Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

CMD 19-H4.6A

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Supplementary Information

Presentation from the Concerned Citizens of Renfrew County and Area

In the Matter of the

Whiteshell Laboratories

Application to renew the Nuclear Research and Test Establishment Decommissioning Licence for the Whiteshell Laboratories site for a period of ten years

Commission Public Hearing

October 2-3, 2019

Renseignements supplémentaires

Présentation de Concerned Citizens of Renfrew County and Area

À l'égard de

Laboratoires de Whiteshell

Demande pour le renouvellement, pour une période de dix ans, du permis de déclassement d'un établissement de recherche et d'essais nucléaires pour les Laboratoires de Whiteshell

Audience publique de la Commission

Les 2 et 3 octobre 2019

Canada

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Whiteshell Laboratories – CNSC Decommissioning Licence Renewal

Presentation by Concerned Citizens of Renfrew County and Area (CCRCA)

October 3, 2019

Why a CCRCA Submission?

- CCRCA wants a clean and healthy environment free of pollution from the nuclear industry.
- We received funds from the CNSC's Participant Funding Program to participate in the licence hearing for the Whiteshell Laboratories (WL).
- Sending WL wastes to Chalk River Laboratories – in the absence of an acceptable long-term plan for managing these wastes – creates "unreasonable risks" of radioactive pollution for Renfrew County.

Who is the licence applicant and what are they doing now?

- Canadian Nuclear Laboratories (CNL) was created as a subsidiary of Atomic Energy of Canada Limited in 2014.
- CNL was sold in 2015 to "Canadian National Energy Alliance"– a multinational consortium now composed of SNC-Lavalin and two U.S. companies - Fluor and Jacobs.
- The CNL consortium is now Canada's *de facto* national policy maker for radioactive waste, and Chalk River is Canada's *de facto* federal radioactive waste repository.
- With no formal governmental approval or consultation, the CNL consortium is shipping WL decommissioning wastes to Chalk River Laboratories, in Renfrew County.

Shipments are well under way

- 2366 m^3 of contaminated soil from the former experimental Cesium Pond
- 252 m^3 of contaminated building debris from the demolition of the WL Decontamination Centre (Building 411)
- over 60 “redundant radioactive sources”
- 20 drums of cemented waste from historic fuel reprocessing experiments

Source: CMD 19-H4.1 *Written submission from Canadian Nuclear Laboratories Ltd.* (Page 94)

Total planned WL waste to Chalk River

- 1500 Low-Level Waste shipments
- 500 Intermediate-Level Waste shipments
- 46 High-Level Waste (HLW) shipments
  - baskets of irradiated reactor fuel from the Concrete Canister Storage Facility
- an additional 1-4 shipments of HLW
  - from remediation of the Standpipes

Source: CMD 19-H4.1 *Written submission from Canadian Nuclear Laboratories Ltd.* (Pages iii and 44)

Figure 3-16 : Photo of Low Level Waste (Contaminated Cesium Pond Soil) being loaded for transportation to CRL

Source: CMD 19-H4.1 *Written submission from Canadian Nuclear Laboratories Ltd.* (Page 34)

CRL Waste Management Area H

- WMA H Expansion will support ~72,000 m^3 (~4,000 sea cans) of LLW
- Expandable to provide an additional 50,000 m^3 by stacking containers five high if required

WL radioactive waste received at Chalk River Laboratories, Feb. 2017 – Jan. 2019*

- Number of shipments: 51
- Number of packages: 548
- Mass of waste: 3,004,052 kg
- Volume of waste: 3,500 m^3
- Bulk density: 0.86 g/cm^3

$$\frac{3 \times 10^6 \text{ kg}}{3.5 \times 10^3 \text{ m}^3} \times \frac{10^3 \text{ g}}{\text{kg}} \times \frac{\text{m}^3}{10^6 \text{ cm}^3} = 0.86 \text{ g/cm}^3$$

Our group asked CNL for data on the radionuclide contents of an intermodal container but received no reply.

*Source: AECL ATIP request A-2018-00022

No approved waste disposal facilities exist at Chalk River Laboratories (CRL)

- CRL is located in a seismically active area with fractured, porous bedrock on the Ottawa River,
  - a major water resource for millions of Canadians,
  - with national heritage river status in recognition of its cultural, ecological and recreational significance.
- An environment assessment currently under way may demonstrate that the Chalk River Laboratories property is completely unsuitable for long-term radioactive waste management.

Is the licence applicant following an approved decommissioning plan?

