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

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

Canadian Nuclear Laboratories

Regulatory Oversight Report for
Canadian Nuclear Laboratories Sites:
2023

Laboratoires Nucléaires Canadiens

Rapport de surveillance réglementaire
des sites des Laboratoires Nucléaires
Canadiens : 2023

Commission Meeting

Réunion de la Commission

November 7, 2024

7 novembre 2024

**SUBMISSION BY THE CANADIAN ENVIRONMENTAL LAW ASSOCIATION
TO THE CANADIAN NUCLEAR SAFETY COMMISSION REGARDING THE
REGULATORY OVERSIGHT REPORT FOR CANADIAN NUCLEAR
LABORATORIES: 2023**

October 7, 2024

**Prepared by
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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 March 4, 2024 in respect of the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2023* (herein “ROR”).¹ A meeting with respect to this matter is scheduled for November 6-7, 2024.

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 an extensive library of materials related to Canada’s nuclear sector which is publicly available on our website.² CELA has engaged in detailed research and advocacy related to public safety and environmental protection by seeking improvements to the oversight of Canada’s nuclear facilities and sites, and is engaged in all of the federal environmental assessments for projects proposed by Canadian Nuclear Laboratories (“CNL”).

¹ CNSC, “Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2023” (2 August 2024), CMD 24-M16 [2023 ROR]

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

II. FINDINGS

CELA has routinely participated in the annual ROR meeting for CNL.³ In response to the 2023 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 CNL's 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 2023 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 2024.

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. As a review of the ROR demonstrates, there is a wide range of activities—each with varying levels of risk, timelines, scope and environmental assessment applicability – demonstrating the crucial need for opportunities to review CNL activities and sites.

A number of our recommendations are aimed at making the ROR more accessible and informative, and enhancing the data and analysis in support of the CNSC Staff's conclusions. These recommendations are based on the ROR's recognition that:

The *NSCA* mandates the CNSC to disseminate objective scientific, technical and regulatory information to the public concerning its activities and the activities it regulates. CNSC staff fulfill this mandate in a variety of ways, including hosting in-person and virtual information sessions and through annual regulatory reports.⁴

We also make the following general comments about the efficacy of the CNSC's regulatory oversight review process.

This year's ROR has been given a substantial template and formatting overhaul, as expressed in the "Changes since last review" table in the report.⁵ CELA welcomes the changes to the template,

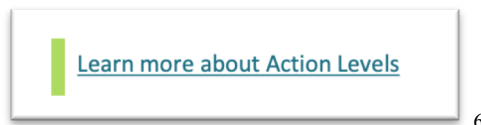
³ See for instance, Joint Submission by Canadian Environmental Law Association and the Concerned Citizens of Renfrew County and Area to the Canadian Nuclear Safety Commission Regarding the Regulatory Oversight Report for Canadian Nuclear Laboratories: 2020; Submission by Canadian Environmental Law Association to the Canadian Nuclear Safety Commission Regarding the Regulatory Oversight Report for Canadian Nuclear Laboratories: 2021; and Canadian Environmental Law Association's comments Re: Regulatory Oversight Report CNL 2022 ROR # 2023-M-30 [CELA Submission 2023].

⁴ 2023 ROR, p. 78.

⁵ 2023 ROR, p. 2.

as the ROR is much more accessible, with ample hyperlinks to navigate to key sections, and the additional info highlights, like Figure 1 below, are useful for guiding readers to additional information located in either within the document itself, or on the CNSC website.

Figure 1: Improvement to ROR Template



We also welcome the change of the ROR layout with the report being organized by site, rather than by safety and control area (“SCA”). This organization makes it much easier to get the whole picture of the activities and regulation of each site, compared to the piecemeal presentation of each site across 14 SCAs as seen in previous RORs. Having the ROR presented in an accessible and easily digestible manner is important for the dissemination of information to the public.

One area of improvement for the ROR concerns issues raised by intervenors. In CELA’s submission last year, we discussed the inclusion of the Summary Table of the Status of Issues, Concerns, and Request from Indigenous intervenors.⁷ In this year’s ROR, tables of these issues and concerns are once again available within Appendix G: Status of issues, concerns and requests from intervenors in the 2022 CNL ROR.⁸ We commend the inclusion of this table. CELA also appreciates the continued direct outreach by the CNSC staff regarding the thematic issues raised by CELA over prior years. We once again **recommend** further specificity of the issues raised by all Intervenors, and how they have been answered or responded to should be provided in RORs annually in a disposition chart or table of action taken and underway.

In previous years, CELA has emphasized 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, only Indigenous intervenors may present before the Commission. While CELA supports deeper engagement with Indigenous intervenors, we once again **submit** that the Commission’s refusal to provide all public interest intervenors the opportunity to engage in dialogue with Commissioners and CNSC Staff maintains the high-level nature of RORs and does not facilitate critical review.

Back in April 2021, the CNSC sought public feedback on the regulatory oversight review process via a discussion paper “regarding the audience, purpose and frequency of the RORs.”⁹ During the

⁶ 2023 ROR, p. 9.

⁷ CELA Submission 2023, p. 4.

