To the Impact Assessment Agency of Canada

Re: The Deep Geological Repository for Canada's Used Nuclear Fuel Project (88774)

Draft Integrated Tailored Impact Statement Guidelines

Thank you for the opportunity to comment on the Nuclear Waste Management Organization's (NWMO) draft Integrated Tailored Impact Statement Guidelines of the Deep Geological repository (DGR) for Canada's Used Nuclear Fuel Project.

It was good news when on March 23, 2026, the Impact Assessment Agency of Canada decided that more assessment of the NWMO's DGR for Canada's Used Nuclear Fuel Project was required. There are many complex technical, security, economic and environmental justice issues. This project has impacts for hundreds of thousands of years into the future. A thorough Impact Assessment is the best way for thorough review and for public awareness and participation.

I have made comments pertaining to a few of the numbered sections in the draft Integrated Tailored Impact Statement Guidelines (the draft guidelines).

2.3.2 Need for the Project

The draft guidelines state that,

> "The Impact Statement must describe the underlying opportunity or issue that the project intends to seize or solve from the perspective of the proponent, such as demand for a resource or support for a federal or provincial government objective, provide a rationale that the project is a warranted response, and consider the perspectives of Indigenous Peoples, the public and other participants."

On page v of the Initial Project Description, the NWMO states that the project will also support nuclear energy and contribute to Canada's Net-Zero goals.

> "By safely containing and isolating used nuclear fuel, it also supports the continued role of nuclear energy as a reliable, low-carbon source of power and contributes directly to Canada's climate change commitments and goal of achieving net-zero emissions."

There is no mention of contributing to Canada's 20/30 climate commitments. No mention is made of the year 2050, which is the year that Canada has committed to achieving Net-Zero Emissions.

> "The *Canadian Net-Zero Emissions Accountability Act* enshrines in legislation the Government of Canada's commitment to achieve net-zero greenhouse gas emissions by 2050, and provides a framework of accountability and transparency to deliver on it." (Canadian Net-Zero Emissions Accountability Act - Canada.ca

The purpose of the Nuclear Waste Management Organization is to manage used nuclear fuel (nuclear waste). The decisions need to be made without consideration of support for nuclear energy. Ontario Power Generation has plans for new nuclear power plants which are supported if a permanent management solution is chosen. Safety is subjective and the risk which is accepted by the nuclear industry may not be the same as that accepted by the public.

The role of nuclear energy in contributing to Canada's climate change commitments and achieving net-zero by 2050 is debatable. Many energy experts argue that new nuclear power plants take too long to come online to meet 2050 net-zero goals and that renewable energy and storage can be more rapidly deployed at a lower cost with less emissions.

Recommendation: Evidence is provided that shows how the project contributes to Canada Net-Zero emissions by 2050 (as stated in the Canadian Net-Zero Emissions Accountability Act).

2.3.3 Alternatives to the Project

Currently the draft guidelines state that no alternatives will be examined.

There have been a number of changes since "Choosing a Way Forward" including research developments and recognition of Indigenous rights.

For example:

- research shows many uncertainties with current methods of geological disposal,
- other storage methods are being researched,
- Indigenous rights and consent are recognized by the United Nations Declaration on the Rights of Indigenous Peoples.

Recommendation: The public interest is best served by examining the impacts of alternatives.

2.3.4 Alternative means of carrying out the Project

The draft guidelines state that the "potential for the used nuclear fuel to be retrieved in the future" will be addressed.

There is no further description of retrieval in the guidelines. It is a key aspect of Adaptive Phased Management (ADM). Retrievability is clearly stated in Choosing a Way Forward as key part of APM. It was part of the announcement in 2007 by Minister Lunn, "This is a safe, long-term approach. APM will ensure the used nuclear fuel is monitored and retrievable."

The guidelines should include how the fuel will remain retrievable in the event of failure or if emerging technologies offer a better solution.

4. Assessment Methodology

Currently the draft guidelines state:

- in **section 10. Planning for transportation** that “transportation activities related to this project include increased traffic to the project during site preparation and construction as well as the transport of used nuclear fuel to the repository during the operation phase of the project.
- and in **Section 4** that “temporal boundaries for the assessment should consider, where applicable, the total time frame of the project, which is nominally one million years (with a pre-closure phase that includes site preparation, construction, operation and decommissioning, lasting a few hundred years, and a post-closure phase that lasts one million years)…”

Transportation was a key part of the Adaptive Phased Management. On Page 2 of the 2020 NWMO document *Moving forward together: An invitation to review a draft planning framework for the transportation of used nuclear fuel*, the NWMO states that,

> “This used fuel transportation program is part of Adaptive Phased Management (APM), Canada’s plan for the safe, long-term management of used nuclear fuel.

The guidelines should be clear that all impacts of the project be examined for the complete geographical extent (including the transportation from the nuclear power plants) of the project and the complete time frame of the project which has been stated by the IAAC as 1,000,000 years. An analysis of all impacts should not be deferred for any later dates.

The following are just a few of the details that the impact assessment should include.

- The public needs to be aware of all of the risks and uncertainties. Numerous scientific articles outline the uncertainties of geological disposal. For example:
  > “The uniqueness of the Canadian spent nuclear fuel disposal container design requires a detailed understanding of the copper corrosion processes that could occur in deep geological repositories. This review

aimed to identify knowledge gaps surrounding impacts of changing conditions and the evolution of corrosion processes as conditions change from moist/cool, through warm/dry, to cool/ fully saturated. This review indicates that early, unsaturated corrosion, and compounding influences of previous corrosion are understudied."
(Nature Publishing Group Materials Degradation, (2024) 8:124)

- Monitoring methods and mitigation strategies should be clearly described for the pre for the post-closure periods. For example, how will it be known if the site fails in 500 years or 1000 years? Or if the site is unintentionally accessed.

- Methods of how to avoid future intrusions need to be assessed.

- In addition to technical concerns there are of cumulative economic and social impacts over time to communities in the repository area and to communities along the potential transportation routes. There is much appreciation for the water and wildlife. There is significant opposition to this project.

- Communities far from the facility and along the transportation route are not being asked if they wish to accept the risk. Should the project proceed, future generations have been forced to undertake the risk.

- All negative impacts will be further compounded with potential additional nuclear fuel waste disposal sites.

It is in the public interest that all potential impacts over the entire geographic area and over the entire timeline of this project are thoroughly assessed during this impact assessment and not deferred to later dates. This allows for full awareness of the consequences and risks of the project.

Concluding Remarks

For decades governments and the nuclear industry have not adequately addressed the highly radioactive used nuclear fuel issue. Highly radioactive fuel continued to be produced despite concerns raised by the public for many years. The current plans to build more nuclear power plants will produce additional highly radioactive nuclear waste.

Canada has contributed significantly to the body of scientific knowledge of nuclear power generation. Canada could contribute more to the understanding and managing of nuclear waste and find a better solution. Geological disposal has been referred to by Edwin Lyman, director of nuclear power safety at the Union of Concerned Scientists as “the least bad option”. We should do better.

A thorough impact assessment will review all of the impacts and allow for meaningful public participation.

Sincerely,

Kerstin Muth