



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

CMD 21-M36.2

Date: 2021-11-01

File / dossier : 6.02.04

Edocs pdf : 6672440

**Written submission from the
Canadian Environmental Law
Association**

**Mémoire de l'Association
canadienne du droit de
l'environnement**

**Regulatory Oversight Report for
Canadian Nuclear Power Generating
Sites in Canada: 2020**

**Rapport de surveillance
réglementaire des sites de centrales
nucléaires au Canada : 2020**

Commission Meeting

Réunion de la Commission

December 15, 2021

Le 15 décembre 2021

**SUBMISSION BY THE CANADIAN ENVIRONMENTAL LAW ASSOCIATION
TO THE CANADIAN NUCLEAR SAFETY COMMISSION REGARDING THE
REGULATORY OVERSIGHT REPORT FOR CANADIAN NUCLEAR POWER
GENERATING SITES: 2020**

November 1, 2021

**Prepared by
Krystal-Anne Roussel, Legal Counsel**

I. INTRODUCTION

This submission is filed in response to the Canadian Nuclear Safety Commission’s (“CNSC”) Notice of Participation at a Commission Meeting and Participant Funding dated July 15, 2021 in respect of the *Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2020* (herein “ROR”).¹ A virtual meeting with respect to this matter is scheduled for December 15-16, 2021.

Expertise of the Intervenor

The Canadian Environmental Law Association (“CELA”) is a non-profit, public interest law organization. For over 50 years, CELA has used legal tools to advance the public interest, through advocacy and law reform, in order to increase environmental protection and safeguard communities across Canada. CELA is funded by Legal Aid Ontario as a specialty legal clinic, to provide equitable access to justice to those otherwise unable to afford representation.

CELA has engaged in detailed research and advocacy related to public safety and environmental protection by seeking improvements to nuclear emergency preparedness. We have also appeared before the CNSC on a number of licensing matters, as well as the federal environmental assessment proceedings for multiple nuclear power generating sites (“NPGS”) and proposed projects. CELA also has an extensive library of materials related to Canada’s nuclear sector which is publicly available on our website.²

¹ CNSC, Notice of Participation at a Commission Meeting and Participant Funding, online: <http://nuclearsafety.gc.ca/eng/the-commission/pdf/NoticeMeeting-ROR-NPGS-2020-e.pdf>

² Canadian Environmental Law Association, online: www.cela.ca

II. FINDINGS

CELA has routinely participated in the annual ROR meeting for NPGS.³ In response to the 2020 ROR, CELA raises a number of issues relating to the ROR's scope and content and provides the following comments relating to CNSC's review of nuclear power generating sites and activities. Our findings are set out below, accompanied by either requests or recommendations to the Commission and CNSC Staff.

The overarching goal of the comments submitted by CELA is to recommend improvements in the 2020 ROR and make requests to ensure that CNSC Staff provides relevant, additional information when the ROR is before the Commission. CELA furthermore intends these comments to be considered when drafting the upcoming ROR for 2021.

A. Scope and Process for Regulatory Oversight Reports

CELA has reviewed the ROR in detail and finds it necessary to reiterate our ongoing concerns with the ROR process, its utility and use.

First, CELA submits that intervenors who provide comments on an ROR should have an opportunity to present orally before the Commission. This remains an outstanding recommendation and one which requires remedying to advance the public value of this process. Currently, intervenors are precluded from presenting and thus the opportunity to engage in dialogue with Commissioners and CNSC Staff does not exist. This maintains the high-level nature of RORs and does not facilitate a public awareness of the interests and considerations weighed by CNSC Staff in reaching the conclusions set out in the report. Should the CNSC retain the existing ROR procedure and not provide oral intervention opportunities to intervenors, CELA again **recommends** the CNSC reframe its ROR as a "Discussion Paper," whereby the Paper provides information but also poses questions and actively seeks public feedback.⁴ This reframing would more closely align with the public opportunity for comment this process provides.

Second, CELA submits it is an outstanding issue that there is no pre-ROR meeting opportunity to define the issues which guided the content of the ROR. To clarify the scope of RORs, CELA **recommends** the CNSC conduct a pre-meeting conference or discussion, which seeks input on issues to be discussed. Preliminary meetings are a widely used practice in anticipation of tribunal

³ See for instance, CELA's Comments on the CNSC's Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2017; Submission by CELA to the CNSC Regarding the Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2018; Submission by CELA to the CNSC Regarding the Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2019.

⁴ See for instance, Canada, "Environmental and Regulatory Reviews Discussion Paper" (June 2017), online: <https://www.discussionpaper.ca/>

proceedings.⁵ Not only would the CNSC, as a quasi-judicial tribunal, benefit from a pre-meeting conference, whereby the scope of the proceeding could be narrowed or expanded, upon input from the regulator, proponent, and intervenors, it would provide demonstrably clearer guidance to intervening parties regarding the acceptability of their submissions.

Issue identification is critically important, not only to ensure the efficient and best use of intervening parties' time, but to ensure matters of critical importance are not deemed out of scope and thus dismissed. While issue identification can require a significant amount of time, a clearer sense of the issues and providing the public an opportunity to comment advances procedural fairness. Therefore, as there has not been a public scoping of issues, whereby the CNSC staff, licensees and intervenors can weigh in on the issues which should frame the report, we submit CELA's comments provided herein are not out of scope.