⁸ 2023 ROR, p. 123

⁹ CNSC, “The Canadian Nuclear Safety Commission: Oversight Report Review” Discussion Paper 21-01 (April 2021), online: https://www.nuclearsafety.gc.ca/eng/pdfs/Discussion-Papers/21-01/Discussion_Paper_DIS-21-01_The_Canadian_Nuclear_Safety_Commission_Regulatory_Oversight_Report_Review.pdf

public consultation period from April to June 2021, CELA wrote to the CNSC requesting that our years of ROR interventions, and procedural comments therein, be accounted for in the review process. Despite these recommendations, this was not one of the changes implemented.¹⁰ CELA remains disappointed that the CNSC’s review of the Regulatory Oversight Review process did not result in a more robust overhaul of RORs, and specifically that oral presentations have not been expanded to all ROR intervenors.

Recommendations

1. Further specificity of the issues raised by Intervenors, and how they have been answered or responded to should be provided in RORs annually in a disposition chart or table of action taken and underway.
2. CELA remains of the view that ROR meetings are not a replacement for relicensing hearings¹¹ and the CNSC must remedy the discrepancy in participation rights among public intervenors and licensees by providing oral presentation opportunities.

B. Inspections and Reportable Events

In 2023, there were 33 inspections conducted across the different CNL sites, with the number of inspections at each site being:

- Chalk River Laboratories: 19
- Whiteshell Laboratories: 5
- Port Hope Area Initiative: 4
- Douglas Point Waste Facility: 2
- Gentilly-1 Waste Facility: 1
- Nuclear Power Demonstration Waste Facility: 2.¹²

Within the ROR, the inspections at each site are labelled as either being: Type 1, Type 2, Desktop, or field inspections. The ROR also lists the number of IAEA Safeguards inspections, however, this section of our comments is focused on the inspections conducted by CNSC staff for ensuring compliance with SCAs. CELA appreciates the clear breakdown of the types of inspections being conducted at each site, as this gives a better picture of how CNL sites are being monitored. While

¹⁰ *A list of implemented changes to RORs can be found here:* CNSC, “Update on the CNSC Staff Review of the Regulatory Oversight Report Process”, Staff Presentation to the Commission, CMD-22-M5 (January 27, 2022), online: https://www.nuclearsafety.gc.ca/eng/the_commission/meetings/cmd/pdf/CMD22/CMD22-M5.pdf, p. 16.

¹¹ Canadian Environmental Law Association & Coalition for Responsible Energy Development in New Brunswick, “Joint Submission by the Coalition for Responsible Energy Development and the Canadian Environmental Law Association to the Canadian Nuclear Safety Commission Regarding the Renewal of the Point Lepreau Nuclear Generating Station Power Reactor Operating Licence.” Hearing Reference: 2022-H-02 (March 28, 2022), online: <https://cela.ca/wp-content/uploads/2022/03/Submission-Point-Lepreau-Nuclear-Generating-Station.pdf>, p. 17.

¹² 2023 ROR at pp. 11, 25, 37, 46, 54, and 63.

the “desktop” and “field” inspection categories seem to be self-explanatory in terms of how they are conducted, the ROR does not describe what a “Type 1” or “Type 2” inspection is. CELA **recommends** the ROR provide a summary of each type of inspection, to better assist the reader in understanding the CNSC’s regulatory oversight methods.

According to each CNL site discussion in the ROR, none of the inspections conducted in 2023 were through desktop, meaning that each inspection was conducted on site (unless the Type 1 and Type 2 inspections are conducted offsite). CELA submits that onsite inspections are the preferred method of inspection in the eyes of the public, as it ensures the regulatory body for these nuclear facilities is actually looking at the operations of these sites, rather than just reading reports.

As a result of the 33 inspections conducted in 2023, the CNSC issued a total of 119 Notices of Non-Compliance (“NNCs”). While most of the NNCs have been closed,¹³ this number is quite concerning, considering that in 2022, 21 inspections resulted in the issuance of 73 NNCs.¹⁴ The 2023 ROR notes that for the remaining open NNCs, “CNL has an appropriate corrective action plan in place to prevent recurrences.”¹⁵ Furthermore, despite the issuance of 119 NNCs, CNSC staff have declared that “none of the NNCs issued in 2023 posed a risk to the health and safety of the public or the environment.”¹⁶

In addition to the NNCs that may arise from CNSC-led inspections, the ROR also discusses reportable events. Under the *General Nuclear Safety and Control Regulations*, CNL is required report events to the CNSC that may pose a risk to the environment, and/or the public.¹⁷ In 2023, CNSC received and assessed a total of 79 reportable events, with 48 of these events occurring at Chalk River Laboratories alone.¹⁸ This is a drastic increase in the number of reportable event compared to last year, which had a total of 39 reportable events. And, unlike 2022, in which there were no reportable events for Douglas Point, Gentilly-1, or the Nuclear Power Demonstration Waste Facilities,¹⁹ there was at least one reportable event at every CNL site in 2023.

