.

Further, the gaps in 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. These concerns are discussed in more detail below.

Recommendation 1: CNS should work to facilitate the release of disaggregated, real-time, and machine readable environmental data from nuclear generating stations and their waste management facilities.

In 2019 alone there were 217 reportable events for Canadian generating stations and 8 events for the waste management facilities. The vast majority of these events are not discussed in the Nuclear Generating ROR, nor do they appear to have been posted online by OPG onto its website for the PNGS or DNGS.

Recommendation 2: 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.*

¹³ Nuclear Generating ROR, Appendix D, *supra* note 11. Applicable derived release limits (DRLs) are also provided to contextualize values presented.

Recommendation 3: that future RORs and the CNSC’s webpages for nuclear generating facilities include a hyperlink to these event reports.

It is important to note that data containing total annual releases of radionuclides from Canadian nuclear generating facilities is now being uploaded to the CNSC Open Government Portal. This is an important step toward facilitating greater access to nuclear energy-related environmental data that can now more easily be understood in wider contexts and in relation to other environmental datasets made public through the portal. Recommendations for the CNSC to use the Open Government data portal has figured in Waterkeeper’s submissions for several years, and the organization thanks the CNSC for its implementation of this recommendation.

Finally, the Independent Environmental Monitoring Program (IEMP) is also cited by CNSC staff as establishing the safety and environmental containment of both Darlington and Pickering sites in 2019. This is despite the fact that no data was collected in the vicinity of either generating station in 2019.¹⁴

It is also important for Waterkeeper to register persisting concerns over CNSC staff’s reliance on the Independent Environmental Monitoring Program (IEMP) to support its assurances of nuclear facilities’ containment. 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. As such, 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 4: that CNSC staff clarify the IEMP’s purpose and how monitoring is determined in future ROR references.

Nuclear generating sites in the Lake Ontario watershed

There are two generating sites in the watershed: the Pickering Nuclear Generating Station (PNGS), and Darlington Nuclear Generating Station (DNGS). Both are owned and operated by Ontario Power Generation (OPG), pursuant to CNSC licenses to do so.

CNSC staff’s ROR has found these generating stations and waste management facilities have operated safely and made adequate provision for the protection of human health and security and the environment.¹⁵ OPG’s Annual Compliance Report and groundwater report submitted to CNSC staff are cited in the ROR as sufficient evidence to demonstrate their operations have no adverse environmental impact.¹⁶

¹⁴ Nuclear Generating ROR, *supra* note 11 at 47.

¹⁵ Nuclear Generating ROR, *supra* note 11 at 3.

¹⁶ Nuclear Generating ROR, *supra* note 11 at 47.

These nuclear 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.

The Pickering Nuclear site

The PNGS and PWF are located on the north shore of Lake Ontario, surrounded by parks, trails, and conservation areas. The facility has a significant ecological footprint, responsible for tritium and thermal releases into the lake as well as impinging and entraining thousands of fish each year.

The Nuclear Generating ROR discusses fish impingement at the PNGS and provides a helpful overview of the *Fisheries Act* and PNGS permit. However, it fails to note CNSC responsibilities pursuant to a DFO-CNSC memorandum of understanding (MOU) that divides responsibilities under the Act between the DFO and CNSC. It is this relationship that requires CNSC involvement in verifying OPG's compliance with its *Fisheries Act* permit.¹⁷

The ROR also notes that in 2018, 5,616 kg of fish were impinged: approximately 55% over the permit limit of 3, 619 kg. In 2019, this number jumped to 15,114 kg of impinged fish: almost 300% over the permit limit. According to the ROR, the increase in fish mortality was partly due to algae-related failures of the PNGS Fish Diversion System (FDS). OPG also identified unusual lake temperature changes as potential causes for increased mortality. The majority of impinged fish were Alewife, a species sensitive to temperature fluctuations in the lake.¹⁸

During the PNGS relicensing hearing, Waterkeeper expressed concerns that impingement rates were highly variable and that compliance with the terms of the *Fisheries Act* permit may be difficult to achieve.¹⁹ Waterkeeper also called for earlier monitoring of entrainment and the development of an action plan for entrainment mitigation. The ROR does not include any updates on this issue, nor does it note whether entrainment rates of fish may have increased along with impingement rates over the same period.

Recommendation 5: that CNSC staff or OPG make the referenced PNGS impingement study available for public review.

Recommendation 6: that OPG make their impingement monitoring plan available for public review.

¹⁷ Memorandum of Understanding between Fisheries and Oceans Canada and Canadian Nuclear Safety Commission for Cooperation and Administration of the *Fisheries Act* and the *Species at Risk Act* Regulating Nuclear Materials and Energy Developments, December 16, 2013, online: <https://nuclearsafety.gc.ca/eng/pdfs/MoU-Agreements/2014-02-27-mou-cnsc-fisheries-oceans-eng.pdf> at s 4(a)(iv) and 4(c)(iv).

¹⁸ Nuclear Generating ROR, *supra* note 11 at 86.

¹⁹ Waterkeeper's PNGS relicensing submissions, <http://www.waterkeeper.ca/blog/2018/6/26/pngs-full-submission>, at 24 – 27.

Recommendation 7: that OPG make their make analysis of impingement exceedances available for public review.

Recommendation 8: that CNSC staff or OPG publicly post fish offset requirements for public review.

