



**CMD 25-H107.1**

Date: 2025-12-15

**Response to Commission  
Request for Information**

**Réponse à une demande  
d'information de la Commission**

**Written Submission from  
Ontario Power Generation Inc.**

**Mémoire d'  
Ontario Power Generation Inc.**

In the matter of

À l'égard d'

**Ontario Power Generation Inc.**

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Application to install and operate a  
medical isotope target delivery system on  
additional units at the Darlington Nuclear  
Generating Station

**Ontario Power Generation Inc.**

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Demande visant à installer et à exploiter  
un système d'irradiation de cibles pour la  
production d'isotopes médicaux sur  
d'autres tranches à la centrale nucléaire de  
Darlington

**Hearing in Writing**

**Audience par écrit**

December, 2025

Décembre 2025

OPG Proprietary

December 15, 2025

CD# NK38-CORR-00531-26543 P

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

Dear Ms. Salmon:

**Darlington NGS – OPG Response to Commission Panel Member’s Question –  
Supplemental CMD 25-H107.1 - OPG Target Delivery Systems on DNGS Unit 3**

The purpose of this letter is to provide OPG’s response to the CNSC inquiry, contributing to the deliberation on supplemental CMD 25-H107.1 and OPG specific Indigenous engagement activities during OPG’s Target Delivery Systems (TDS) for Darlington NGS Unit 3 and in accordance with Licence Condition G.7 *Indigenous Engagement* within Power Reactor Operating Licence (PROL) 13.00/2045.

Attachment 1 provides a table regarding Isotope engagement log within several Indigenous communities, between January 2025 and December 2025.

Indigenous Relations at OPG has confirmed that engagement on TDS for Darlington NGS Unit 3 was carried out as outlined in Attachment 1 of this submission. The table indicates discussions with various Nations and Communities during this application period. The Williams Treaties First Nations and the Algonquins of Pikwakanagan expressed particular interest in isotopes, as reflected in the table and the disposition of related queries.

OPG will maintain ongoing engagement on isotope-related topics with all Indigenous Nations and Communities.

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Should you have any questions please contact Ms. Aditi Bhardwaj, Senior Manager, Regulatory Affairs at 289-387-2110 or at [aditi.bhardwaj@opg.com](mailto:aditi.bhardwaj@opg.com).

Sincerely,

A handwritten signature in black ink, appearing to read 'Aditi Bhardwaj', with a stylized flourish underneath.

Aditi Bhardwaj  
Senior Manager, Regulatory Affairs  
Darlington Nuclear  
Ontario Power Generation Inc.

Attach.

cc: CNSC Site Supervisor - Darlington  
[forms-formulaires@cnscccsn.gc.ca](mailto:forms-formulaires@cnscccsn.gc.ca)

## **ATTACHMENT 1**

OPG letter, A. Bhardwaj to C. Salmon, "Darlington NGS – OPG Response to Commission Panel Member's Question – Supplemental CMD 25-H107.1 - OPG Target Delivery Systems on DNGS Unit 3"