In last year’s submission, CELA expressed concerns surrounding the conclusion that all CNL sites had operated safely in 2022. Given the NNCs and reportable events covered in last year’s ROR, CELA submitted:

[...] There is an inappropriate weighting of the Safety Control Areas such that CNSC staff ought to be viewing them from the perspective of those that indicate warning

¹³ 2023 ROR, p. 4.

¹⁴ CNSC, “Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2022” (3 August 2023), CMD 23-M30, p.1.

¹⁵ 2023 ROR, p. 4.

¹⁶ 2023 ROR, p. 4.

¹⁷ *General Nuclear Safety Regulations*, SOR/2000-202, s.12.

¹⁸ 2023 ROR, Appendix E: Reportable Events

¹⁹ CELA Submission 2023, p.1-2.

signs and red flags in terms of the adequacy of CNL management and conduct of the necessary controls on all of the facilities. For example, several of the significant event reports – almost all of them in fact – occurred in areas dealing with fire and electrical as well as emergency readiness. These are fundamental “basics” for nuclear facilities and their inattention should result in much higher weighting to such red flags and therefore downgrading of the rating for the SCAs. The current rating system appears to wait for actual releases before reporting the SCAs as unacceptable. By the time there is such a problem it is too late and public / environment has been impacted.²⁰

With the 2023 ROR revealing a higher number of NNCs and reportable events (even if most of the NNCs have been closed) across CNL sites, CELA **reiterates** that CNSC staff ought to be viewing SCAs from a perspective of those that indicate warning signs and red flags in terms of adequacy of CNL management and conduct of the necessary controls on all facilities. As we will discuss in greater detail with each CNL site, while CNSC staff have deemed the NNCs to not be of concern for risk to the health and safety of the environment or the public, each minor NNC speaks volumes of the safety culture at each site, with non-compliances being linked to safe practices in radiation protection, human performance, and emergency management and fire protection. CELA **recommends** CNSC staff take a look at the results of inspections and reportable events from a cumulative impacts lens, and from a safety perspective, as each act of non-compliance reveals complacency in work place safety and emergency management.

Recommendations

3. The ROR should include a summary of each type of inspection (Type 1, Type 2, Desktop, Field, IAEA Safeguards), to better assist the reader in understanding the CNSC’s regulatory oversight methods.
4. CNSC staff need to take a look at the results of inspections and reportable events from a cumulative impacts lens, and from a safety perspective, as each act of non-compliance reveals complacency in work place safety and emergency management.

C. Chalk River Laboratories

Chalk River Laboratories was subjected to the most inspections in 2023 (19 inspections). Despite there being a total of 77 findings from these CNSC inspections, all 14 SCAs for Chalk River received a rating of “satisfactory.”²¹ This section highlights some of the issues of non-compliance at Chalk River that would suggest that Chalk River is not operating in a satisfactory manner—a concern we expressed in last year’s submission: “Table D-1 lists of CNSC led inspections at CRL. CELA draws the Commissions attention to the fact that every single inspection revealed non-

²⁰ CELA Submission 2023, p. 2.

²¹ 2023 ROR, pp. 10-11.

compliant areas except baseline radiation at Whiteshell and the inspection at Port Granby. The security inspection results are not available.”²²

i. Radiation Protection SCAs

There were 13 inspections related to the Radiation Protection SCA in 2023, with 13 NNCs being issued CNL. These issues of non-compliance concerned the following:

- inaccurate labelling of containers containing nuclear substances;
- radiation warning signage either obstructed, illegible, incomplete, or misdated;
- expired annual reviews of some radiological safety zoning plans and expired work permits;
- missing labelling of verification test performed on a radiation instrument;
- nonadherence to some radiation protection measures.²³

The ROR notes that “CNSC staff will continue to maintain regulatory oversight and monitor CNL’s progress on the remaining open NNCs.”²⁴ CELA requests that at the upcoming Commission meeting, an update be provided on which NNCs have been closed, and which remain open, as well as a timeline for CNL to resolve the remaining NNCs.

Reading the summary of the NNCs related to Radiation Protection, the issues seem to stem from a diminishing safety culture, as all of these issues arose through inspection, rather being identified through CNL’s own monitoring of the work Chalk River work environment. CELA **recommends** that CNL conduct an internal review of its safety culture, with CNSC reviewing these findings, and providing regulatory oversight and guidance to rectify this issue.

ii. Environmental Protection SCA

Within the Environmental Protection SCA, environmental risk assessments (“ERAs”) are conducted by licensees to identify, quantify, and characterize the risk posed by contaminants and physical stressors to the environment and human health. Section 11 of CSA Standard N288.6-12, *Environmental risk assessments at nuclear facilities and uranium mines and mills*, indicates that ERAs should be reviewed every 5-years.²⁵ With CNL’s most recent ERA being completed in 2019, the updated version was expected December 2023. However, due to the COVID-19 pandemic resulting in delays of planned follow-up studies, the updates to CNL’s ERA will be completed and submitted to the CNSC by January 31, 2025. According to the ROR, “CNL continues to keep CNSC staff informed on the progress of the ERA update at quarterly CNSC- CNL Environmental Protection meetings. CNSC staff will complete the review of CNL’s updated ERA and provide

²² CELA Submission 2023, p. 1.

