



CMD 26-H100.2

Date: 2026-04-09

**Written Submission from the
Concerned Citizens of Renfrew
County and Area**

**Mémoire de
Concerned Citizens of Renfrew
County and Area**

In the matter of the

À l'égard des

Canadian Nuclear Laboratories

Laboratoires Nucléaires Canadiens

Application to amend the licence and
licensing basis for the Gentilly-1 Waste
Facility

Demande concernant la modification de
leur permis et du fondement
d'autorisation pour l'installation de
gestion des déchets de Gentilly-1

**Hearing in writing based on written
submissions**

**Audience par écrit fondée sur des
mémoires**

July 2026

Juillet 2026

From: Concerned Citizens of Renfrew County and Area

To: The Canadian Nuclear Safety Commission (CNSC)

Via email: interventions@cnsccsn.gc.ca

Date: April 9, 2026

Re: CNSC hearing in writing on Canadian Nuclear Laboratories' application to amend the licence and licensing basis for the Gentilly-1 Waste Facility

Concerned Citizens of Renfrew County and Area (CCRCA) is an incorporated, non-profit organization. CCRCA has been working for the clean-up and prevention of radioactive pollution from the nuclear industry in the Ottawa Valley for over forty years. A particular focus is activities at the Chalk River Laboratories (CRL). This federal government property is currently managed on contract by Canadian Nuclear Laboratories (CNL), a private company owned by a consortium of U.S.-based corporations.

CCRCA wishes to comment on CNL's application to amend the Waste Facility Decommissioning Licence issued by the CNSC for the Gentilly-1 Waste Facility (G1WF) site. The licence amendment would allow removal of all buildings and structures. Activities would include dismantling of the Gentilly-1 (G-1) nuclear reactor, the first-ever effort in Canada to fully decommission a nuclear power reactor.

The proposed activities would set a precedent for future power reactor decommissioning activities, and should be subject to the highest level of scrutiny, in the interests of public health and safety.

This submission addresses two issues:

- information about the G1WF decommissioning waste is inadequate, including the nuclear substances contained in it and long-term waste management plans; and
- the CNSC is using inappropriate processes for making determinations about G1WF decommissioning activities.

Nuclear substances

The *General Nuclear Safety and Control Regulations* (GNSCR) state that

3 (1) An application for a licence shall contain...

(c) the name, maximum quantity and form of any nuclear substance to be encompassed by the licence; and

(j) 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.

Regarding "the name, maximum quantity and form of any nuclear substance to be encompassed by the licence," CNL's licence application states that "The stored waste information is reported in the *Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview*." The *Program Overview* has not been made publicly available as of the date of this submission. CCRCA made a special request to CNL for this document and received a copy.

Information about nuclear substances in the G1WF, contained in Tables 7-10 of the *Program Overview*, appears to be incomplete. Table 8, "Estimated Activities of Radionuclides for Reactor Core Components and Bioshield," lacks information on chlorine-36, a major concern owing to its long half-life (~ 301,000 years) and its mobility in the environment. ³⁶Cl is almost certainly present in the concrete Bioshield.

Tables 7, 9, and 10 provide estimates of only two radionuclides (cobalt-60 and cesium-137) for the turbine systems, heat transport systems, and moderator system, respectively. These reactor components are almost certainly contaminated with other radionuclides, including tritium.

Related to tritium, as participants in meetings of CNL's Environmental Stewardship Council for the Chalk River Laboratories, CCRCA has become aware that large quantities of tritium-contaminated heavy water are in storage at the La Prade Heavy Water Plant. La Prade is immediately adjacent to the G1WF, and shares some facilities:

All external access doors to the Reactor Building, as well as the areas of the Service Building and the Turbine Building that are included in the G1WF (AECL property), are kept closed and locked outside of normal work hours.

An intrusion alarm system is also installed on some doors of the G1WF buildings, which annunciate at the La Prade Heavy Water Asset Facility guardhouse annunciator when a door is opened. (*Program Overview*, p. 44 of 163)

To our knowledge, despite the large quantities of tritium at the La Prade Heavy Water Plant, it is not a CNSC-licensed facility. It is unclear whether it is encompassed by the G1WF licence. The *Program Overview* provides no estimate of the tritium inventory at the La Prade facility.

We strongly urge the Commission to investigate the possibility that La Prade is unlicensed and subject to the prohibitions of section 26 of the *Nuclear Safety and Control Act*. The *Program Overview* document does not contain plans for the decommissioning of the La Prade facility.

The proposed method for managing and disposing of waste from the G1WF

Regarding section 3(1)(j) of the GNSCR, and "the proposed method for managing and disposing" of the G1WF decommissioning waste, information is also incomplete. There are no approved long-term waste management plans--a major concern.

CNL's licence application indicates that all the radioactive waste from decommissioning of the G1WF has been sent, or will be sent, to CRL for interim storage or for disposal. But interim storage does not constitute long-term management. Furthermore, approved disposal facilities do not exist.

The *Program Overview* document says:

The spent resins were removed in 2018, as part of a hazard reduction campaign [23]. The HTPS spent resin was packaged and sent to CRL's Waste Management Area (WMA) for storage. While MPS spent resin recovered from MPS was sent off-site for processing and volume reduction. The processed and volume-reduced MPS spent resin was packaged and sent to CRL WMA for interim storage. (p. 38 of 163)

Water accumulated in the building sumps is manually pumped into totes using portable pumps. The collected water is then sampled, analysed for tritium and beta/gamma-emitting

radionuclides, and eventually transferred overland to HQ... if the analysed collected water does not meet the HQ's acceptance criterion, then it is sent to Chalk River Laboratories (CRL) Waste Treatment Centre for processing and disposal. (p. 42 of 163)

The spent fuel will be transferred from the G1WF to the CRL WMA [20] for interim storage under the Phase 2 decommissioning licence. (p. 117 of 163)

[Note: "The first shipments departed the G1WF in December 2024... CNL completed all shipments from G1WF in July 2025," according to the *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2024*, p. 84, "Gentilly-1 Fuel Waste Transfer Project" (<https://api.cnsccsn.gc.ca/dms/digital-medias/CMD26-M4-ENG.pdf/object>).]