CD# NK38-CORR-00531-26543

**Isotope Engagement Log January 2025—December 2025**

**Added to this submission by:      Kenn Ross**

ATTACHMENT 1

Isotope Engagement Log January 2025—December 2025

Date	Community	Activity	Discussion Topics	Additional Information	Issues Raised
January 16, 2025	Mississaugas of Scugog Island FN Curve Lake FN Hiawatha FN Alderville FN Rama FN Beausoleil FN Georgina Island FN Kawartha Nishnawbe Six Nations of the Grand River Mohawks of the Bay of Quinte Metis Nation of Ontario	Email	TDS Unit 3 DNGS Notification Letter	Offer to meet and provide overview.	MSIFN requested update on commercial opportunities and LEP's RAP.
January 16, 2025	Kawartha Nishnawbe	Email	Reply email to TDS Notification Letter.	Requested presentation on TDS when available.	N/A
January 17, 2025	Six Nations of the Grand River	Email	Reply email to TDS Notification Letter.	Have sufficient information; no requirement for a presentation.	Had received previous presentation on isotopes.
January 22, 2025	AOPFN	Email	Disposition table provided to AOPFN as per December 9 request.	AOPFN using table to inform CNSC intervention re: BWXT Medical.	AOPFN mainly concerned about waste; this is a BWXT Medical issue.
January 24, 2025	MNO 8	Email	Exchange regarding OPG/LEP isotope presentation to MNO 8.	OPG meetings with MNO on a Q basis on a variety of topics.	Seeking a general overview.
January 29, 2025	MNO 8	Email	MNO 8 offered several dates to receive an isotope overview from OPG/LEP.	N/A	N/A
February 5, 2025	MNO 8	Email	Advised by MNO 8 that due to MNO 8 elections the presentation will need to take place in April at the earliest. Email acknowledged.	N/A	
February 7, 2025	Algonquins of Pikwakanagan First Nation	Email	Document received from AOPFN with three key requests.	AOPFN seeking an engagement relationship of isotopes with OPG.	Waste, transportation, respecting FPIC, among others.  OPG/LEP to formulate response.
February 10, 2025	Algonquins of Pikwakanagan First Nation	Email	Acknowledged receipt of document from AOPFN.	N/A	Waste, transportation, respecting FPIC, among others.  OPG/LEP to formulate response.
February 14, 2025	Kawartha Nishnawbe	Email	Update email to KNFN.	Advised presentation materials nearing completion and an SME will be assigned. Proposed likelihood of a March meeting.	N/A
March 2025	Mississaugas of Scugog Island First Nation	Review of intervention.	N/A	Focus of intervention largely on relationship with CNSC on isotope subject matter.	-Reviewed PERA to confirm enviro impacts are within assessed limits. -Reviewed regulatory hold points. -Advocated for MSIFN role over approval process.

Date	Community	Activity	Discussion Topics	Additional Information	Issues Raised
March 2025	Curve Lake First Nation	Review of intervention.	N/A	Offered meeting with LEP as was done for MSIFN to develop relationship on March 14, 2025.  Provided CLFN with hospital location to access isotope treatments in an email on May 12, 2025.	-Advocated for CLFN role in decision making on licensing. -CLFN would like to see greater community engagement on the topic of isotopes with its citizen members. -Access to isotopes a concern: for example, where are isotopes medicine regimes available? Are any proximate to CLFN. -Desire for more detailed information on isotopes and their production..
March 2025	Algonquins of Pikwakanagan First Nation	Review of intervention.	N/A	See log entries for February 7, March 4, April 22, May 23 and July 10.  Overall, AOPFN wishes to know the various roles played by OPG, LEP and BWXT medical (who does what) and an offer to meet to discuss same has been made and follow-up.	AOPFN noted several key request: -Overview of routes and plans for the transfer of radiological material from Darlington NGS into and through AOPFN territory. -An outline of how OPG and BWXT will work together to manage the transport of material and waste in AOPFN territory. -A delineation of which party is responsible for transportation and storage of radiological waste materials. -How the responsible parties will engage with AOPFN in planning for, monitoring of, and decisions around transport, storage and disposal of radiological waste. -Whether waste will be stored and/or disposed of at BWXT's facility in AOPFN territory and if so under what conditions and locations. -What role OPG and BWXT are committed to providing to AOPFN's Neyagada Wabandangaki Guardian Program in the monitoring of the radiological materials and their associated waste products.
March 5, 2025	Kawartha Nishnawbe	Email	Update email to KNFN.	N/A	Outreach to confirm presentation on TDS 3 on March 17, 2:00 PM.
March 5, 2025	Algonquins of Pikwakanagan First Nation	Email	Update email to AOPFN contact Amanda Two-Axe Kohoko.	Meeting on March 4 of OPG/LEP/BWXT to co-ordinate response and next steps.	Advised contact that OPG/LEP/BWXT had met and a communication response to their concerns/questions would be forthcoming.
March 6, 2025	Mississaugas of Scugog Island First Nation	Virtual meeting.	LEP, lines of business and RAP within LEP; how to further relationship.	MSIFN recently joined Isotope Council.  Dev Corp runs the consultation dept, seeks investments and owns Voyageur, a construction company.	Meeting was informational with the offer by LEP to follow-up.  MSIFN interested in potential equity in LEP isotopes if/when feasible.
March 10, 2025	Mississaugas of Scugog Island FN	Email	TDS 3 Notification Letter follow-up.	Offer to meet and present on subject.	N/A