Finally, Waterkeeper has sought disaggregated groundwater contamination data from OPG since 2017. Waterkeeper has been in communication with OPG over the past year, and OPG has advised that disclosure is delayed due to Covid-19 challenges. Waterkeeper looks forward to this data whenever it becomes available.

Recommendation 9: that CNSC staff help to ensure OPG releases groundwater monitoring data for the PNGS as soon as possible.

The Darlington Nuclear site

Like the Pickering site, the DNGS and DWMF are located on the north shore of Lake Ontario, surrounded by parks and protected areas. And, like the Pickering facility, Darlington operations have a significant ecological footprint, responsible for tritium and thermal releases into the lake as well as impinging and entraining thousands of fish each year.

There is not as much information about the environmental performance of the Darlington site, compared with Pickering in the current nuclear generating ROR. Public disclosure for both outside of the ROR is similarly limited.

Recommendation 10: that CNSC staff require OPG to conduct more stormwater monitoring of the Darlington and Pickering sites, and publicly report the results.

Recommendation 11: that CNSC staff help to ensure OPG releases groundwater monitoring data for the DNGS as soon as possible.

Improvements to Regulatory Oversight Reports and persisting concerns

Improved accessibility of this year's reports

This year's nuclear generating 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. Increased accountability has also been achieved via reference to a new Regulatory Information Bank (RIB) feature. 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.

The RIB feature on page 13 of the ROR is a helpful feature for public reference as well as that of the Commission Members. In past RORs, an RIB has been referred to as a repository where compliance actions resulting from CNSC staff compliance audits were kept. However, in the current ROR it is used to follow up on selection action items arising from last year’s Commission Meeting to consider the 2018 Generating ROR.

The RIB table in the current Generating ROR contains a series of previous requests for information from Commissioner Members, entered onto the record during previous ROR meetings. However, the comprehensiveness of this list is not clear, nor is it clear who keeps track of these action items or how formally they must be registered. Regardless, the use of the RIB in this current ROR constitutes a welcome improvement as it facilitates ongoing conversations between intervenors, licensees, and regulators that can span multiple proceedings. Further, the use of an RIB may constitute a step toward the further formalization of access to information processes, as they may ensure questions and requests made on the record receive responses.

Recommendation 12: that CNSC staff clarify the purpose and use the RIB in RORs.

Recommendation 13: that CNSC staff standardize the purpose and use of the RIB for all future annual RORs.

Recommendation 14: that CNSC staff comment on the potential to use of the RIB to track past information requests to ensure they are responded to on the record of future ROR meetings, as an interim measure before a more formalized and institutionalized public information request registry is initiated by the Commission.

More generally, the explanation of the units used to measure environmental samples in the ROR was clear. The provision of DRLs accompanying the data provided in Appendix D to the ROR was similarly helpful. As was the list of changes made to the Licence Conditions Handbooks (LCHs) over the course of the year is a welcome addition as it provides an added ²⁰ As LCHS can change multiple times in any given year, copies obtained from the CNSC Secretariat can quickly become out of date. Summaries in RORs of the specific changes made to LCHs over the course of each year constitute a welcome step toward greater transparency.

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 15: 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

²⁰ Nuclear Generating ROR, *supra* note 11, Appendix E.

which organizations are notified of the actual granted funding amounts until the date on which written submissions are due.

Recommendation 16: 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 17: 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

For over a decade, Waterkeeper has intervened in numerous licence and licence renewal proceedings for both Darlington and Pickering nuclear sites. The organization has also regularly participated in Nuclear Generating ROR meetings for the past three years. Over this time, it has conducted numerous technical reviews of nuclear generating facilities and made several recommendations to improve environmental monitoring and public communication efforts by both the nuclear industry and the CNSC.

Waterkeeper's current submissions reviewing the 2019 Generating 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: CNS should work to facilitate the release of disaggregated, real-time, and machine readable environmental data from nuclear generating stations and their waste management facilities.

Recommendation 2: 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 3: that future RORs and the CNSC's webpages for nuclear generating facilities include a hyperlink to these event reports.

Recommendation 4: that CNSC staff clarify the IEMP's purpose and how monitoring is determined in future ROR references.

Recommendation 5: that CNSC staff or OPG make the referenced PNGS impingement study available for public review.

Recommendation 6: that OPG make their impingement monitoring plan available for public review.

Recommendation 7: that OPG make their make analysis of impingement exceedances available for public review.

Recommendation 8: that CNSC staff or OPG publicly post fish offset requirements for public review.

Recommendation 9: that CNSC staff help to ensure OPG releases groundwater monitoring data for the PNGS as soon as possible.

Recommendation 10: that CNSC staff require OPG to conduct more stormwater monitoring of the Darlington and Pickering sites, and publicly report the results.

Recommendation 11: that CNSC staff help to ensure OPG releases groundwater monitoring data for the DNGS as soon as possible.

Recommendation 12: that CNSC staff clarify the purpose and use the RIB in RORs.

Recommendation 13: that CNSC staff standardize the purpose and use of the RIB for all future annual RORs.

Recommendation 14: that CNSC staff comment on the potential to use of the RIB to track past information requests to ensure they are responded to on the record of future ROR meetings, as an interim measure before a more formalized and institutionalized public information request registry is initiated by the Commission.

Recommendation 15: 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 16: that CNSC staff ensure their ROR is available to intervenors at least two months in advance of due dates for intervenor written submissions.

Recommendation 17: 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.