²³ 2023 ROR, p. 12.

²⁴ 2023 ROR, p. 13.

²⁵ 2023 ROR, p. 15.

details of the assessment in the next ROR.”²⁶ With the updated ERA not being available until 2025, CELA requests that the progress of the ERA update be provided at the upcoming Commission meeting, to keep the public abreast of the ERA’s progress, since the public do not have access to the above-mentioned CNSC-CNL Environmental Protection meetings.

iii. Other Inspections and Notices of Non-Compliance

With the Conventional Health and Safety SCA, 16 inspections of Chalk River resulted in 17 NNCs. Some NNCs concerned inappropriate signage and pipe labels, inappropriate personal protective equipment, and workplace hazards, among other issues.²⁷ Despite issues with “workplace hazards,” CNSC staff deemed the NNCs did not pose a risk to the health and safety and workers, the public and the environment. CELA **requests** clarification on how workplace hazards do not constitute a risk to the health and safety of workers. Additionally, to have 17 NNCs arise from 16 inspections is cause for concern that CNL is not self-reporting on conventional health and safety issues. Failure to self-report shows a diminishing safety culture and a lack of respect to the regulator. We **reiterate** from our comments last year,

In the area of human performance management, it is concerning that CNL was not reporting to CNSC in areas of non-compliance in safety-significant positions for worker fatigue and related matters. Again, both the worker fatigue itself, and the non-reporting, are red flags. These are the types of issues that have been found to be causal precedents to major nuclear and industrial accidents. These types of occurrences are reflective of failure of both oversight by management and of a diminishing safety culture; they also demonstrate a lack of respect for importance of reporting to the regulator.²⁸

With regard to the reference to worker fatigue, a Human Performance Management SCA NNC from a 2022 inspection concerning managing worker fatigue remained open through 2023, and was closed as of April 23, 2024.²⁹ CELA is relieved to see this NNC closed, but is concerned that the management of worker fatigue will not remain a priority as time passes, based on the repeated risks to workplace safety arising across CNL sites.

Another SCA with troubling results from inspections is the Emergency Management and Fire Protection. Thirteen inspections resulted in 11 NNCs being issued for problems like fire protection reviews not being performed, and non-compliant waste management areas, for instance.³⁰ At the time of publishing the ROR, 9 NNCs have been closed, and 2 remain open. CELA **requests** that

²⁶ 2023 ROR, p. 15.

²⁷ 2023 ROR, p. 16.

²⁸ CELA Submission 2023, pp. 2-3.

²⁹ 2023 ROR, p. 18.

³⁰ 2023 RIR, p. 20.

an update on both the closed and opened NNCs for this SCA be discussed in detail, along with an estimated timeline to see the remaining NNCs closed.

Finally, with the Security SCA, the ROR notes that “between March 20, 2023 and August 4, 2023, CNSC staff conducted a focused cyber-security program inspection which resulted in 13 NNCs...as of April 21, 2024, 3 NNCs have been closed, and 10 low security risk NNCs remain open.”³¹ While CELA recognizes that the nature of these cyber security issues cannot be shared in detail with the public, we request an update on the open NNCs, and a timeline of when they will be resolved. While the Security SCA for Chalk River is no longer rated at “Below Expectations” like it was in 2022, we once again **recommend** that the Commission members stringently and thoroughly delve into the causes and significance of this area of the report; and demand challenging and detailed, specific steps to show improvement and report back to the Commissioners themselves. This recommendation stems from the fact that while CNSC staff has rated this SCA as “satisfactory”, there are clearly still shortfalls in the management of security as seen with the number of NNCs.

Recommendations

5. At the upcoming Commission meeting, an update should be provided on which Radiation Protection SCA notices of non-compliance have been closed, and which remain open, as well as a timeline for CNL to resolve the remaining NNC for Chalk River.
6. CNL should conduct an internal review of its safety culture, with CNSC reviewing these findings, and providing regulatory oversight and guidance to rectify this issue.
7. CELA requests that the progress of the ERA update be provided at the upcoming Commission meeting, to keep the public abreast of the ERA’s progress, since the public do not have access to the above-mentioned CNSC-CNL Environmental Protection meetings.
8. CELA requests clarification on how workplace hazards do not constitute a risk to the health and safety of workers.
9. An update on both the closed and opened NNCs for the Emergency Management and Fire Protection SCA should be discussed in detail, along with an estimated timeline to see the remaining NNCs closed.
10. An update should be provided on the open Security NNCs, and a timeline of when they will be resolved.
11. The Commission members stringently and thoroughly delve into the causes and significance of this area of the report; and demand challenging and detailed, specific steps to show improvement and report back to the Commissioners themselves.

³¹ 2023 ROR, pp. 21-22.