Date	Community	Activity	Discussion Topics	Additional Information	Issues Raised
	Curve Lake FN Hiawatha FN Alderville FN Rama FN Georgina Island FN Beausoleil FN				
March 10, 2025	Mohawks of the Bay of Quinte	Email	TDS 3 Notification Letter follow-up.	Offer to meet and present on subject.	N/A
March 10, 2025	Metis Nation of Ontario Region 8	Email	Check in re: new day/time for isotope presentation.	N/A	Initial delay due to MNO 8 elections.
March 14, 2025	Metis Nation of Ontario Region 8	Email	Check in re: new day/time for isotope presentation.	N/A	Energy contact still did not have a firm time frame to share: see above.
March 14, 2025	Curve Lake FN	Email	Licence amendment in written TDS Unit 3 intervention by CLFN.	N/A	Offer to meet regarding issues raised in intervention.
March 17, 2025	Kawartha Nishnawbe	Virtual Meeting	Overview of TDS Unit 3 license amendment.	Post-meeting, OPG Cobalt 60 video shared with Councillor Nodin Webb.	There was a question regarding uses of isotopes other than those described in the PPT, e.g., used of tritium for He3 and OPG's history with Cobalt 60.  The KN Councillor noted that their questions usually concern enviro impacts and archaeology, which were not germane in this instance.
April 22, 2025	<ul style="list-style-type: none"> <li>Chippewas of Rama First Nation</li> </ul>	Email	TDS 3 Notification Letter follow-up.	Request for TDS 3 presentation.	Email acknowledged. To follow-up with proposed dates for May.
May 12, 2025	<ul style="list-style-type: none"> <li>Chippewas of Rama First Nation</li> </ul>	Hybrid meeting.	TDS Unit 3 Licensing	<p>There was discussion on the definition of heavy water and its usage.</p> <p>Roles of the various isotopes for diagnostic or treatment purposes noted, along with target irradiation schedules (on average 7 days) and transportation.</p> <p>Reviewed which First Nations had intervened via CNSC on the license.</p>	<p>Offer made to provide a follow-up on SMR status re: email sent to Chief and Council on May 7.</p> <p>Cobalt 60 YouTube video went as reference. Listing of Ontario hospitals with nuclear medicine capability also provided.</p>
May 23, 2025	<ul style="list-style-type: none"> <li>Algonquins of Pikwakanagan First Nation</li> </ul>	Email	Update email to AOPFN contact Amanda Two-Axe Kohoko.	Offer of meeting between OPG, LEP and BWXT to discuss roles of each firm in isotope production, transport and waste management.	Provided copy of memo from BWXT to support offer.
July 10, 2025	<ul style="list-style-type: none"> <li>Algonquins of Pikwakanagan First Nation</li> </ul>	Email	Follow-up on above.	As above.	As above.
August 2025	<ul style="list-style-type: none"> <li>Internal</li> </ul>	Various meetings/emails between project principals.	Preparation on follow-up with Nations/communities of TDS as per CNSC queries.	OPG/LEP to provide PERA for review/ comment/meetings as desired by Nations/communities.	Outreach week of Sept 1 with requested reply TCD of October 31, 2025.
September 4, 2025	<ul style="list-style-type: none"> <li>Mississiaugas of Scugog Island FN</li> </ul>	Email	PERA related to TDS shared with Nations/communities for	.Required follow-up.	Pending replies.