Third, as stated in the introduction of the ROR, "there are no actions requested of the Commission. This CMD [ROR] is for information only."⁶ CELA objects to this framing and requests that rather than serving an informational purpose, the aim of the ROR should be to identify gaps and propose action items (even if voluntary or for guidance) which improve licensee compliance within all Safety and Control Areas ("SCAs"). This is particularly necessary given the CNSC's trend to issuing longer, ten-year licences. Without public hearing or intervention opportunities, there is a significant gap between the number of frequency of opportunities for the CNSC to engage with the public as compared to licensees, who enjoy a higher-level interaction.

Fourth, CELA submits that, as federal government agency, the CNSC has a responsibility to ensure that the public has access to the information contained in the ROR in both official languages. Section 3.8 of the 2020 ROR pertaining to Gentilly-2 was only made available to the public in French. CELA requested an English version of this section from CNSC staff and a preliminary version was made available. However, CELA was informed that the translation had not been reviewed by editors and that a reviewed version would only be made available after the November 1st deadline for filing an intervention. CELA **submits** that this is an accessibility issue and does not allow the public to meaningfully engage with the content of the ROR or engage in substantial review. CELA **recommends** that both French and English versions be made available at least 60-days in advance of the due date for an intervention.

Recommendations

1. CELA remains of the view that ROR meetings are not a replacement for relicensing hearings and the CNSC must remedy the discrepancy in participation rights among public

⁵ Jerry DeMarco and Paul Muldoon, "Environmental Boards and Tribunals – A Practical Guide, 2nd Ed" (LexisNexis: 2016), p. 78.

⁶ 2020 ROR, p. 3.

intervenors and licensees by providing oral presentation opportunities.

2. The ROR would be more effective if the CNSC canvassed a list of issues and topics to inform the scope of the ROR. Given the trend to longer, ten-year licences, soliciting public comment on the scope of issues addressed in ROR would provide a starting point for public engagement.
3. The aim of the ROR should be to identify gaps and propose action items which improve licensee compliance within all Safety and Control Areas.
4. Both French and English versions of the ROR should be made available at least 60-days in advance of the due date for an intervention.

B. Release of the PNERP Technical Study

CELA has an extensive history of participating in legal proceedings involving the interpretation, implementation, and enforcement of statutes relating to environmental protection and often intervenes in its own right in proceedings involving issues of public importance and environmental significance. This specifically includes lengthy and detailed review of the sufficiency of emergency preparedness in the context of nuclear power plants.⁷ This remains a focus of CELA in this submission to the Commission.

After years of repeated requests that the Provincial Nuclear Emergency Response Plan (“PNERP”) Technical Study from Ontario’s Office of the Fire Marshall and Emergency Management (“OFMEM”) be made publicly available, the Study was made public upon request on June 30, 2021.

We are dismayed that the PNERP Technical Study has not been made more easily accessible to the public despite its significant value to public health and safety. While it figured prominently in the 2019 Pickering relicensing hearings and was of high interest to numerous intervenors, its delay in being release and a lack of public hearing to accompany its review, has lessened its impact and value for increasing public awareness about nuclear preparedness. The Technical Study has been an important matter of public discussion since it was first commissioned in 2018 and remains highly relevant to this ROR. As such, CELA **recommends** that the Study be made available and easily accessible to the public on the CNSC’s website and should not require a request to the OFMEM.

⁷ <https://cela.ca/casework-pickering-nuclear-generating-station-life-extension/> and <https://cela.ca/casework-darlington-nuclear-generating-station-refurbishment/>

CELA is very dismayed that the 2020 ROR contains no discussion of the results of the PNERP Technical Study, its implications for emergency planning for all NPGS, or how it will inform the next PNERP Master Plan update. As the findings of the Technical Study have implications for the adequacy of the planning basis for severe accidents at Ontario's NPGS, there is an urgent and pressing need for the Commission to review it in full and provide a public account of its findings. This matter is critical to the licensing basis for all of Ontario's NPGS and tantamount to ensuring the protection of the millions of people's living in and around Ontario nuclear power plants. CELA **recommends** that the ROR be updated to include a full review of the PNERP Technical Study and its implications for Ontario's NPGS. CELA further **recommends** that this be addressed at the upcoming ROR meeting. For example, how long will emergency managers have to get their implementing plans up to date and respond to the recommendations made in the Study, particularly at the Bruce and Fermi 2 NGSs? What about the Emergency Response Plans of the Designated Municipalities? How long will Ontario licensees have to revise their training programs for new emergency response staff?

The PNERP Technical Study includes a discussion of drinking water impacts in the event of a nuclear accident. In the past, CELA has sought clarification from the Commission regarding plans and arrangements made to "protect drinking water supplies" as required in the Provincial Nuclear Emergency Response Master Plan.⁸ All of Ontario's nuclear reactors are located on the Great Lakes—which supply drinking water to 40 million Canadians and Americans. Therefore, it is necessary to not only "protect drinking water supplies" but require contingency planning in the event of an accident. CELA **recommends** that the ROR be updated to include a review of how the PNERP Technical Study will impact the protection of drinking water supplies near NPGS, particularly as it relates to emergency planning, and that this be discussed at the upcoming Commission Meeting.

Recommendations

5. The PNERP Technical Study should be made available to the public without the requirement for a request to OFMEM.
6. The ROR should be updated to include a full review of the PNERP Technical Study and its implications for Ontario's NPGS. This should also be addressed at the upcoming Commission Meeting.