D. Whiteshell Laboratories

In 2023, Whiteshell received ratings of “Below Expectations” for the Human Performance Management SCA and the Emergency Management and Fire Protection SCA.³² With Whiteshell currently undergoing a licencing renewal hearing for the decommissioning licence, these SCA ratings are troubling, and provide a cause for concern that CNL is not adequately managing this site.

i. 2023 Site Safety Shutdown

In April 2023, CNL’s self-assessment of its fire protection program at Whiteshell resulted in deficiencies in training records for on-site fire brigade members and incomplete equipment procedures being found. After reporting this event, non-essential activities were shutdown at the site, placing Whiteshell into a Safety Shutdown for operational activities.³³ These deficiencies are highly problematic, as set out in the Event Initial Report.³⁴

With incomplete records, CNL could not demonstrate that fire response staff were adequately trained and competent to provide fire suppression activities consistent with the Fire Protection Program for the WL site. Additionally, “the deficiencies identified in the training and equipment of fire response staff had a direct impact on CNL's ability to maintain minimum complement of fire response personnel at the WL site.”³⁵

Additional deficiencies with the fire protection program were identified in in the full event report published May 19, 2023, including: training, availability and maintenance of personal protective equipment, inspection and maintenance of fire extinguishers, the conduct of drills, and the supply of firewater.³⁶

There is currently a Multi-Phase Restart plan in progress, which CNSC staff have accepted. As the result of an Emergency Management and Fire Protection Plan reactive inspection conducted in August 2023, 10 notices of non-compliance were issued to CNL. This prompted the issuance of an Administrative Monetary Penalty of \$14,856 to CNL.³⁷

CELA once again **recommends** that the CNSC Commission members delve into better understanding the CNSC regulatory oversight role, or lack thereof, whereby this situation at Whiteshell managed to get to the state that it did on the very matters that are most critically important to the public and the environment. It bespeaks a lack of on-site inspections, or lack of

³² 2023 ROR, p. 24.

³³ 2023 ROR, p. 24.

³⁴ Event Initial Report, [CMD 23-M25].

³⁵ CMD 23-M25, p. 2.

³⁶ 2023 ROR, p. 82.

³⁷ 2023 ROR, pp.82-83.

inspector competence, or lack of inspection rigour, if they did occur. It also undermines the credibility of the current oversight system.

CELA also reiterates from our submission last year that the statement that the overall conclusion by CNSC staff that CNL continues to implement and maintain effective emergency management fire protection programs at CNL sites in accordance with regulatory requirements, apart from WL, is inappropriate, especially when combined with the events and areas of non-compliance at CRNLs which also engaged fire and emergency response issues.³⁸

ii. Environmental Protection SCA

One of the NNCs arising from an Environmental Protection SCA inspection at Whiteshell concerns Environmental Protection staff training records not being up to date. The updating of these records was scheduled for August 2024.³⁹ This NNC indicates that there is a problem with record keeping at Whiteshell, as the Site Shutdown is tied to improper record keeping under the Emergency Management and Fire Protection SCA. While CNSC staff determined that there was no risk to the health and safety of the public or the environment, CELA **recommends** that the CNSC and CNL search for the root cause of poor record management at Whiteshell. The poor record keeping may lead to risks to the health and safety of the public and the environment down the road if staff training is not happening and there are no records to verify the training.

Recommendations

12. The CNSC Commission members need to delve into better understanding the CNSC regulatory oversight role, or lack thereof, whereby this situation at Whiteshell managed to get to the state that it did on the very matters that are most critically important to the public and the environment.
13. CNSC and CNL should search for the root cause of poor record management at Whiteshell, as this is an issue that permeates the management of multiple SCAs at this site.

E. Port Hope Area Initiative (“PHAI”)

In 2023, PHAI was subject to four CNSC-led inspections, resulting in 8 notices of non-compliance being issued to CNL. The non-compliance with the Radiation Protection SCA and the Environmental Protection SCA are of particular interest to CELA in this year’s ROR.

³⁸ CELA Submission 2023, p. 4.

³⁹ 2023 ROR, p. 27.

i. Radiation Protection Program

When conducting 4 inspections to verify Radiation Protection program performance complies with CNSC regulatory requirements, 4 NNCs were issued for the following issues:

- Insufficient provision of dose information to NEWs;
- Inadequate posting of radiation warning signage;
- Lack of performing and recording contamination and gamma surveys; and
- Ensuring dosimetry is worn by NEWs as required.⁴⁰

Despite these findings, CNSC staff note in the ROR that CNL effectively implemented corrective actions to address these NNCs. While CELA acknowledges that “CNSC staff will continue to maintain regulatory oversight and monitor CNL’s progress,”⁴¹ these types of non-compliance issues are not unique to PHAI. For instance, Chalk River received NNCs for improper/inadequate radiation warning signage,⁴² as has Douglas Point.⁴³

With the improper and inadequate posting of radiation warning signs being a common problem across CNL operated sites, CELA **recommends** that CNSC staff investigate why this simple, yet key, safety measure is being glossed over at CNL sites, and what can be done to ensure that radiation protection is taken seriously by CNL employees.

ii. Environmental Protection SCA

After conducting 4 inspections of PHAI, 1 Environmental Protection SCA notice of non-compliance was issued because the Dust Monitoring Plan was not implemented at Waterworks West and Viaducts sites.⁴⁴ CELA disagrees with the statement that this NNC did not pose a risk to the health and safety of workers, the public and the environment. While there were not impacts to health and safety while this monitoring plan was not in place, there was certainly a risk, as there was no monitoring of dust for air quality purposes. CELA **requests** clarification on how long the Dust Monitoring Plan was not implemented for, and why this plan was not implemented in the first place.

