Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 24-H7.9

File / dossier : 6.01.07
Date: 2024-09-17
e-Doc: 7366820

Oral presentation

Written submission from the Concerned Citizens of Renfrew County and Area

In the Matter of the

Canadian Nuclear Laboratories Ltd.

Application for the renewal of the nuclear research and test establishment decommissioning licence for the Whiteshell Laboratories site

Commission Public Hearing

October 23-24, 2024

Exposé oral

Mémoire de Concerned Citizens of Renfrew County and Area

À l'égard des

Laboratoires Nucléaires Canadiens Ltée

Demande visant le renouvellement du permis de déclassement d'un établissement de recherche et d'essais nucléaires pour le site des Laboratoires de Whiteshell

Audience publique de la Commission

23-24 octobre 2024

Canada

Application from Canadian Nuclear Laboratories Ltd. (CNL) for a 3-year renewal of its nuclear research and test establishment decommissioning licence for the Whiteshell Laboratories

Written submission from Concerned Citizens of Renfrew County and Area

In CMD 24-H7, CNSC Staff provide considerable detail about the 2023 Site Safety Stand-Down (Fire Program Deficiencies). They suggest that this issue prompted their recommendation for only a 3-year licence renewal period:

> This recommendation is a result of the 2023 WL site shutdown for fire safety reasons.

An objective observer might conclude that failure to meet fire safety requirements indicates that Canadian Nuclear Laboratories (CNL) is not "qualified to carry on the activity that the licence will authorize the licensee to carry on," as per section 24 of the *Nuclear Safety and Control Act*, and that the Commission should not renew CNL's licence.

Fire safety is a very serious matter, but Commissioners should also address the absence of an acceptable plan for managing WL decommissioning waste. It is the nature of decommissioning activities to generate significant quantities of radioactive waste and hazardous waste. Particularly troubling is the unsupported statement on page 4 of CNL's written submission, CMD 24-H7.1

> Canadian Nuclear Laboratories has achieved effective management of high, intermediate, and low-level waste.

First nations, civil society groups such as ours, and municipalities have asked that WL waste shipments to AECL's Chalk River Laboratories cease. For example, a May 2021 letter from Ottawa mayor Jim Watson to the CNSC's Ramzi Jammal and CNL's Lou Riccoboni called for

> stopping current and future import or transfer of external Atomic Energy of Canada Limited (AECL) waste from other provinces (e.g., Manitoba).

There is no licensed facility at the Chalk River Laboratories (CRL) that can accommodate the long-term storage or disposal of WL waste. At present, Canadian Nuclear Laboratories is stacking up intermodal transport containers at CRL Waste Management Area H.

This irresponsible activity of shipping waste with no approved long-term plan creates unacceptable risks, both to Ottawa valley residents and to communities along the 1,910-kilometer transportation corridor between WL and CRL.

In CNL's written submission, CMD 24-H7.1, Table 14, "Summary of amounts of hazardous waste shipped off site," and Table 15, "Radioactive wastes transported to Chalk River Laboratories for disposition," do not provide information required by the *General Nuclear Safety and Control Regulations*:

> 3(1)(j) An application for a licence shall contain the following information… the name, quantity, form, origin and volume of any radioactive waste or hazardous waste that may result from the activity to be licensed, including waste that may be stored, managed, processed or disposed of at the site of the activity to be licensed, and the proposed method for managing and disposing of that waste.

Nor is this information found in CNL's licence application. It merely states that

> Specific information on radioactive and hazardous wastes is presented in the annual reports prepared to meet the requirement of SCA "Operating Performance" Licence Condition 3.2 of the current WL LCH [A-3].

Nor is this information found in the *Summary of Annual Compliance Monitoring Report: Calendar Year* 2023. It summarizes the information found in Tables 14 and 15:

> Radioactive, clearable and hazardous wastes were generated from both ongoing operational activities and decommissioning projects, including disposition of 87 m3 of radioactive waste to Chalk River Laboratories (CRL), 638 m3 of solid and liquid hazardous waste to an off-site disposal facility, and 968 m3 of clean and recycled waste shipped off site.

In providing only volume information – and not name, quantity (i.e., in Becquerels), form and origin – CNL's licence application does not meet regulatory requirements.

It is a long-standing problem that the CNSC treats radioactive waste as a transport issue, not as a long-term safety issue. There are requirements in the *Packaging and Transport of Nuclear Substances Regulations* to limit gamma radiation emitted from transport containers to levels that do not trigger an alarm or exceed dose rates. But the dose limits, exemption quantities, and clearance levels found in the *Nuclear Substances and Radiation Devices Regulations* are routinely ignored. Our group has described this problem in detail in the context of the Near Surface Disposal Facility, the proposed destination for much of the WL decommissioning waste.