Stored waste and decommissioning waste at G1WF will be managed as outlined below...The ILW and LLW [Intermediate-Level Waste and Low-Level Waste] will be segregated, packaged, and shipped to one of the CRL WMAs for interim storage or to a licensed off-site facility for processing... (pp. 119-120 of 163)

Low level wastes are to be packaged and transported to CRL WMA and will be placed in the NSDF once it is available. The waste generated from the reactor core components, regardless of classification, are excluded from the Waste Acceptance Criteria (WAC) of NSDF, therefore these will be sent to either CRL WMA or an external approved waste storage facility other than the NSDF for disposition. High level wastes (i.e., spent fuel) will be shipped to CRL WMA for the interim storage. Radioactive wastes are to be packaged and transported to CNL CRL WMA for interim storage. (pp. 127-128 of 163)

CNL plans to put low-level radioactive waste from the G1WF in interim storage at CRL, and later dispose of it in the Near Surface Disposal Facility (NSDF). The Commission should not accept this. The NSDF is the subject of legal challenges that are delaying, and may prevent, its construction and operation.

For the long-term management of intermediate-level radioactive, there is no plan whatever—only "interim storage" at CRL. This is also unacceptable.

Acceptable decommissioning strategies

IAEA Specific Safety Guide No. SSG-47, *Decommissioning of Nuclear Power Plants, Research Reactors and Other Nuclear Fuel Cycle Facilities* (https://www-pub.iaea.org/MTCD/Publications/PDF/P1812_web.pdf), describes two acceptable reactor dismantling strategies, immediate and deferred:

Decontamination, dismantling and other decommissioning actions may be carried out immediately following permanent shutdown or may be deferred until after a safe enclosure period. As a consequence, the time period for the conduct of decommissioning actions typically ranges from a few months for simple and small facilities undergoing immediate dismantling, to decades for large and complex facilities using the deferred dismantling strategy (for example, to allow for radioactive decay). (SSG-47, p. 2)

SSG-47 does not address the disposal of radioactive waste in detail, but it says that "availability of a disposal option" is among "the most important aspects" for the selection of a decommissioning strategy:

If the waste management infrastructure is available, including for waste disposal, then immediate dismantling is the preferred strategy. In the absence of facilities and infrastructure for processing radioactive waste, or when storage or disposal capacities are not available, the preferred decommissioning strategy could include a period of safe enclosure until the necessary waste management infrastructure is available. (SSG-47, p. 37).

Full decommissioning of the G-1 reactor has been “deferred” for forty years. The reactor was completely shut down in 1982 and attained a “Safe Shutdown State” in 1986. This should have provided ample time to develop the necessary infrastructure for long-term management of radioactive decommissioning waste from the G-1 reactor, and other shut-down federal reactors built and owned by Atomic Energy of Canada Limited, including WR-1, Douglas Point, and NPD).

The failure to develop the necessary infrastructure to manage the waste from reactor decommissioning is a black mark on AECL, the Government of Canada, and Canada’s nuclear industry as a whole. Not only has reactor decommissioning been deferred, but waste management as well. The Government of Canada has abdicated responsibility for managing its own radioactive waste. It is allowing decisions to be made in a non-transparent and unreasonable manner by private corporations and the CNSC.

CNSC’s processes for approving G1WF decommissioning activities

Under the Gentilly-1 Fuel Waste Transfer Project, high-level radioactive waste spent fuel from the G-1 reactor was secretly transferred to CRL by Canadian Nuclear Laboratories, a private corporation.

CNSC staff “authorized... shipments of the spent fuel” (*Regulatory Oversight Report for Canadian Nuclear Laboratories Sites: 2024*, p. 84). Despite being a regulatory authority for the project under the *Impact Assessment Act*, the CNSC made no determination about its environmental effects, and provided no opportunity for public comment, as required by sections 82 and 86 of the *Impact Assessment Act*:

82 An authority must not carry out a project on federal lands, exercise any power or perform any duty or function conferred on it under any Act of Parliament other than this Act that could permit a project to be carried out, in whole or in part, on federal lands or provide financial assistance to any person for the purpose of enabling that project to be carried out, in whole or in part, on federal lands, unless

(a) the authority determines that the carrying out of the project is not likely to cause significant adverse environmental effects;

86 (1) Before making a determination under section 82 or 83, an authority must post on the Internet site a notice that indicates that it intends to make such a determination and that invites the public to provide comments respecting that determination.

The Gentilly-1 Fuel Waste Transfer Project also ignored the Government of Canada’s responsibility, under section 29(2) of the *U.N. Declaration on the Rights of Indigenous Peoples*, “to ensure that no storage or disposal of hazardous materials shall take place in the lands or territories of indigenous peoples without their free, prior and informed consent.”

Finally, regarding the CNSC’s “Hearing in Writing” process to consider CNL’s G1WF licence amendment application, CCRCA maintains that an oral, in-person hearing must be held for at least one day. An opportunity to discuss issues in person, before the Commission, is essential.