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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:
2022

Laboratoires Nucléaires Canadiens

Rapport de surveillance réglementaire
des sites des Laboratoires Nucléaires
Canadiens : 2022

Commission Meeting

Réunion de la Commission

November 1-2, 2023

1-2 novembre 2023

October 2, 2023

Canadian Nuclear Safety Commission
280 Slater St.
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Ottawa ON K1P 5S9

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Re: Regulatory Oversight Report CNL 2022 Reference # 2023-M-30

The Canadian Environmental Law Association writes to provide brief comments as a written only request for Intervention in the above noted matter, being the 2022 Regulatory Oversight Report of Chalk River Nuclear Laboratories.

CELA has reviewed the CMDs for the November 1 meeting dealing with this ROR. After briefly noting the results of inspections and reportable events reviewed in the Appendices, CELA provides comments below in respect of the CNSC Staff CMD and its conclusions, as well as areas CELA recommends for focus by the Commission.

Table D-1 lists of CNSC led inspections at CRL. CELA draws the Commissions attention to the fact that every single inspection revealed non-compliant areas except baseline radiation at Whiteshell and the inspection at Port Granby. The security inspection results are not available.

Table E-2 lists the reportable events at CRL in 2022. There were 39 reportable events this past year at the CRL set of facilities. These were in the Emergency Management and Fire Protection areas of concern. One significant event included the finding of Radium 226 stored in a CRL building. Another involved loss of power. Some involved impacts or loss of fire detection, monitoring, and alarms. One event was a fire on top of an operating furnace at a CRL Building (a digital thermocouple caught fire). Another fire occurred at a barrel heater. Yet another released contaminated groundwater at 15 Bq/L to the ground, when a re-circulation pump and heat tracing simultaneously failed. In a different event, severe rainfall resulted in overflowing and discharge of water from containers holding radiologically contaminated waste. Another event reported access by an employee without proper authorization and oversight. Another event occurred with loss of power that resulted in the NRU reactor Exhaust Air Filtration System Fans to shut down unexpectedly. Another event disclosed unposted radiation fields in an accessible area outside of a storage building. Two events occurred during IAEA safeguards and non-proliferation inspections. One rendered a measurement tool inoperable. The other disclosed CNL staff misunderstanding the permitted amount of enriched uranium that could be imported. In event 34, the seal on the top of a flask containing a pressure tube was damaged. Another was

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the result of exceeding the amount of permissible fissionable materials in an area. Three events with no details in the appendix involved unauthorized site access; details reported to be classified confidential. Similarly, a significant reportable event involving security equipment failure is also classified confidential with no details provided.

At Port Hope in 2022, Table E-3 lists events including security, fire protection, worker injury, equipment performance and several other matters.

At Port Granby in 2022, Table E-5 lists events including damage to a leachate pipe, security, and package classification among others.

No reportable events occurred or were reported for Douglas Point, Gentilly 1, or the Nuclear Power Demonstration Waste Facilities in 2022.

COMMENT 1: CELA is of the view that 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 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.

COMMENT 2: CNSC staff should refrain from use of jargonistic acronyms in the report even after an initial definition. For example, the repeated use of the acronym NNCs for non-compliant areas buries the import of the text such as at p. 17 of the CNSC CMD, in discussing non-compliant areas of management systems.

COMMENT 3: Many of the issues discussed in the CNSC CMD are of high significance and have to do with competence of CNL to track and manage significant types of waste. These should not be down-played especially by use of phrases such as no “imminent” safety significance. The matters reviewed in the CMD are critical issues in terms of confidence in the ability of the operator to handle this waste now and into the future and given the very lengthy time frames implicated by these types of waste these deficiencies are very serious considerations.

COMMENT 4: A similar concern arises in respect of the area of non-compliance regarding change control at Port Hope. Competent change management is critical for long term knowledge management; assurance of safety to the public; future return of staff to do other work or to conduct follow up and monitoring tasks. CNSC staff appear to be giving CNL lots of leeway on this issue, even though it was found to be unacceptable to CNSC staff.

COMMENT 5: 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.

COMMENT 6: Regarding the Chalk River power outage and initiation of CRL emergency operations centre, CELA recommends that Commission members query as to whether the public was notified of this event and what the communications consisted of. Transparent public notification at the time of serious events is essential to public trust.

