



NUCLEAR WASTE MANAGEMENT ORGANIZATION  
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

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Impact Assessment Agency of Canada  
Bruce C Nuclear Project Registry

### **NWMO Submission to IAAC for Bruce C Nuclear Project IPD Public Comment Period**

This written submission by the Nuclear Waste Management Organization (NWMO) is in response to the August 12, 2024, Public Comments Invited by the Impact Assessment Agency of Canada (IAAC) on the Bruce C Nuclear Project summary of the Initial Project Description and proposed project. The purpose of this submission is to provide information on the role of the NWMO with respect to Canada's used nuclear fuel, including policy decisions that have been previously made by government; Canada's sustainable, secure and affordable energy targets; and the robust regulatory framework governing the transportation of radioactive materials in Canada.

### **Role of the NWMO in Canada with respect to the Bruce C Nuclear Project**

In 2002, the Government of Canada enacted the *Nuclear Fuel Waste Act* (NFWA). Pursuant to that Act, the NWMO was created by the current owners of the nuclear fuel waste in Canada and was given the mandate to first develop and then implement a plan for the long-term management of Canada's used nuclear fuel. The NWMO studied a number of approaches, with extensive public and Indigenous input, and submitted its Final Study and recommendation of Adaptive Phased Management in November 2005. The recommendation was accepted by the Government of Canada in June 2007.

Adaptive Phased Management emerged from a three-year dialogue and engagement with Canadians and Indigenous peoples. The approach is flexible and can adapt to a number of future used fuel scenarios in Canada, including the introduction of new nuclear power generation technologies in Canada.

The NWMO is obliged under the *Nuclear Fuel Waste Act* to offer its services, without discrimination and at a fee that is reasonable in relation to its costs of managing the nuclear fuel used fuel to all owners of nuclear fuel waste produced in Canada. Nuclear fuel waste includes the irradiated fuel removed from any commercial or research nuclear fission reactor in Canada, including SMRs and new and emerging technologies.

Further, in 2020, as part of the Government of Canada's Radioactive Waste Policy Review, the NWMO was asked by Natural Resources Canada to lend our technical and public engagement expertise to the development on an Integrated Strategy for Radioactive Waste. On October 5, 2023, the Minister of Energy and Natural Resources Canada endorsed the recommendations put forward by the NWMO for the Integrated Strategy on Radioactive Waste. This strategy closed previous gaps with regards to some low-, intermediate- and non-fuel high-level wastes. This strategy also confirms that policy decisions for all of Canada's radioactive waste have already been made by the Government of Canada and do not need to be revisited. The NWMO is now responsible for the long-term management and disposal for both intermediate and high level (including used fuel) waste in Canada. The NWMO is developing a siting process to address this expanded mandate.

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By the end of 2024, the NWMO is expected to select a site for a deep geological repository for Canada's used nuclear fuel, with a willing host municipality and First Nation. . Both sites being considered for Canada's used nuclear fuel repository have, from a geological perspective, the capacity for expansion and we are confident that both could house the used fuel from existing reactors and from announced new nuclear projects. Placement of the waste is technically feasible in either location.

However, to maintain flexibility, the NWMO is also exploring the potential to include future used fuel from small modular reactors (SMRs) and other new nuclear in the same repository that we will use to manage the intermediate-level waste and non-fuel high-level waste.

The outcome of the NWMO's current siting process for Canada's used nuclear fuel and the subsequent regulatory decision-making process is independent of the Bruce C Nuclear Project's regulatory process, as Canada's Policy for Radioactive Waste, the *Nuclear Fuel Waste Act* and the NWMO's mandate remains in place regardless of the outcome of any of these processes.

Deep geological repositories remain the technology of choice in all countries with advanced nuclear power programs for a variety of types of used nuclear fuel and is expected to also be suitable for intermediate-level waste and the used fuel arising from new nuclear power generation. The radiological containment provided by the NWMO's deep geological repository will ensure that the public and the environment are protected. The NWMO would identify as part of its program the adaptations that would be needed to safely emplace additional used nuclear fuel in a repository and would need regulatory approval prior to implementation.

### **Canada's sustainable, secure, and affordable energy demands**

In its 2023 budget, the Government of Canada forecasted that demand for electricity will double between now and 2050. To meet this increased demand, in a sustainable, secure and affordable way, our electricity capacity must increase by approximately three times current levels. The Government of Canada has also introduced measures to "help get nuclear projects built in a timely, predictable, and responsible fashion." For many years Canada has been a leader in nuclear technology, exporting reactor systems developed in Canada as well as a high proportion of the world's supply of radioisotopes used in medical diagnosis and cancer therapy. Nuclear power offers a reliable baseload power source contributing to sustainable economic growth, and improved human welfare. The Government of Canada has been clear that nuclear energy will play an essential role in decarbonization and allowing Canada to achieve its goal of carbon neutrality by 2050.

### **Transportation of Radioactive Materials in Canada**

The NWMO concurs that the transportation of radioactive materials (including nuclear waste) using existing infrastructure should be considered outside the IA scope for the Bruce C Nuclear Project and all other nuclear projects. With respect to transportation of radioactive materials, the transportation will need to meet the stringent requirements of the existing regulatory framework that has been jointly developed by Transport Canada and the Canadian Nuclear Safety Commission before transportation can be undertaken. Impacts resulting from the radiological component of radioactive material (including nuclear waste) are already assessed through the existing regulatory framework. The CNSC regulates the transport of used nuclear fuel through a series of safety and security regulatory requirements covering the entire journey of a shipment, from the time it is initially packaged to its arrival at the final destination.

Including the transportation of radioactive material in the integrated impact assessment is duplicative of other Government of Canada legislation and processes. As any assessment would be based on compliance with the stringent regulatory requirements that are in place today under which packages are designed to

withstand normal and accident conditions of transport and to prevent the release of radioactive material in the environment under those conditions, it is not anticipated that transportation of radioactive materials would result in any adverse impact and thus an assessment of this topic is not required as part of an Impact Assessment.

Thank you for the opportunity to provide comments in this matter,

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