Date	Community	Activity	Discussion Topics	Additional Information	Issues Raised
	<ul style="list-style-type: none"><li>Curve Lake FN</li><li>Hiawatha FN</li><li>Alderville FN</li><li>Rama FN</li><li>Beausoleil FN</li><li>Georgina Island FN</li><li>Kawartha Nishnawbe</li><li>Six Nations of the Grand River</li><li>Mohawks of the Bay of Quinte</li><li>Metis Nation of Ontario</li><li>Algonquins of Pikwaknagan FN</li></ul>		review/comment by October 31, 2025		
September 19, 2025	<ul style="list-style-type: none"><li>Curve Lake First Nation</li></ul>	Email	CLFN query upon review/comment: Was there a specific reason a pollinator wasn't included as a receptor, given their ecological importance and unique exposure pathways?	N/A	OPG/LEP to provide disposition table on issues raised.
October 6, 2025	<ul style="list-style-type: none"><li>Curve Lake First Nation</li></ul>	Email	Response to CLFN query: Was there a specific reason a pollinator wasn't included as a receptor, given their ecological importance and unique exposure pathways?	In predictive risk assessments, surrogate species or surrogate endpoints are often applied to ensure the assessment is both protective and scientifically defensible when direct data or models are not available. The use of surrogates is a standard and necessary practice in risk assessment as it is rarely feasible to have studied and collected toxicity, exposure, and ecological response data for all species, pathways, and endpoints. Surrogates are selected to be conservative or representative, such that risk estimates are not underestimated and remain protective of human and ecological health. This is the approach taken in the DNGS Unit 3 TDS PERA, where exposure to pollinators is conservatively represented by surrogate receptors. Specifically, earthworms are selected as the most conservatively-represented terrestrial invertebrate due to their continuous soil contact and higher exposure to soil-borne contaminants. Soils are expected to have higher concentrations of	OPG acknowledges that pollinators, such as bees, are ecologically important receptors with unique exposure pathways. Many of these pathways are captured in ERAs and PERAs using surrogate receptors such as terrestrial invertebrates and plants, which serve as conservative proxies for evaluating risks associated with habitat quality, food sources, and contaminant uptake.  Currently, there are no data or models available that specifically identify how chemicals of concern transfer to pollinators. If these data/models become available in the future, a more explicit assessment of pollen- and nectar-based exposures can be considered in future Environmental Risk Assessments (ERAs) and Predictive Environmental Assessments (PERAs), complementing the conservative surrogate approach currently applied.



Date	Community	Activity	Discussion Topics	Additional Information	Issues Raised
				chemicals of concern than air. Many bee species (e.g., species at risk like, American Bumble Bee, and Yellow-banded Bumble Bee, bees in the Andrenidae, Halictidae, Colletidae, and Apidae families) nest and overwinter underground. In addition, life stages of other pollinators species, like moths and butterflies, also spend time in soil. Therefore, earthworms were considered a conservative surrogate for bees and other pollinators due to their greater soil contact and continuous exposure to soil-borne contaminants.	
October 8, 2025	<ul style="list-style-type: none"><li>Alderville First Nation</li></ul>	Email	Review/comments received on TDS PERA DNGS Unit 3.	Issues included: potential for contaminants, presence of tritium, ERA review cycle updates, source of weather data, dose coefficient used for various animal species (differentiation), emission controls.	OPG/LEP to provide disposition table on issues raised.
October 31, 2025	<ul style="list-style-type: none"><li>Alderville First Nation</li></ul>	Email	Review/comments received on TDS PERA DNGS Unit 3.	Disposition table on queries provided to AFN consultation contact.	

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

**CD# NK38-CORR-00531-26543 P**

**Submission Title:**     **Darlington NGS – OPG Response to Commission Panel Member’s  
Question – Supplemental CMD 25-H107.1 - OPG Target Delivery  
Systems on DNGS Unit 3**

**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.