According to the ROR, there was an action level exceedance for copper in a composite liquid effluent sample at the Port Hope Project’s Wastewater Treatment Plant the week of May 22, 2023.⁴⁵ After CNL reported this event, immediate corrective actions were taken to reduce the copper concentration in the effluent to below action levels. CNL’s investigation revealed that the

⁴⁰ 2023 ROR, p. 38.

⁴¹ 2023 ROR, p. 38.

⁴² 2023 ROR, p. 12: *radiation warning signage either obstructed, illegible, incomplete, or misdated.*

⁴³ 2023 ROR, p. 48: *incomplete and illegible radiation warning signage.*

⁴⁴ 2023 ROR, p. 39.

⁴⁵ 2023 ROR, p. 40.

elevated copper was caused by the deterioration of the epoxy coating on cast iron components, which allowed the cast iron to come into contact with the effluent.⁴⁶

With this action level exceedance, the intervenor asks whether this exceedance could have been prevented with adequate/routine monitoring, and what is being done to prevent this event from reoccurring in the future? We request that the preventative measures be discussed at the upcoming Commission meeting.

Recommendations

14. CNSC staff investigate why improper and inadequate posting of radiation warning signs is such a common issue across CNL sites, and what can be done to ensure that radiation protection is taken seriously by CNL employees.
15. Clarification should be provided on how long the Dust Monitoring Plan was not implemented for, and why this plan was not implemented in the first place.
16. Could the action level exceedance for copper at the Port Hope Project's Wastewater Treatment Plant have been prevented with adequate/routine monitoring? What is being done to prevent this event from reoccurring in the future?

F. Gently-1 Waste Facility ("G1WF")

There was one inspection at Gently-1 in 2023, which resulted in two notices of non-compliance with the Waste Management SCA. These two NNCs concerned: a compromised waste drum outside of secondary containment; and totes missing radiation signage.⁴⁷ There are very few details on these NNCs, beyond the ROR stating that "the NNCs did not pose a risk to the health and safety of workers, the public and the environment. CNSC staff determined that the corrective actions taken to address these NNCs were acceptable and closed the NNCs."⁴⁸

CELA seeks additional information about the NNC for the compromised waste drum. In particular, how long was the waste drum compromised, how did it end up outside of secondary containment, and how was this NNC resolved? We request that additional details on this issue be discussed at the upcoming Commission meeting.

⁴⁶ 2023 ROR, p. 40.

⁴⁷ 2023 ROR, p. 60.

⁴⁸ 2023 ROR, p. 60.

Recommendation

17. Additional information surrounding the NNC at Gentilly for a compromised waste drum outside of secondary containment is requested.

G. Nuclear Power Demonstration Waste Facility (“NPDWF”)

The two inspections at NPDWF resulted in several NNCs being issued. Two of the SCAs of concern within this year’s RRO are Radiation Protection and Emergency Management and Fire Protection. Another area of concern arising from the review of NPDWF involves the Environmental Risk Assessment.

i. Radiation Protection SCA

During an inspection for the Radiation Protection SCA, it was discovered that emergency responders were not wearing issued dosimeters.⁴⁹ While CNSC staff have deemed CNL’s corrective actions taken to address this NNC were acceptable and this NNC was closed, we submit this 1 NNC reveals radiation protection and human performance safety issues. Additionally, this NNC raises several concerns that CELA requests the CNSC discuss at the upcoming Commission meeting.

First, because the ROR does not go into detail about the NNC, it is unknown whether this non-compliance arises from a couple, some, or all of NPDWF’s emergency responders not wearing issued dosimeters. Another question is whether this is a regular occurrence at the site for emergency responders to not wear their dosimeters, or whether this was a one-off incident that occurred during an inspection. These concerns speak to the safety culture at both this particular site, and with CNL generally.

ii. Environmental Risk Management

After CNSC staff performed a gap analysis of CNL’s NPDWF Environmental Risk Assessment (“ERA”) against requirements in REGDOC 2.9.1, *Environmental Principles, Assessments and Protection Measures* and CSA N288.6-12, *Environmental risk assessments at nuclear facilities and uranium mines and mills*, CNSC staff identified gaps regarding formal documentation of a human health risk assessment for hazardous substances as well as an ecological risk assessment for the current storage-with-surveillance state of the waste facility.⁵⁰ As a result, CNL is required to provide an updated ERA for CNSC staff’s review.

⁴⁹ 2023 ROR, p. 65.

⁵⁰ 2023 ROR, p. 66.

