

To: The Honourable Julie Aviva Dabrusin, Minister of Environment and Climate Change
From: The Canadian Coalition for Nuclear Responsibility (CCNR)
Re: Impact assessment of the final dismantling of the Gentilly-1 nuclear reactor
Date: February 5 2026

Reference number 90092

Cc Impact Assessment Agency of Canada
Atomic Energy of Canada Limited
Canadian Nuclear Laboratories \
Canadian Nuclear Safety Commission

Minister Dabrusin,

The final dismantling of the most radioactive portions of the Gentilly-1 nuclear reactor, proposed by the licensee Canadian Nuclear Laboratories (CNL), will mark the first time that a CANDU power reactor has ever been fully decommissioned – that is, demolished.

This project is not designated for a full panel review under the Impact Assessment Act (IAA) but you, Minister Dabrusin, have the power to so designate it under the terms of the Act.

The Canadian Coalition for Nuclear Responsibility urges you to do so for the reasons stated below.

(1) When it comes to post-fission radioactivity (human made), the long-lived radioactive decommissioning waste from the core area of a nuclear reactor is second only in radiotoxicity and longevity to the high-level radioactive waste (irradiated nuclear fuel) that has already been designated for a full panel review under IAA at the initiative of NWMO, the Nuclear Waste Management Organization. The deadline for initial comments on the NWMO Deep Geological Repository project (DGR) for used nuclear fuel was yesterday, February 4, 2026. [Our comments: www.ccnr.org/GE_IAAC_NWMO_comments_2026.pdf]

(2) Fully dismantling a nuclear reactor core is a demanding and hazardous undertaking, resulting in voluminous intermediate level radioactive wastes. The highly radioactive steel and concrete structures – fuel channels, calandria tubes, tube sheet, thermal shield, calandria vessel, biological shield, reactor vault, and more – need to be carefully disassembled, using robotic equipment and perhaps underwater cutting techniques with plasma torches. Such methods are described in a 1984 article published by the Canadian Nuclear Society and linked below, on the detailed advanced methods required for dismantling Gentilly-1.

*Gentilly-1 Reactor Dismantling Proposal, by Hubert S. Vogt
Reactor and Fuel Handling Engineering Department
Atomic Energy of Canada Limited - CANDU Operation
Published by the Canadian Nuclear Society in the
Proceedings of the 5th Annual Congress
www.ccnr.org/CNS_G-1_1984.pdf*

(3) Dismantling the reactor core will create large amounts of radioactive dust and debris some of which will almost certainly be disseminated into the atmosphere, or flushed into the nearby St. Lawrence River, or added to the existing contamination of the soil and subsoil (including groundwater) at the Gentilly site. It is worth noting that, during the Bruce refurbishment operations in 2009, [over 500 workers – local tradesmen, mainly – suffered bodily contamination](#) by inhaling radioactive airborne dust containing plutonium and other alpha emitters (i.e. americium) for a period of more than two weeks. The workers were told that respirators were not required. The radioactivity in the air went undetected for two and a half weeks because neither Bruce managers nor CNSC officers on site took the precaution to have the air sampled and tested.

(4) Once disassembled, the bulky and highly radioactive structural components of Gentilly-1 will have to be reduced in volume by cutting, grinding or blasting. Radioactive dust control and radioactive runoff prevention may be only partially effective. Then the multitudinous radioactive fragments must be packaged, and either (a) stored on site or (b) removed and transported over public roads and bridges, probably to Chalk River. The Chalk River site is already overburdened with high-level, intermediate-level, and low-level radioactive wastes of almost all imaginable varieties. Toxic waste dumping at Chalk River is contrary to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the federal government's "duty to consult", since Keboawek First Nation and other Indigenous rights-holders in the area have not given their free, prior, informed consent to either the storage or disposal of these toxic wastes on their unceded territory. A panel review could weigh the options of temporary on-site storage versus immediate relocation. Since there is as yet no final destination for intermediate level wastes, moving those wastes two or three times rather than once (when a final destination exists) will be costlier and riskier. Hence on-site storage is attractive.

(5) The decommissioning waste must be isolated from the environment of living things for thousands of years. The metallic fragments contain such long-lived radioactive species as nickel-59, with a 76,000 year half-life, and niobium-94, with a 20,000 year half-life. The concrete fragments also contain long-lived radioactive species like chlorine-36, with a 301,000 year half-life. Such radioactive waste materials are created during the fission process; they were never found in nature before 1940. NWMO has recommended that such intermediate-level decommissioning waste requires a Deep Underground Repository (DGR) not unlike that proposed for used nuclear fuel. CCNR believes that it is only logical and entirely responsible to call for a panel review of this, the first full decommissioning project for a nuclear power reactor in Canada. The lessons learned will have important ramifications for all of Canada's power reactors as they will all have to be dismantled at some time. This is not "business as usual".

(6) Demolition of buildings is often a messy business, but demolition of a nuclear reactor core is further complicated by the fact that everything is so highly radioactive, therefore posing a long-term threat to the health and safety of humans and the environment. A panel review by the Assessment Agency is surely the least we can do in the public interest.

(7) To the best of our understanding, Canadian Nuclear Laboratories (CNL) is a private contractor managed by an American-led consortium of multinational corporations, whose work is paid for by Canadian taxpayers through the transfer of billions of dollars to CNL from Atomic Energy of Canada Limited, a crown corporation wholly owned by the Canadian government. As CNL is a contractor, paid to do a job by AECL, CCNR does not feel assured that the best interests of Quebec or of Canada will automatically be fully served by CNL, as it is not accountable to the electorate. When the job involves demolishing, segmenting, fragmenting, packaging and transporting dangerous radioactive materials, involving persistent radiological toxins, we feel that a thorough public review by means of a comprehensive impact assessment, coupled with the involvement and oversight of accountable federal and provincial public agencies is required to ensure that the radioactive inventory is verified and documented, that no corners are cut and no presumptions go unchallenged.

The International Atomic Energy Agency strongly advises that before any reactor decommissioning work is done, there has to be a very precise and accurate characterisation of the radioactive inventory – all radionuclides accounted for, all becquerel counts recorded, and all relevant physical/chemical/biological properties carefully noted. We have seen no such documentation, but we believe it is essential to make such documentation publicly available before final decommissioning work begins, and to preserve such records for future generations so that they can inform themselves about the radioactive legacy we are leaving them. A panel review could help to ensure that we do not bequeath a radioactive legacy that is devoid of useful information, a perfect recipe for amnesia.

(8) The Canadian Coalition for Nuclear Responsibility (CCNR) is federally incorporated as a not-for-profit organization, whose official name in French is le Regroupement pour la surveillance du nucléaire (RSN). CCNR/RSN is a member of le Regroupement des organismes environnementaux en énergie (ROEEÉ). The ROEEÉ has also filed comments on this dossier, linked below, with 10 recommendations. We endorse the ROEEÉ submission and all of its recommendations. The ROEEÉ submission is en français www.ccnr.org/IAAC_ROEE_G1_2026.pdf and here is a link to an English translation www.ccnr.org/IAAC_ROEE_G1_e_2026.pdf.

Yours very truly,

Gordon Edwards.

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Canadian Coalition for Nuclear Responsibility