- An "accelerated project plan" for decommissioning of WL (see CMD 19-H4, *Environmental Protection Review Report*, p. 13 of 88) has not been made public, externally reviewed, or approved by CNSC.
- The current plan, prepared by Atomic Energy of Canada Limited prior to restructuring, calls for:
  - a gradual and phased approach, with
  - decommissioning activities **timed to the availability of properly-sited and formally-approved waste disposal facilities.**

Accelerated WL decommissioning

- Associated with higher radioactivity levels due to earlier decommissioning
- Prolonged off-site “interim” storage at CRL places an undue burden of environmental and health risks on current and future generations.
- Double-handling/double-transporting of waste
  - Increased occupational and public radiation exposures
  - Greater accident risks, higher costs
  - Very problematic for **high-level spent fuel wastes**

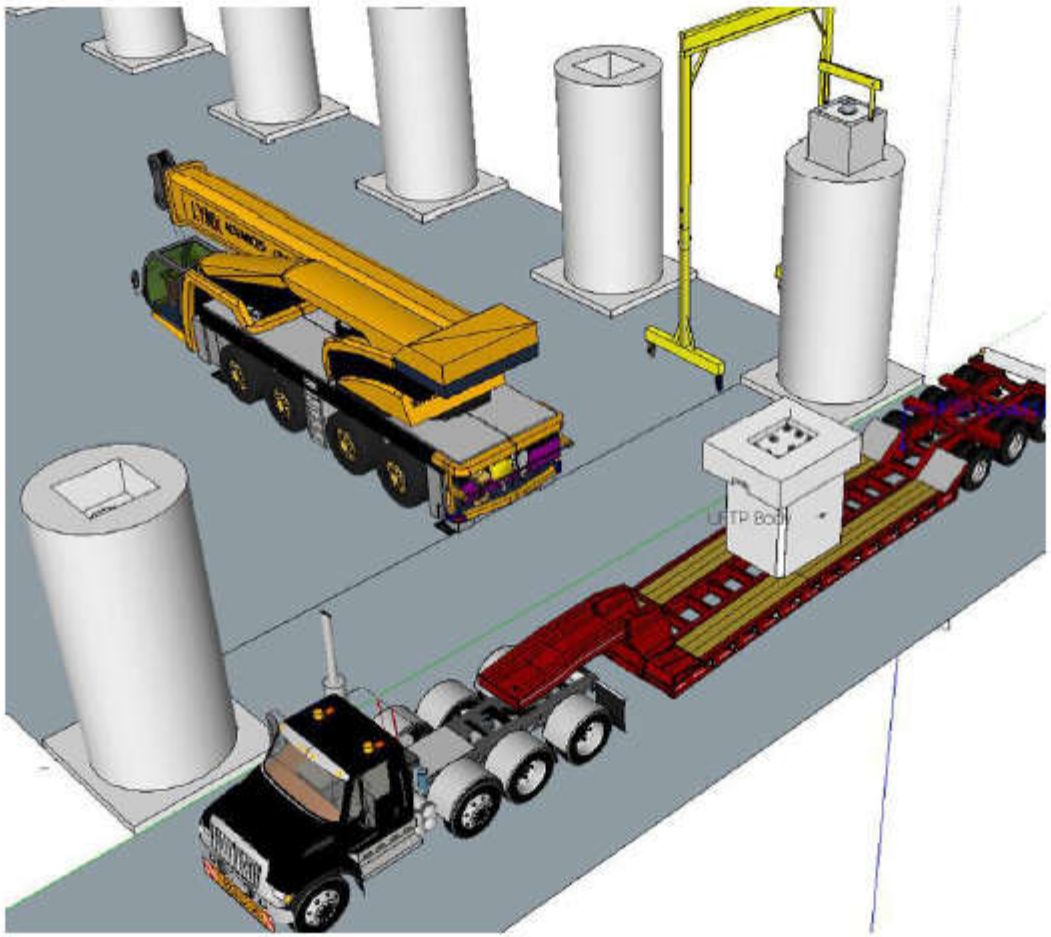

Figure 3-4 : Schematic diagram of transfer of CCSF fuel basket to transportation flask

Source: CMD 19-H4.1 *Written submission from Canadian Nuclear Laboratories Ltd.* (Page 22)

Recommendations

- Halt on-going transfers of WL decommissioning waste to Chalk River (revert to storage at WL).
- Decelerate the pace of WL decommissioning and follow the more gradual and phased approach in the November 2001 *Comprehensive Study Report* and January 2002 *Detailed Decommissioning Plan.*
- Prioritize siting and development of national facilities for final disposal of federal radioactive waste (including appropriate consultation).
- Grant CNL a temporary licence of 1-year duration with a requirement to develop a revised WL *Detailed Decommissioning Plan.*