CELA is requesting further details on this issue: first, is there a timeline for when CNSC staff can expect this updated ERA from CNL? And second, CELA is interested in learning more about these gaps in the formal documentation—why were these assessments not provided by CNL when preparing the ERA? And, thirdly what prompted CNSC staff to perform the gap analysis?

iii. Emergency Management and Fire Protection SCA

One NNC with the Emergency Management and Fire Protection SCA was issued to CNL following 2 inspections, when it was discovered that two fire doors were missing self-closure mechanisms. CELA submits that having safety measures like fire doors be in working order is extremely important in emergency management and fire protection, and we **submit** that when mechanisms designed to prevent the spread of fires are either malfunctioning or non-existent altogether, there exists a risk to the health and safety of the public and the environment. Therefore, we disagree with CNSC staff's determination that the NNC did not pose a risk.

While there have been corrective measures put in place (presumably to install the self-closure mechanisms or replace the doors), this NNC raises red flags about the monitoring of emergency management and fire protection equipment and procedures at CNL sites. Additional information surrounding this NNC is requested: how long had these doors been missing their self-closure mechanisms; and how frequently is CNL checking the state of safety equipment and furnishings at its sites on a regular basis to ensure facilities are prepared for an emergency?

Recommendations

18. Further details are requested surrounding the NNC issued for emergency responders not wearing issued dosimeters.
19. Further details are requested regarding the gap analysis of CNL's NPDWF ERA documentation: a) is there a timeline for when CNSC staff can expect this updated ERA from CNL; b) why were these two assessments not provided by CNL when preparing the ERA; and c) what prompted CNSC staff to perform the gap analysis?
20. Additional information surrounding this NNC is requested: how long had these doors been missing their self-closure mechanisms; and how frequently is CNL checking the state of safety equipment and furnishings at its sites on a regular basis to ensure facilities are prepared for an emergency?

H. Land Lease for Commercial Project Development

The ROR notes that CNL is proposing to sublease a parcel of land on the Chalk River site for commercial project development.⁵¹ With this potential land lease, CNL would not be the operator of any potential nuclear facility for the parcel of land; however through a service agreement with a lessee, CNL could provide services in the areas of security, fire protection, environmental monitoring, emergency preparedness, and radiation protection.⁵² The ROR notes that in 2023, no formal submissions for the project were submitted, but a draft licence amendment application was submitted to CNSC staff for a preliminary review.⁵³

CELA has several concerns surrounding this land lease. For instance, what sort of commercial projects would be considered for this site? Does CNL have a particular industry in mind for the land being parceled? Furthermore, has there been any progress on a formal submission for this project since the ROR was prepared? If this project were to proceed, and CNL were to provide services to the lessee, there comes the question of whether CNL would adequately provide these aforementioned services to the lessee, consider the issues of non-compliance across various CNL sites. CELA has concerns that CNL’s work culture does not prioritize safety and emergency preparedness—given its track record of NNCs—and therefore, adding commercial activities to the lands at Chalk River raises concerns for the safety and health of any employees at a lessee’s commercial operations.

Recommendation

21. An update on the land lease for Commercial Project Development is requested. In particular, what is the intention behind this project, i.e., what sort of commercial projects are being sought for this land? Would CNL have the capacity to adequately provide services to lessee, given CNL’s track record for accumulating NNCs.

I. Performance Ratings

CELA’s previous submissions to the CNSC have presented concerns regarding the binary rating system consisting of either “satisfactory” (“SA”) or “below expectations” (“BE”) being assigned to licensee performance ratings for the 14 CNSC SCAs for all CNL sites. CELA has **recommended** that the CNSC consider developing a performance rating system based on measurable indicators, as has been used in previous years, or alternatively the performance ratings for each CNL site in the ROR include an evaluation of the set criteria.

⁵¹ 2023 ROR, p. 88.

⁵² 2023 ROR, p. 88.

⁵³ 2023 ROR, p. 89.

Trends from previous years of compliance and trends from performance reports are considered, as are lost time injuries, environmental releases, and dose to workers trends. Compliance results are the focus behind this rating system.⁵⁴

An SA rating occurs when a licensee is meeting all the following criteria: performance meets CNSC staff expectations; licensee non-compliances or performance issues, if any, are not risk-significant; and any non-compliances or performance issues have been, or are being, adequately corrected. Meanwhile a BE rating occurs when one or more of the following criteria apply: performance does not meet CNSC staff expectations; Licensee has risk-significant non-compliance(s) or performance issue(s); and/or non-compliances or performance issues are not being adequately corrected.⁵⁵

While having this breakdown provides more insight, CELA **submits** that the current performance rating system lacks truly measurable indicators, and there no stated threshold for what constitutes an event constituting as being “not risk-significant.” CELA **recommends** that the CNSC consider developing a performance rating system based on measurable indicators, as has been used in previous years. In the alternative, CELA **recommends** that performance ratings for each CNL in the ROR include an evaluation of the set criteria outlined in the above paragraphs.

Recommendation

22. The CNSC should consider developing a performance rating system based on measurable indicators. In the alternative, performance ratings for each CNL site in the ROR include an evaluation of set criteria such as key performance indicators, compliance with licence conditions, events, repeat non-compliances, and licensee action in response to events, as well as the nature of the events themselves.