Waste management thus becomes a shell game. Waste is moved from place to place, with no consideration of containment and isolation from the biosphere.

Particularly troubling is that hazards associated with long-lived alpha and beta emitters are dismissed, because these nuclear substances do not trigger an alarm. From a waste management perspective – considering dangers of ingestion or inhalation -- these hazards can be very great, particularly for long-lived alpha emitters.

Many research activities were carried out at Whiteshell Laboratories, including fuel reprocessing. A recent article in the Bulletin of the Atomic Scientists says "AECL researchers studying the geologic disposal of high-level radioactive waste clandestinely carried out reprocessing experiments."

IAEA General Safety Guide GSG-1, Classification of Radioactive Waste, provides guidance for managing waste from nuclear research facilities. Annex III, Origin and Types of Radioactive Waste, says the following:

> *Waste from research facilities*
> III–17. Research facilities (e.g. hot cell chains, glovebox chains) or pilot plants for checking fuel fabrication processes (particularly the fabrication of mixed uranium plutonium oxides, known as MOX), for fuel reprocessing (particularly advanced schemes), and for post-irradiation examinations, as well as their analytical laboratories, generate types of waste that, often, are different from the typical waste generated by industrial plants. Owing to the presence of nonnegligible amounts of long-lived alpha emitters, waste from research facilities generally belongs to the ILW class and even, in some circumstances, to the HLW class. Research activities take place at facilities such as research reactors and accelerators, and include laboratory activities. The type and volume of waste generated by research activities is dependent on the research conducted.

Regarding waste that belongs to the ILW class, GSG-1 says:

> Intermediate level waste (ILW): Waste that, because of its content, particularly of long-lived radionuclides, requires a greater degree of containment and isolation than that provided by near surface disposal. However, ILW needs no provision, or only limited provision, for heat dissipation during its storage and disposal. ILW may contain long lived radionuclides, in particular, alpha emitting radionuclides that will not decay to a level of activity concentration acceptable for near surface disposal during the time for which institutional controls can be relied upon. Therefore, waste in this class requires disposal at greater depths, of the order of tens of metres to a few hundred metres.

The importance of describing the origins of the WL waste, both as a condition of issuing a decommissioning licence, and in terms of compliance with the *General Nuclear Safety and Control Regulations*, cannot be overstated.

No evidence is provided for this hearing that the WL decommissioning waste has undergone the detailed characterization and classification required for safe long-term management. Section 5.11.1.1 of CMD 24-H7.1 refers to the "locked ISO containers pending off site shipment, saying only that this waste "has been characterized and has the paperwork to allow shipment."

Characterization of waste for shipment is not the same as characterization of waste for long-term storage or disposal.

In May 2021, our group wrote a letter to IAEA Director Rafael Grossi, questioning CNL's non-transparent reclassification of WL intermediate-level waste (ILW) as low-level waste (LLW), its failure to provide information on activity levels in the WL waste, and the large decreases in total volumes of ILW and LLW at WL, in Canada's *Seventh National Report to the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management*. We said

> The 7th report should explain the 73% decrease in ILW volume and the 21% decrease in LLW volume at the Whiteshell Laboratories.

We bring this issue to the attention of Commission Members, as no satisfactory explanation has ever been given for the very large changes between quantities of LLW and ILW at WL reported in the sixth and seventh national reports to the Joint Convention.

The April 12th Revised Public Hearing Notice says that "consideration of the potential *in situ* decommissioning of WR-1 is out of the scope of this licence renewal hearing," while also noting that "the decommissioning approach authorized under the current licence is a complete dismantlement and removal of the facility."

This begs the question, "Removal to where?" Our group would be grateful if Commission members would ask about this matter, which has major significance for Ottawa valley residents. We suspect that CNL would attempt to ship ALL the waste that would be entombed in the WR-1 to Chalk River if the WR-1 project is not licensed.

Commission Members should also discuss the CNL's plan to retrieve the high-level spent fuel waste (HLW) currently in the Concrete Canister Storage Facility, and transport it to CRL:

- What facilities would be used to transfer HLW from dry storage into transport containers?
- What are the estimated radiation doses associated with retrieval and transport?
- What tests have been performed on the transport containers? Are they fully licensed?
- Are emergency response plans in place in the event of a transport accident?
- Will emergency response providers be notified of shipments?

CNSC Staff CMD 24-H7 proposes that this "fuel consolidation project" will be subject only to "CNSC staff review and acceptance."

We strongly object. First Nations and the public should be given more details about this project and an opportunity to ask questions and provide comments. No HLW fuel shipments should take place without prior approval from the Commission.