⁸ See for instance, Canadian Environmental Law Association, "Submission by the Canadian Environmental Law Association to the Canadian Nuclear Safety Commission Regarding the Regulatory Oversight Report for Canadian Nuclear Generating Stations: 2018" (9 October 2019).

7. The ROR should be updated to include a review of how the PNERP Technical Study will impact the protection of drinking water supplies near NPGS, particularly as it relates to emergency planning. This should also be discussed at the upcoming Commission Meeting.

C. Other Emergency Plans

The 2020 ROR notes that the Province of Ontario released and approved the Environmental Radiation and Assurance Monitoring (“ERAMG”) Plan in September 2020.⁹ CELA **recommends** that the ROR include a more detailed discussion of how the ERAMG Plan will impact environmental monitoring at NPGS and support protective action decision making after a nuclear or radiological emergency.

The 2020 ROR also provides that the “PLNGS Technical Planning Basis was finalized in April 2021, which allowed the review and issuance of the Point Lepreau Nuclear Off-site Emergency Plan in June of 2021.”¹⁰ No further discussion or details are provided in the ROR. CELA **recommends** that the ROR be updated to include a detailed discussion of both plans and their impact on emergency planning at Point Lepreau, and that this also be addressed at the upcoming Committee Meeting.

Recommendations

8. The ROR should include a detailed discussion of how the ERAMG Plan will impact environmental monitoring at NPGS and support protective action decision making after a nuclear or radiological emergency.
9. The ROR should be updated to include a detailed discussion of the PLNGS Technical Planning Basis and the Point Lepreau Nuclear Off-site Emergency Plan, and their impact on emergency planning at Point Lepreau. This should also be addressed at the upcoming Committee Meeting.

D. Radionuclides and the National Pollutant Release Inventory (NPRI)

In previous ROR submissions,¹¹ CELA has discussed the need for consistent, comprehensive data on the releases of radionuclides from CNSC regulated facilities. Unfortunately, despite these submissions, radionuclides remain exempt from Canada’s National Pollutant Release Inventory

⁹ 2020 ROR, p. 51.

¹⁰ 2020 ROR, p. 52.

¹¹ *See for instance*, Canadian Environmental Law Association, “Submission by the Canadian Environmental Law Association to the Canadian Nuclear Safety Commission Regarding the Regulatory Oversight Report for Canadian Nuclear Generating Stations: 2018” (9 October 2019); Canadian Environmental Law Association, “Submission by the Canadian Environmental Law Association to the Canadian Nuclear Safety Commission Regarding the Regulatory Oversight Report for Nuclear Power Generating Sites in Canada: 2019” (16 November 2020).

(“NPRI”) and are not reported. The NPRI is an online data portal and a key resource for collecting and reporting on pollutant releases and transfer emissions. The NPRI provides data in support of the assessment and risk management of chemicals in use in Canada, and is used to promote actions aimed at reducing pollutant releases.

The NPRI is covered under sections 46 – 53 of the *Canadian Environmental Protection Act, 1999*. The legislation enables the NPRI to track pollution using a listing approach and categorize substances by threshold. As radioactive substances are not part of the substance list, CELA has continued to advocate for the inclusion of radionuclides on the NPRI substance list.

CELA again submits that given the threat radionuclides pose to human health and the environment, we respectfully **recommend** the CNSC support the inclusion of radionuclides on the NPRI’s substance list. The lack of comprehensive, accessible publicly available data minimizes the ability of the public and independent scientific experts to provide valuable insight on relevant considerations to support the decision-making process.

This year’s ROR, like last year’s ROR, does not provide any review of this matter nor an update. Instead, the 2020 ROR states that CNSC staff have commenced publishing annual releases of radionuclides to the environment from facilities on the CNSC Open Government Portal.

CELA has reviewed the CNSC Open Government Portal and reaffirms its previous comments that this is an improper substitute for the more detailed and publicly accessible data that would be provided on the NPRI. The data is not provided in accessible formats. For example, **Figure 1** below provides an example of Pickering NGS’s NPRI profile vs. the data as displayed by the Open Government Portal.

Figure 1. Comparison of NPRI data versus CNSC Open Government Portal for Pickering NGS

| List of Substances (excluding CAC) | | | | | | | | | | | | |
|------------------------------------|---------------------------|------------------|-------|------|-------|-------------------------|-------------------------|--------------------|--------|---------------------------------------|--|--|
| Substance | CAS Number | On-Site Releases | | | | Disposal ⁽¹⁾ | | Off-Site Recycling | Units | Substance Information | | |
| | | Air | Water | Land | Total | On-Site | Off-Site ⁽²⁾ | | | | | |
| Hydrazine (and its salts) | 302-01-2 | 5.5 | 262 | - | 267 | - | 370 | - | kg | Substance Information | | |
| Sulphuric acid | 7664-93-9 | - | - | - | - | - | 0.125 | - | tonnes | | | |