J. Safeguards and Non-Proliferation

The CNSC mentions IAEA activities at Chalk River, Whiteshell, PHAI, DPWF, Gentilly-1, and NPDWF to verify nuclear material inventories and to assure the absence of undeclared nuclear material and activities. For example, in 2023, Chalk River had 56 IAEA-led inspections. No detail is provided on these visits other than noting that “No significant issues were identified as a result of these inspections.”⁵⁶ CELA **recommends** including examples of what types of issues were identified to make it clear what is meant by “no significant issues.” With there being 56 IAEA-led inspections at Chalk River, there were bound to be issues found, whether those issues be minor or moderate issues.

⁵⁴ 2023 ROR, p. 92.

⁵⁵ 2023 ROR, p. 93, Appendix B: Safety Performance Rating Levels.

⁵⁶ 2023 ROR, p. 22.

Recommendation

23. Examples of issues identified during IAEA visits at Chalk River, Whiteshell, PHAI, DPWF, Gentilly-1, and NPDWF should be given to make it clear what is meant by “no significant issues.”

III. CONCLUSION

We respectfully provide these comments to assist the Commission in its review of the *Regulatory Oversight Report for Canadian Nuclear Laboratories: 2023*.

Sincerely,
CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Sara Libman, Legal Counsel

Appendix 1

Summary of Recommendations

1. Further specificity of the issues raised by Intervenors, and how they have been answered or responded to should be provided in RORs annually in a disposition chart or table of action taken and underway.
2. 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.
3. The ROR should include a summary of each type of inspection (Type 1, Type 2, Desktop, Field, IAEA Safeguards), to better assist the reader in understanding the CNSC's regulatory oversight methods.
4. CNSC staff need to take a look at the results of inspections and reportable events from a cumulative impacts lens, and from a safety perspective, as each act of non-compliance reveals complacency in work place safety and emergency management.
5. At the upcoming Commission meeting, an update should be provided on which Radiation Protection SCA notices of non-compliance have been closed, and which remain open, as well as a timeline for CNL to resolve the remaining NNC for Chalk River.
6. CNL should conduct an internal review of its safety culture, with CNSC reviewing these findings, and providing regulatory oversight and guidance to rectify this issue.
7. CELA requests that the progress of the ERA update be provided at the upcoming Commission meeting, to keep the public abreast of the ERA's progress, since the public do not have access to the above-mentioned CNSC-CNL Environmental Protection meetings.
8. CELA requests clarification on how workplace hazards do not constitute a risk to the health and safety of workers.
9. An update on both the closed and opened NNCs for the Emergency Management and Fire Protection SCA should be discussed in detail, along with an estimated timeline to see the remaining NNCs closed.
10. An update should be provided on the open Security NNCs, and a timeline of when they will be resolved.
11. The Commission members stringently and thoroughly delve into the causes and significance of this area of the report; and demand challenging and detailed, specific steps to show improvement and report back to the Commissioners themselves.
12. The CNSC Commission members need to delve into better understanding the CNSC regulatory oversight role, or lack thereof, whereby this situation at Whiteshell managed to get to the state that it did on the very matters that are most critically important to the public and the environment.
13. CNSC and CNL should search for the root cause of poor record management at Whiteshell, as this is an issue that permeates the management of multiple SCAs at this site.

14. CNSC staff investigate why improper and inadequate posting of radiation warning signs is such a common issue across CNL sites, and what can be done to ensure that radiation protection is taken seriously by CNL employees.
15. Clarification should be provided on how long the Dust Monitoring Plan was not implemented for, and why this plan was not implemented in the first place.
16. Could the action level exceedance for copper at the Port Hope Project's Wastewater Treatment Plant have been prevented with adequate/routine monitoring? What is being done to prevent this event from reoccurring in the future?
17. Additional information surrounding the NNC at Gentilly for a compromised waste drum outside of secondary containment is requested.
18. Further details are requested surrounding the NNC issued for emergency responders not wearing issued dosimeters.
19. Further details are requested regarding the gap analysis of CNL's NPDWF ERA documentation: a) is there a timeline for when CNSC staff can expect this updated ERA from CNL; b) why were these two assessments not provided by CNL when preparing the ERA; and c) what prompted CNSC staff to perform the gap analysis?
20. Additional information surrounding this NNC is requested: how long had these doors been missing their self-closure mechanisms; and how frequently is CNL checking the state of safety equipment and furnishings at its sites on a regular basis to ensure facilities are prepared for an emergency?
21. An update on the land lease for Commercial Project Development is requested. In particular, what is the intention behind this project, i.e., what sort of commercial projects are being sought for this land? Would CNL have the capacity to adequately provide services to lessee, given CNL's track record for accumulating NNCs.
22. The CNSC should consider developing a performance rating system based on measurable indicators. In the alternative, performance ratings for each CNL site in the ROR include an evaluation of set criteria such as key performance indicators, compliance with licence conditions, events, repeat non-compliances, and licensee action in response to events, as well as the nature of the events themselves.
23. Examples of issues identified during IAEA visits at Chalk River, Whiteshell, PHAI, DPWF, Gentilly-1, and NPDWF should be given to make it clear what is meant by "no significant issues."