

October 15, 2024

CD# NK38-CORR-00531-25747 P

Ms. C. Salmon
Commission Registrar
Canadian Nuclear Safety Commission
P.O. Box 1046
280 Slater Street
Ottawa, Ontario, K1P 5S9

Dear Ms. C. Salmon:

Darlington NGS – Update to Application for Amendment to Darlington NGS Power Reactor Operating Licence 13.03/2025 for Additional Isotope Production

The purpose of this letter is to submit to the Canadian Nuclear Safety Commission an update to the information provided in the *Application for Amendment to the Darlington NGS Power Reactor Operating Licence (PROL) 13.03/2025 for Additional Isotope Production* (Reference 1). This submission is pursuant to Section 24(2) of the Nuclear Safety and Control Act and Section 6 of the General Nuclear Safety and Control Regulations. The update to the information provided in the licence amendment application is regarding the management of empty target shell waste from Lutetium-177 (Lu-177).

OPG applied for an amendment to the Darlington NGS PROL to authorize the production of the medical isotopes Lu-177 and Yttrium-90 (Y-90) using the Target Delivery System (TDS) installed on Unit 2 (Reference 1). OPG currently uses the Unit 2 TDS to irradiate target capsules to produce the medical isotope Molybdenum-99 (Mo-99) and is seeking to expand its irradiation capacity to include these additional isotopes.

Section 2.11.1 of Reference 1 states that the empty Lu-177 target shells will be sent back to OPG once the isotope source material is removed at an external third-party site. As the empty target shells are considered low level waste, Section 2.11.1 states they will be stored at the Western Waste Management Facility (WWMF).

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Section 1.9 of Reference 1 states that BWXT-Medical in Kanata, Ontario, a CNSC-licensed facility, will be responsible for the transportation and processing of the irradiated Lu-177 targets. As a result of a new commercial agreement, BWXT-Medical will also manage the empty Lu-177 target shells under its waste management program. Therefore, OPG no longer plans to send the waste Lu-177 target shells to the WWMF.

This new development only applies to Section 2.11.1 of Reference 1 and does not impact the conclusions, or any other information, provided in the licence amendment application.

Should you require any further information, please contact Ms. Aditi Bhardwaj, Senior Manager, Darlington Regulatory Affairs, at 289-387-2110.

Sincerely,



Allan Grace
Senior Vice President
Darlington Nuclear
Ontario Power Generation Inc.

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References: 1. OPG letter, A. Grace to D. Saumure, “Darlington NGS – Application for Amendment to the Darlington NGS Power Reactor Operating Licence 13.03/2025 for Additional Isotope Production”, February 26, 2024. CD# NK38-CORR-00531-25141.

Summary of Regulatory Commitments, Regulatory Obligations and Regulatory Management Actions Made/Concurrence Requested

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Submission Title: **Darlington NGS – Update to Application for Amendment to Darlington NGS Operating Licence 13.03/2025 for Additional Isotope Production**

Regulatory Commitments (REGC):

No.	Description	Date to be Completed
	None.	

Regulatory Management Action (REGM):

No.	Description	Date to be Completed
	None.	

Regulatory Obligation Action (REGO):

No.	Description	Date to be Completed
	None.	

Concurrence Requested: None