12

| | | | | | | | | | | | | | | |
|------|------|---|-----------|-----------|---------|---------|----|---------|----------|-------------------|-----------------------|--------|----------|-----------|
| 2020 | 3161 | Ontario Power Generation Inc. Pickering Nuclear - A & B | Pickering | Pickering | Toronto | Toronto | ON | 43.8104 | -79.0676 | Tritium (HTO) | Tritium (Eau tritiée) | Bq | 6.50E+14 | 4.30E+14 |
| 2020 | 3161 | Ontario Power Generation Inc. Pickering Nuclear - A & B | Pickering | Pickering | Toronto | Toronto | ON | 43.8104 | -79.0676 | Carbon-14 | Carbone-14 | Bq | 2.30E+12 | 1.80E+09 |
| 2020 | 3161 | Ontario Power Generation Inc. Pickering Nuclear - A & B | Pickering | Pickering | Toronto | Toronto | ON | 43.8104 | -79.0676 | Total noble gases | Total des gaz nobles | Bq-MeV | 4.50E+13 | NRM NRS |
| 2020 | 3161 | Ontario Power Generation Inc. Pickering Nuclear - A & B | Pickering | Pickering | Toronto | Toronto | ON | 43.8104 | -79.0676 | Iodine-131 | Iode-131 | Bq | 1.00E+07 | NRM NRS |

13

¹² https://pollution-waste.canada.ca/national-release-inventory/archives/index.cfm?do=facility_substance_summary&lang=en&opt_npri_id=0000003161&opt_report_year=2017

¹³ https://open.canada.ca/data/en/dataset/6ed50cd9-0d8c-471b-a5f6-26088298870e/resource/558315be-dd96-409e-9f36-cd6295557e5a?inner_span=True

Further, we again request that for nuclear facilities which also report to the NPRI, there be a clear message directing visitors to review the Open Government portal for radionuclide data. Currently, there is no such indication that the data is available when reviewing emissions data on the NPRI.

As CELA has been active in advocating for radionuclide data to be accessible on the NPRI,¹⁴ we will continue to closely monitor how this data is released.

Recommendation

10. Radionuclides data should be reportable and accessible on Canada's National Pollutant Release Inventory ("NPRI") in a similar manner as pollutants currently reported.

E. Asbestos Phase Out

In previous years, CELA has recommended that the ROR should review measures being taken by nuclear facilities to (1) phase out asbestos use in nuclear facilities by December 31, 2022 and (2) pursue technically and economically feasible asbestos-free alternatives pursuant to the *Prohibition of Asbestos and Products Containing Asbestos Regulations*. However, despite comments from CNSC Staff at last year's ROR meeting that, given the high profile and importance of this file, it would be "appropriate to include this in the ROR"¹⁵, we find their treatment and consideration to be inadequate.

This year's ROR provides a summary of the equipment that was serviced using asbestos containing products at all NPGS and makes the following general conclusion related to the phase-out of asbestos:

Where asbestos and asbestos containing products were used to service equipment, the licensees were required to submit an annual report to Environment and Climate Change Canada, as well as their Asbestos Management Plan. OPG and Bruce Power submitted their annual report and Asbestos Management Plans and are in compliance with the Regulations. NB Power and Hydro-Québec were not required to make any submissions as no asbestos or asbestos containing products were used to service equipment in 2020.

Licensees continue to identify technically and economically feasible alternatives to asbestos and asbestos containing products, and where they are unable to do so, will continue to use these products in accordance with the Regulations. There were no non-compliances with the Regulations in 2020.¹⁶

¹⁴ See for instance, online: <https://www.canada.ca/en/environment-climate-change/services/national-pollutant-release-inventory/public-consultations/proposal-radionuclides-national-pollutant-release-inventory.html>

¹⁵ Transcript of December 9, 2020 Commission Meeting, p. 84.

¹⁶ 2020 ROR, p. 65.

As the ROR meeting does not provide a forum for intervenors to respond to the Commission's and CNSC Staff's comments, we provide the following response at this time. *First*, both OPG and NB Power commented that they had asbestos management plans in place and were on track to phase out asbestos by December 31st, 2022. CELA continues to **recommend** that the ROR include a review of the specific measures being taken by nuclear facilities to phase out asbestos use in by this date. *Second*, Environment and Climate Change Canada commented that “ultimately the removal of asbestos substances will be required, except in the cases where there is no technically or economically available alternatives for asbestos-free alternatives.”¹⁷ CELA again **recommends** that the ROR include a discussion of what actions NPGS are taking to pursue technically and economically feasible asbestos-free alternatives.

Recommendation:

11. As a standing item, the ROR should review measures being taken by nuclear facilities to (1) phase out asbestos use in nuclear facilities by December 31, 2022 and (2) pursue technically and economically feasible asbestos-free alternatives pursuant to the *Prohibition of Asbestos and Products Containing Asbestos Regulations*.

F. ‘New and Emerging Challenges’ and Climate Change

In reviewing the compliance verification program for nuclear power plants, the ROR notes that “Additional compliance verification activities for NPPs and WMFs may also be added as necessary during the year in response to new or emerging licensee challenges.”¹⁸ As the ROR does not elaborate on what these ‘new or emerging challenges’ may be, CELA **recommends** the Commission should direct Staff to expressly consider climate change impacts and vulnerabilities within the scope of the ROR.