COMMENT 7: At p. 23 of the CNSC staff CMD, section 4.4.1 Chalk River labs is a description of a non-compliance regarding the overall inventory of U-235 (a fissionable material) in building 429. This issue is of very high importance vis a vis safety and security; it was reported that CNL was not tracking overall inventory of U-235 in the building. Again, this constitutes another very serious red flag in terms of the management competence and performance of safeguarding the site and its materials. This is especially concerning in a context of the needed long-term management of decommissioned facilities and the necessity for the regulator and the public to have trust in the capacity of the operator to handle high level waste and fissionable materials across a range of activities.

COMMENT 8: Section 4.6.1 of the CNSC Staff CMD describes fitness for service of the Chalk River labs. This section of the staff CMD contains additional red flags in terms of operator competence. There were expired HEPA filters; calibration inadequacies; a lack of backup power in a room with a radiation monitoring system; and 7 non-compliant areas pertaining to aging management. These are critically important for a facility engaged in decommissioning nuclear systems; managing the federal government waste liabilities and legacies; and as an entity seeking long term waste approvals.

COMMENT 9: Reference 28 is CMD 23-M25 Event Initial Report, Safety stand-down at Canadian Nuclear Laboratories' Whiteshell Site following the discovery of non-compliances in the fire protection program. Page 34 of the CNSC CMD further describes the self-assessment and report by CNL that disclosed serious deficiencies in fire and emergency training, and in equipment inspection, lack of testing and maintenance and use of incomplete or expired personal protective equipment. The result was that CNL reported to the CNSC and CNL itself placed Whiteshell Labs into a safe shutdown state where only essential compliance and maintenance work could be conducted. This affected the years 2020, 2021, 2022. As noted, it was based on a self-inspection.

The full event report, reference 28, presented to the commission on June 29, 2023 also identified that there was unavailability of firewater pressure and flow; unavailability of fire hydrants; non-maintenance of fixed suppression systems (sprinklers); and non-testing of same; and non-testing of emergency lighting in buildings. (p. 34 of the staff CMD)

CELA notes that not all compliance activities related to this stand-down are expected before the end of March 2024. CNSC staff are reviewing CNL's submissions on this matter, including a multi-phase re-start plan. Further updates will be provided by CNSC staff at the November 1,

2023 meeting; as well as preparation of a lessons learned report to focus on the CNSC regulatory oversight of Whiteshell Labs from 2019 to 2022.

Table E-3 setting out other reportable Events at Whiteshell Labs in 2022, included the receipt by a worker of an electrical shock, as well as events with emergency management and fire protection significance.

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

CELA also notes 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.

COMMENT 10: At p. 40 of the CMD, CNSC staff concluded that CRL security was assessed below expectations in 2022. They indicated that there was no immediate risk to security and CNSC staff will continue to conduct oversight in this area. Little detail is available to the public. The fact that security oversight is non-transparent to the public; and that it engages international and domestic security risks elevates this issue to one of a high import for the commission. CELA recommends 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.

COMMENT 11: In the overall ratings, Security continued to be rated Below Expectations for Chalk River Labs; and Emergency Management and Fire protection Below Expectations for the Whiteshell Labs. Note that the rating for this safety and control area at Whiteshell was rated by CNSC staff as satisfactory for the years 2018 through 2021, but as discussed in the staff report, these must not have been satisfactory since the CNL self-assessment discovered that these serious issues that led to the stand-down had been in existence in 2020, 2021, and 2022.

COMMENT 12: Appendix M provides a Summary Table of the Status of Issues Concerns and Requests from Indigenous Intervenor in the 2021 CNL ROR. CELA commends inclusion of this table. CELA also appreciates the direct outreach by the CNSC staff regarding the thematic issues raised by CELA over prior years. CELA recommends that further specificity of the issues raised by Intervenor, 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.

We trust these comments on the CMD 2022 for Chalk River Laboratories managed facilities are of assistance to the Commissioners, staff and CNL.

Yours very truly,
CANADIAN ENVIRONMENTAL LAW ASSOCIATION

A handwritten signature in black ink, appearing to read 'T. McClenaghan', written in a cursive style.

Theresa McClenaghan
Executive Director & Counsel