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Oral presentation

Written submission from the Nuclear Waste Management Organization

In the Matter of the

Ontario Power Generation Inc.

Application for a licence to construct one BWRX-300 reactor at the Darlington New Nuclear Project Site (DNNP)

Commission Public Hearing
Part-2

January 8, 2024

Exposé oral

Mémoire de la Société de gestion des déchets nucléaires

À l'égard d'

Ontario Power Generation Inc.

Demande visant à construire 1 réacteur BWRX-300 sur le site du projet de nouvelle centrale nucléaire de Darlington (PNCND)

Audience publique de la Commission
Partie-2

8 janvier 2024

Canada

NUCLEAR WASTE MANAGEMENT ORGANIZATION
SOCIÉTÉ DE GESTION DES DÉCHETS NUCLÉAIRES

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NWMO-REG-00531-0236

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Intervention in the matter of OPG's application for a Licence to Construct for the Darlington New Nuclear Project

The purpose of this letter is to support the application by Ontario Power Generation (OPG) for a Licence to Construct (LTC) one 300-megawatt BWRX-300 small modular reactor (SMR) at the Darlington Nuclear site.

In 2002, the Government of Canada enacted the *Nuclear Fuel Waste Act*. Pursuant to that Act, the Nuclear Waste Management Organization (NWMO) was created by the current owners of the nuclear fuel waste in Canada, including OPG, 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 is obliged by the *Nuclear Fuel Waste Act* to offer its services, without discrimination and at a fee that is reasonable in relation to it costs of managing the nuclear used fuel to all owners of nuclear fuel waste produced in Canada, which includes the irradiated fuel bundles removed from any commercial or research nuclear fission reactor in Canada. The NWMO previously provided an intervention on OPG's application during the hearing focused specifically on the applicability of the original environmental assessment (EA) of OPG's selected reactor technology – GE Hitachi's (GEH) BWRX-300 (CMD 24-H2.31) and reiterates the support provided in that intervention. The NWMO continues to offer its services to the small modular reactor proponents, including General Electric Hitachi and OPG for the BWRX-300, to establish the long-term waste management program required for the deployment of their specific technology.

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. We are grateful that the two municipalities with whom we are working both chose to say they were willing to continue. This confirms that the approach selected by the Government of Canada can result in the ability to select a site for Canada's used fuel.

The NWMO is also exploring how to address intermediate-level waste and non-fuel high-level waste. The NWMO received the mandate for intermediate-level and non-fuel high-level radioactive waste following the Minister of Energy and Natural Resources' acceptance of Canada's Integrated Strategy for Radioactive Waste on October 5, 2023. The NWMO is developing a consent-based siting process for a deep geological repository to address this expanded mandate.

While both remaining sites in the site selection process for Canada's used nuclear fuel repository have the capacity for expansion and could safely house the used fuel that would result from the Darlington New

Nuclear Project, provided the host communities are willing, we are also exploring the potential to include it in the 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 OPG DNNP'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. For new reactors that proceed into construction and operations, 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.

In summary, the NWMO remains responsible for the long-term management of Canada's used nuclear fuel, which would include the used fuel from the Darlington BWRX-300 SMR at the Darlington Nuclear Site.

Thank you for the opportunity to provide further comments in this matter, the NWMO is also available to provide comments orally during licence to construct hearing.

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