Nuclear power is particularly vulnerable to climate change effects, including thermal disruptions (e.g. heatwaves and droughts) and extreme weather events. For example, a recent study showed that extreme weather events have become the leading cause of nuclear power plant outages in North America and South and East Asia.¹⁹ The frequency of climate-related nuclear plant outages is almost eight times higher than it was in the 1990s.²⁰

As climate impacts become more frequent and pronounced, it will be critical for the CNSC to conduct more comprehensive risk assessments of NPGS that cover the full spectrum of projected extreme weather conditions. Therefore, CELA once again **urges** the CNSC to specifically discuss climate change in the context of licensee oversight because of the major safety and environmental issues it poses to operations. CELA submits that oversight of potential climate impacts is within

¹⁷ Transcript of December 9, 2020 Commission Meeting, p. 83.

¹⁸ ROR 2020, p. 22.

¹⁹ Ali Ahmad, *Increase in frequency of nuclear power outages due to changing climate*, (2021) 6 Nature Energy 755.

²⁰ Ali Ahmad, *Increase in frequency of nuclear power outages due to changing climate*, (2021) 6 Nature Energy 755, p. 756.

the purview of the CNSC's review because of its responsibility to protect the environment from unintended radioactive releases. CELA has raised this issue before the Commission on multiple occasions, but catastrophic weather events are becoming more frequent and CELA **recommends** that the CNSC expressly consider climate impacts and vulnerabilities within the scope of the ROR.

During last year's ROR meeting, it was noted that climate change resiliency is considered through both the updates to environmental risk assessment and updates to safety analyses which have a five-year frequency.²¹ As such, CNSC staff concluded that "when we acknowledge CELA's request on annual reporting on it, that makes that somewhat challenging, given the frequencies."²² CELA **recommends** that, at the very least, the most recent updates to the environmental risk assessment and updates to safety analyses which speak to climate change resiliency are reviewed and reflected in the ROR.

Recommendations

12. The Commission should direct Staff to expressly consider climate impacts and vulnerabilities within the scope of the ROR. As climate impacts become more frequent and pronounced, CELA urges the CNSC to discuss climate change in the context of licensee oversight because of the major safety and environmental issues it poses to operations, health and safety.
13. The most recent updates to environmental risk assessments and updates to safety analyses which speak to climate change resiliency should be reviewed and reflected in the ROR.

G. Small Modular Reactors

The 2020 ROR notes that NB Power shared information with the CNSC related to "small modular reactor initiatives in New Brunswick."²³ The ROR contains no further discussion about the potential development of a Small Modular Reactor ("SMR") at Point Lepreau.

While CELA recognizes that this plan has not yet advanced to the stage of requiring licensing, this foresight and precautionary discussion would have been helpful given its prominence in public discourse, and the implications the reactor poses for already licensed activities and non-proliferation. CELA **submits** that a consideration of SMRs would have fit within the ROR's discussion since it already considered a diversity of activities in its profile of the Point Lepreau site.

²¹ Transcript of December 9, 2020 Commission Meeting, p. 89.

²² Transcript of December 9, 2020 Commission Meeting, p. 89.

²³ 2020 ROR, p. 57.

As this proposed undertaking is fundamentally different from the existing licence at Point Lepreau, CELA **recommends** including a description of the current plans for the SMR in order to provide some context for the proposal and early engagement with the public. CELA further **recommends** that the ROR function as comprehensive and evergreen document to ensure updates are made to the text when available, such as when plans or decisions related to the SMR are made.

Recommendation

14. A description of the current plans for the SMR at Point Lepreau should be included in the ROR to provide some context for the proposal and early engagement with the public.
15. The ROR should function as comprehensive and evergreen document to ensure updates are made to the text when available, such as when plans or decisions related to the SMR are made.

H. Compliance Efforts During the COVID-19 Pandemic

The 2020 ROR provides the following with regard to compliance efforts during the COVID-19 pandemic:

In April 2020, a new procedure to plan and conduct compliance verification activities at NPPs during the COVID-19 pandemic was approved to ensure continued regulatory oversight. This procedure was utilized during the calendar year 2020 and will be used until normal compliance processes resume.

It provides direction for the conduct of oversight activities both remotely and on-site, as well as direction on revising the annual compliance plan for this fiscal year.²⁴

In July 2021, President Velshi commented that “remote inspections were something completely new for us, and their success has shown us that they are appropriate and sustainable not only during the pandemic but even post-pandemic.”²⁵ CELA has a number of concerns about the continued use of remote inspections and **submits** that remote inspections do not provide a complete assessment of all performance-based activities nor do they provide for adequate environmental monitoring and oversight.

Recently, the UK’s chief nuclear inspector noted that “remote interventions are not a sustainable means of ensuring continued public confidence”, emphasising the need for a physical regulatory presence even during a national lockdown.²⁶ CELA **recommends** that the Commission provide

²⁴ 2020 ROR, p. 23.

²⁵ <https://www.canada.ca/en/nuclear-safety-commission/news/2021/08/remarks-by-president-rumina-velshi-at-the-world-nuclear-university-strategic-leadership-academy-managing-your-nuclear-power-plant-for-the-long-term.html>

²⁶ Mark Foy, ‘Nuclear and Radiation Safety and Security Challenge Due to the Covid-19 Outbreak: UK Experience’: https://www.iaea.org/sites/default/files/20/09/i-1_foy.pdf

information regarding CNSC’s plan to return to the use of on-site inspections during the upcoming ROR meeting.

Recommendation

16. The Commission should provide information regarding CNSC’s plan to return to the use of on-site inspections during the upcoming ROR meeting.

