PREVENT CANCER NOW

February 4, 2026

Submission Regarding:

Preliminary Proposal for a Deep Geological Repository (DGR) for Canada's Used Nuclear Fuel

BACKGROUND:

Building on knowledge that led to the atomic bombs that ended World War II, Canada has benefited from electricity generated from the heat of nuclear reactors, since the early 1960s. As existing reactors age and require repairs, Canada's electricity generation by nuclear facilities fell 15% from 2016 to 2024 (https://www.statcan.gc.ca/o1/en/plus/8487-nuclear-energy-canada-past-present-and-future).

Even as nuclear electricity generation falls, the hazardous, radioactive waste fuel bundles accumulate. Used fuel is cooled in pools until radioactivity decreases to the extent that bundles will not over-heat in open air, whereupon the bundles are placed in temporary dry storage close to the reactor site. Now, long term storage at a remote site is being sought. The present preliminary consultation has pre-determined the site in question, but many issues are unclear, and resolution uncertain.

Nuclear waste remains highly toxic (both chemically and radiologically) for many generations, as nuclear decay creates further radioactive elements including gas (e.g., radon and air-borne daughters). The radioactivity, pressure, as well as chemical corrosion further stress containers, which are at risk of eventually being breached. Release of substantial quantities of toxic materials into the repository space and the environment—into the air, water and soil—risks local biospheres as well as life downstream and downwind. The proposal lacks contemplation and discussion of these eventualities. When release occurs underground, will a deep geological repository isolate the waste from the biosphere, essentially forever? This cannot be guaranteed, particularly with abrupt changes (e.g., rupture). As well, if and when technologies evolve to benefit from further use of this waste, these will be thwarted if the waste is sealed away. The solution is to maintain access to the waste, and maintain integrity of packaging and isolation. This places a considerable burden of work, risk and responsibility on future generations.

VOLUME—THE SCALE OF THE PROBLEM

The volume of Canada's nuclear fuel waste requiring isolation from the biosphere *in perpetuity* was reported to be about 500,000 m^3 in 2023 (https://www.aecl.ca/wp-content/uploads/2025/06/AECL-Waste-Inventory-for-2023.pdf). With plans for further nuclear power plants—large and small—this volume will increase, and growth could accelerate.

Ontario and New Brunswick have ongoing nuclear power generation, as well as plans to build more commercial reactors. Quebec and Manitoba have shut down theirs, and all these provinces host defunct reactors. Today, large reactors and novel "small modular" reactors are proposed for multiple uses, from powering communities to tar sands development, in New Brunswick, Ontario, Saskatchewan and Alberta. Permanent storage for waste from present day decommissioning, apart from fuel, would probably go to less remote facilities such as Chalk River on the shores of the Ottawa River, where Indigenous nations' legal challenges and flooding during extreme weather (https://preventcancernow.ca/nuclear-waste-storage-undermined-by-climate-change/) are among multiple concerns.

FEASIBILITY

TRANSPORTATION:

After more than 60 years of nuclear reactor waste accumulating, used fuel bundles—the most hazardous waste—is proposed to be transported in three seasons, including along two-lane public roads in remote regions, to a permanent deep geological repository in northern Ontario. Risks include accidents and delayed emergency response. Transportation requires high quality roads, deep thought and detailed safety measures.

PLAN FOR A PLAN

The plan at present leaves much to be determined, including basic feasibility and long-term resilience. A few examples include:

- How could transportation safety be ensured along remote public roads, over great distances, in extreme weather with the changing climate?

- Will the waste be forever entombed, or will it be retrievable? Over time, fuel bundles will eventually degrade/erode and evade containment. As well, might future technologies might enable further energy extraction from nuclear wastes rather than mining more uranium?

- Will the storage space be kept dry, or allowed to flood? Pumping presents the need for maintenance and disposing of contaminated water. Water would increase rates of corrosion, risking release of waste from storage containers and creation of a highly toxic source of potential groundwater contamination.

Our position is that **nuclear waste requires rolling stewardship.** It is not responsible, nor consistent with reconciliation, to abandon nuclear waste deeply, in a remote area on unceded territory.

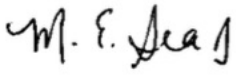
CONSENT

An extensive collection of letters and resolutions from Indigenous groups and local governments in the region and along transportation routes (e.g., https://nuclear-waste-canada.weebly.com/nuclear-waste-resolutions.html) expressly state lack of consent to nuclear waste transportation through their jurisdictions, and/or storage of nuclear waste in areas they inhabit and from which they harvest necessities. In New Brunswick, the CEDAR report (https://cedar-project.org/indigenous/) of Indigenous views on nuclear energy and waste found that in pursuit of the government's long-term strategic objective to ensure that "nuclear energy remains a strategic asset to Canada now and into the future," the government is not willing to respect Indigenous rights and accept the opposition to nuclear projects by Indigenous rights-holders.

NEED FOR NUCLEAR POWER

We appreciate that the federal government is turning its attention to the long-standing, important issue of nuclear waste. Given today's lower-cost, rapidly deployable renewable sources of electricity, further nuclear expansion is too expensive, too risky, and with uncertain, long lead times it would be too late to address emerging energy needs. Readily deployable wind and solar power, along with efficiency, should be central to Canada's energy future.

Respectfully submitted,



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