I. Licencing Changes at the Darlington Nuclear Generating Station

In September 2021, a hearing took place for an application from Ontario Power Generation Inc. (“OPG”) for a licence amendment to authorize activities related to the production and possession of Molybdenum-99 (“Mo-99”) at the Darlington Nuclear Generating Station (“DNGS”). CELA submitted comments in relation to the application on August 17, 2021.²⁷

The 2020 ROR makes no mention of this application by OPG and CELA **recommends** that an update be provided at the upcoming ROR meeting. For instance, what is the impact of the Mo-99 IIS on both upstream and downstream waste generation? What is the decommissioning plan for the Mo-99 IIS? Will the Environmental Risk Assessment for Darlington be updated to reflect the addition of the Mo-99 IIS?

The 2020 ROR notes that “In June 2021, CNSC staff issued a substantive revision of the Darlington Licence Conditions Handbook (LCH). Further details of the changes in this LCH will be provided in the 2021 ROR.”²⁸ CELA again **recommends** that the ROR function as comprehensive and evergreen document to ensure updates are made to the text when available, such as this substantive revision to the Darlington LCH. CELA also **recommends** that these changes be detailed at the upcoming Commission Meeting.

In June 2015, Fisheries and Oceans Canada issued a *Fisheries Act* Authorization to OPG for the DNGS, which contained a condition for OPG to report to the staff of Fisheries and Oceans Canada and CNSC on the offset plan (compensation for residual harm to fish and fish habitats). The 2020 ROR notes that OPG submitted these reports in 2020, however, provides no further details about the findings of these reports. CELA **recommends** that an update on the findings of these reports be provided at the upcoming Commission Meeting.

Recommendations

17. The Commission should provide an update on OPG’s application for a licence amendment to authorize activities related to the production and possession of Mo-99.

²⁷ See CELA’s Submission Re: Application for a Licence Amendment to Authorize Activities Related to the Production and Possession of Molybdenum-99 (“Mo-99”) at the Darlington Nuclear Generating Station (NGS), August 17, 2021, online: <https://cela.ca/wp-content/uploads/2021/09/OPG-Darlington-Mo-99-Licence-Amendment.pdf>

²⁸ 2020 ROR, p. 68.

18. The ROR should be updated to include a detailed discussion of the changes made to the Darlington Licence Conditions Handbook. This should also be discussed at the upcoming Commission Meeting.
19. An update on the findings of OPG’s reports in response to the 2015 *Fisheries Act* Authorization should be provided at the upcoming Commission Meeting.

J. Decommissioning and Plans to Extend Pickering Nuclear Power Plant Licence

The ROR makes reference to the “planned shutdown in 2024” of the Pickering nuclear power plant. However, in light of the plans announced by the Ontario Power Generation (“OPG”) and supported by the Ontario government to operate the Pickering station beyond 2024,²⁹ CELA **submits** the ROR should have responded to this critical development. CELA made the same submission during last year’s ROR process, but our comments went unaddressed at the ROR meeting. We continue to **request** that the Commission respond to these statements by OPG and the province, and outline the scope of the existing licence and what would be required should such an extension to be granted. As the Pickering nuclear power plant is already operating beyond its intended design life,³⁰ a further extension is unquestionably a matter of significant public importance due to health and safety implications.

CELA reiterates our concerns that by assuming a shutdown date of 2024, the CNSC is overlooking and exempting OPG from requirements which would otherwise apply. For instance, as a result of the planned shutdown in 2024, the CNSC notes that it was “not practical” for Pickering to implement *CSA N285.7, Periodic Inspection and CANDU Nuclear Power Plant Balance of Plant Systems and Components*.³¹ Since our concerns were not addressed during last year’s ROR process, CELA again **requests** that the CNSC confirm whether there are other such CSA standards or updates to RegDocs that have not been applied to the Pickering site for the same reason that it is planning to shutdown in 2024.

In February 2021, the City of Pickering, in partnership with the Region of Durham and OPG, launched a Financial, Economic, and Social Impact study on the decommissioning of the Pickering Nuclear Generating Station (“PNGS”).³² CELA **recommends** that the details of this study and its potential impacts on the decommissioning planning process for the PNGS be addressed at the upcoming ROR meeting.

²⁹ Ontario Newsroom, “Ontario Supports Plan to Safely Extend the Life of the Pickering Nuclear Generating Station” (14 Aug 2020), online: <https://news.ontario.ca/en/release/57995/ontario-supports-plan-to-safely-extend-the-life-of-the-pickering-nuclear-generating-station>

³⁰ CELA, “Casework – Pickering Nuclear Generating Station Life Extension,” online: <https://cela.ca/casework-pickering-nuclear-generating-station-life-extension/>

³¹ 2020 ROR, p. 43.

³² <https://www.pickering.ca/Modules/News/index.aspx?feedId=77783f37-8a4f-4806-88ba-4147c38af337.5dc74cc8-c7b5-43f1-904c-ab24fc21ae17.ef5adafb-d620-422b-bd9d-b646d8b38d4c&newsId=73c1793c-9add-4764-9a69-ae7cac44169f>

CELA further notes that the 2020 ROR does not respond to outstanding requests from CELA and other civil society organizations who have requested a federal environmental assessment for the decommissioning of the PNGS. Currently, Canada's *Impact Assessment Act* does not list the 'decommissioning of a nuclear power plant' as a project requiring a federal impact assessment ("IA"). This means that the decommissioning of the PNGS will not be subject to a comprehensive, environmental assessment and the public will lack an opportunity to weigh-in on the project's purpose and potential methods of decommissioning.

Should an IA not occur for the decommissioning of the PNGS, directly affected communities will also be excluded from a public, decision-making process which statutorily requires consideration of a project's social, economic and environmental effects. As the CNSC publicly recognized during the 2018 Pickering relicensing hearings, they do not consider socioeconomic aspects in their review of projects. Further, the *Nuclear Safety and Control Act* does not share in the purposes of the *IAA*, which requires decision-making that fosters sustainability, considers effects on environment, health and socio-economic conditions, and alternatives to the undertaking.

Given the lacunae of legislative and regulatory frameworks which applies to major nuclear projects, such as the decommissioning of nuclear power plants, CELA **recommends** this be a required agenda item for discussion at the ROR meeting.

Recommendations

20. The Commission should provide a statement in response to plans from OPG and the province of Ontario to extend the current operations at Pickering. For public clarity, it would be of much value for the Commission to speak to their role and the licensing process which would be required for this further extension to occur.
21. Given the lacunae of environmental assessment legislation that applies to major nuclear projects, such as the decommissioning of nuclear power plants, and the outstanding requests from Durham Region and other civil society organizations for a federal environmental assessment for the decommissioning of the Pickering nuclear generating station, CELA requests this topic be a required agenda item for discussion at the ROR meeting.

K. Derived Release Limits and Tritium Emissions to the Environment

Appendix D of the 2020 ROR sets out the derived release limits and radiological releases to the environment from nuclear power plants.³³ The ROR concludes that "Over this current reporting period (2011 – 2020), there have been no exceedances of licence derived release limits."³⁴

³³ 2020 ROR, p. 205.

³⁴ 2020 ROR, p. 206.

In the 2019 *Report of the Integrated Regulatory Review Service (IRRS) Mission to Canada*, the IRRS team concluded that “inconsistencies are evident in the derivation of DRLs” and recommended that the CNSC establish or approve dose constraints for all Class I type facilities, consistently implement the concept of dose constraints for all facilities, and standardise regulatory practice for derived release limits.³⁵ CELA **submits** that the lack of consistency in the calculation of DRLs puts Canadians at risk and **requests** that the Commission confirm whether the ROR took into account the findings from the recent IRRS report and if so, where and how, as they appear absent from the ROR.

The annual tritium emissions to air and discharges to Lake Ontario from the Pickering nuclear power plant are very high. CELA provided a number of recommendations during last year’s ROR process, however, our comments were not addressed during the 2019 Commission Meeting and our recommendations have not been taken up in this year’s ROR. CELA reiterates our concern that these emissions and releases constitute a serious health hazard to residents of the Greater Toronto Area. CELA continues to **recommend** the immediate application of the precautionary principle which, if applied, would result in the Pickering station being closed as soon as technically feasible.

CELA further **requests** that the CNSC explain why Gentilly-2 is still emitting large TBq/a amounts of tritium (and other emissions) in 2019 given it was closed at the end of 2012 and all its fuel removed by the end of 2014.³⁶ The CNSC should also confirm potential reasons for these emissions. CELA raised this recommendation during last year’s ROR, however, our comments were not addressed during the Commission Meeting or in this year’s ROR.

Recommendations

22. The Commission should confirm whether the ROR took into account the findings from the recent IRRS report and if so, where and how, as they appear absent from the ROR.
23. With regard to the very high Tritium emissions from the Pickering nuclear power plant, the precautionary principle should be applied immediately.
24. CNSC staff should explain why the Gentilly-2 site continues to emit tritium despite the removal of fuel in 2014 and its closure in 2012.

L. Decommissioning Planning

The 2018 ROR contained a helpful discussion of the decommissioning planning process, and the RegDocs and standards which inform decommissioning licensing for all nuclear facilities.

³⁵ 2019 *Report of the Integrated Regulatory Review Service (IRRS) Mission to Canada*, p. 53.

³⁶ See Dr. I. Fairlie, “Continued Radioactive Emissions from Old Closed Nuclear Reactors” (12 Oct 2019), online: <https://www.ianfairlie.org/news/continued-radioactive-emissions-from-old-closed-nuclear-reactors/>

However, the 2020 ROR no longer addresses the decommissioning process generally nor does it provide any details on the decommissioning process for specific NPGS. This lack of consistency in terms of the content of the ROR makes it very difficult for the public to follow and understand the purpose of the ROR. CELA **recommends** that this change be explained at the upcoming Commission Meeting and that changes to scope and format be expressly explained in the text of the ROR.

Recommendation

25. Changes to the scope and format of the ROR should be explained at the upcoming Commission Meeting and should be expressly explained in the text of the ROR.

M. CNSC-Led KI Pill Working Group

The 2020 ROR makes no mention of the potassium iodide (“KI”) distribution requirements for NPGS. As this is an important element of emergency preparedness for all NPGS, CELA submits that a discussion of KI distribution requirements and any updates based on meetings of the CNSC-led KI Pill Working Group would fall well within the scope of this ROR.

CELA remains an active member of the advisory group to the KI Pill Working Group and **submits** that distribution of KI pills is currently inadequate – operators and regulators have spent years just working on understanding the current framework for storing and distributing potassium iodide – they haven’t even begun the additional work they committed to in the last Pickering hearing about further distribution to ensure residents living beyond 10 km would be adequately protected. This measure is especially critical for children.

CELA **recommends** expanding the delivery of KI pills beyond the current 10 km pre-distribution area. CELA further **recommends** that KI distribution requirements and updates from the KI Pill Working Group be discussed at the upcoming Commission Meeting and integrated into this ROR.

Recommendations

26. The CNSC should consider expanding the delivery of KI pills beyond the current 10 km pre-distribution area.
27. KI distribution requirements and updates from the KI Pill Working Group be discussed at the upcoming Commission Meeting and integrated into this ROR.

III. CONCLUSION

We respectfully provide these comments to assist the Commission in its review of the *Regulatory Oversight Report for Canadian Nuclear Power Generating Sites: 2020*.

Sincerely,
CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Krystal-Anne Roussel, Legal Counsel

Appendix 1

Summary of Recommendations

1. CELA remains of the view that ROR meetings are not a replacement for relicensing hearings and the CNSC must remedy the discrepancy in participation rights among public intervenors and licensees by providing oral presentation opportunities.
2. The ROR would be more effective if the CNSC canvassed a list of issues and topics to inform the scope of the ROR. Given the trend to longer, ten-year licences, soliciting public comment on the scope of issues addressed in ROR would provide a starting point for public engagement.
3. The aim of the ROR should be to identify gaps and propose action items which improve licensee compliance within all Safety and Control Areas.
4. Both French and English versions of the ROR should be made available at least 60-days in advance of the due date for an intervention.
5. The PNERP Technical Study should be made available to the public without the requirement for a request to OFMEM.
6. The ROR should be updated to include a full review of the PNERP Technical Study and its implications for Ontario's NPGS. This should also be addressed at the upcoming Commission Meeting.
7. The ROR should be updated to include a review of how the PNERP Technical Study will impact the protection of drinking water supplies near NPGS, particularly as it relates to emergency planning. This should also be discussed at the upcoming Commission Meeting.
8. The ROR should include a detailed discussion of how the ERAMG Plan will impact environmental monitoring at NPGS and support protective action decision making after a nuclear or radiological emergency.
9. The ROR should be updated to include a detailed discussion of the PLNGS Technical Planning Basis and the Point Lepreau Nuclear Off-site Emergency Plan, and their impact on emergency planning at Point Lepreau. This should also be addressed at the upcoming Committee Meeting.
10. Radionuclides data should be reportable and accessible on Canada's National Pollutant Release Inventory ("NPRI") in a similar manner as pollutants currently reported.

11. As a standing item, the ROR should review measures being taken by nuclear facilities to (1) phase out asbestos use in nuclear facilities by December 31, 2022 and (2) pursue technically and economically feasible asbestos-free alternatives pursuant to the *Prohibition of Asbestos and Products Containing Asbestos Regulations*.
12. The Commission should direct Staff to expressly consider climate impacts and vulnerabilities within the scope of the ROR. As climate impacts become more frequent and pronounced, CELA urges the CNSC to discuss climate change in the context of licensee oversight because of the major safety and environmental issues it poses to operations, health and safety.
13. The most recent updates to environmental risk assessments and updates to safety analyses which speak to climate change resiliency should be reviewed and reflected in the ROR.
14. A description of the current plans for the SMR at Point Lepreau should be included in the ROR to provide some context for the proposal and early engagement with the public.
15. The ROR should function as comprehensive and evergreen document to ensure updates are made to the text when available, such as when plans or decisions related to the SMR are made.
16. The Commission should provide information regarding CNSC's plan to return to the use of on-site inspections during the upcoming ROR meeting.
17. The Commission should provide an update on OPG's application for a licence amendment to authorize activities related to the production and possession of Mo-99.
18. The ROR should be updated to include a detailed discussion of the changes made to the Darlington Licence Conditions Handbook. This should also be discussed at the upcoming Commission Meeting.
19. An update on the findings of OPG's reports in response to the 2015 *Fisheries Act* Authorization should be provided at the upcoming Commission Meeting.
20. The Commission should provide a statement in response to plans from OPG and the province of Ontario to extend the current operations at Pickering. For public clarity, it would be of much value for the Commission to speak to their role and the licensing process which would be required for this further extension to occur.
21. Given the lacunae of environmental assessment legislation that applies to major nuclear projects, such as the decommissioning of nuclear power plants, and the outstanding requests from Durham Region and other civil society organizations for a federal

environmental assessment for the decommissioning of the Pickering nuclear generating station, CELA requests this topic be a required agenda item for discussion at the ROR meeting.

22. The Commission should confirm whether the ROR took into account the findings from the recent IRRS report and if so, where and how, as they appear absent from the ROR.
23. With regard to the very high Tritium emissions from the Pickering nuclear power plant, the precautionary principle should be applied immediately.
24. CNSC staff should explain why the Gentilly-2 site continues to emit tritium despite the removal of fuel in 2014 and its closure in 2012.
25. Changes to the scope and format of the ROR should be explained at the upcoming Commission Meeting and should be expressly explained in the text of the ROR.
26. The CNSC should consider expanding the delivery of KI pills beyond the current 10 km pre-distribution area.
27. KI distribution requirements and updates from the KI Pill Working Group be discussed at the upcoming Commission Meeting and integrated into this ROR.