



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada

Darlington Nuclear Generating Station 2025 Licence Renewal Application Review



CNSC Staff
Presentation

Commission Hearing
Part 2

June 24-26, 2025

CMD 25-H2.D

E-doc #7501164 (pptx)

E-doc #7533377 (pdf)



Acknowledgement

The CNSC acknowledges that the Darlington Nuclear Generating Station is located within the lands and waters of the **Michi Saagiig Anishinaabeg**, the **Gunshot Treaty (1787-88)**, the **Williams Treaties (1923)**, and the **Williams Treaties Settlement Agreement (2018)**.



- Consultation and Engagement
- Information requested by the Commission
- Responses to Key Intervention Themes
- Conclusions and Recommendations
- Annex A - Errata



CONSULTATION AND ENGAGEMENT

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United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)

The CNSC is committed to supporting the Government of Canada's whole-of-government approach to implementing UNDRIP through the United Nations Declaration Act (UNDA), 2021, and the 2023-2028 UNDA Action Plan, where it intersects with the CNSC's mandate.

The principle of Free, Prior and Informed Consent (FPIC) is an integral aspect of UNDA that is reflected in the *2023-2028 UNDA Action Plan*.

The CNSC's approach to consultation and engagement with Indigenous peoples is mindful of and consistent with the principles articulated in UNDA.

CNSC staff engage and collaborate with Indigenous Nations to understand and address their concerns, including those related to their consent position for a given nuclear project or licence application that may impact their rights and interests.

CNSC provides funding through the Participant Funding Program (PFP) and the Indigenous and Stakeholder Capacity Fund (ISCF) to support meaningful participation in Commission proceedings and ongoing regulatory work in order to help inform the Commission's decision-making process.



Indigenous Nations and Communities

The following Indigenous Nations and communities have Indigenous and/or Treaty Rights where DNGS is located:

Williams Treaties First Nations

- Alderville First Nation (AFN)
- Chippewas of Beausoleil First Nation (CBFN)
- Chippewas of Georgina Island First Nation (CGIFN)
- Chippewas of Rama First Nation (CRFN)
- Curve Lake First Nation (CLFN)
- Hiawatha First Nation (HFN)
- Mississaugas of Scugog Island First Nation (MSIFN)

The following Indigenous Nations and communities have expressed an interest in the DNGS:

- Métis Nation of Ontario (MNO)
- Mississaugas of the Credit First Nation (MCFN)
- Mohawks of the Bay of Quinte (MBQ)
- Saugeen Ojibway Nation (SON)
- Six Nations of the Grand River (SNGS)



CNSC staff undertook the following activities:

- A [Notice of Public Hearing](#) was issued on March 18, 2024; and sent to all identified Indigenous Nations and communities
- Project notification letters sent on July 3, 2024; and included information on the Commission proceeding and the Participant Funding Program opportunity
- Discussed and engaged on OPG's licence renewal application in regular meetings
- Project-specific presentations and meetings with AFN, HFN, CLFN, MCFN, MSIFN, SON
- Formally responding to issues raised
- Shared CNSC Staff's Darlington Nuclear Site Environmental Protection Review Report for review and comment
- Collaboration on DNGS environmental monitoring activities, including the review of the sampling plan and participation in sampling



CNSC staff undertook the following activities :

- Focused discussions with AFN, CLFN, HFN, MSIFN, and the SON on the proposed Indigenous engagement LC G.7 and draft CVC
- Follow up e-mails in October 2024 and May 2025 to all other Indigenous Nations and communities
- Opportunities to review and provide feedback on CNSC Staff documents
- Provision of additional funding to help facilitate the Michi Saagiig Nations' participation in engagement activities and the Part 2 hearing

CNSC staff continue to share information and provide opportunities for engagement with all interested Indigenous Nations and communities.



Key Concerns Raised by Indigenous Nations and Communities:

- Licence duration (including proper oversight, OPG engagement, and ability to voice concerns, requests for mid-term reviews)
- Waste management
- Reliance on Western processes
- Capacity for participation
- Participation in Part 1 Hearing
- Implementation of UNDRIP, including FPIC
- Analysis on the Duty to Consult and Accommodate
- Scoping of Rights-bearing and interested Nations



CNSC Staff Efforts to Address Concerns:

- Hosting workshops and discussions to find potential paths forward on concerns
- Presenting and discussing engagement content and topics only during the Part-2 Hearing
- Formally responding to questions and requests
- Reflecting Indigenous views in CNSC staff's CMD
- Opportunities to review and give feedback on CNSC Staff documents
- Communicating nations' concerns to OPG
- Support for decennial DNGS specific reviews and updates to the Commission with interventions from Indigenous Nations
- Proposing a LC for ongoing Indigenous engagement

The CNSC has heard these concerns and worked collaboratively to address them



CNSC staff propose:

Site-specific Licence Condition G.7

- Require OPG to continue engaging with Indigenous Nations and communities throughout the licensing period
- Uphold the commitments outlined in its application
- Report to the CNSC annually on engagement

The proposed LC and draft CVC was discussed:

- Individually with CLFN, HFN, MSIFN and the SON in March, April and May
- In collective meetings with all the Michi Saagiig Nations April 11 and May 15, 2025

This LC would ensure ongoing oversight and accountability regarding OPG's engagement efforts.



Participant Funding

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- [Notice of Public Hearing](#) was posted on the CNSC website, distributed to subscribers, and advertised in print and digital media
- Through its' PFP, the CNSC awarded:
 - **\$143,719 to 8 recipients**
 - An additional **\$212,995 to the 4 Michi Saagiig Nations**
- CNSC conducted outreach activities in local communities near Darlington NGS



CNSC staff presenting in Oshawa. *Source: CNSC*

CNSC Staff keep Indigenous Nations and communities and the public informed through continuous outreach



LICENCE PERIOD

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CNSC staff assessment of the request for a 30-year licence period:

- The Nuclear Safety and Control Act does not prescribe any period for a nuclear facility licence duration
- Applicant demonstrated enduring commitment to safe operation and continuous improvement
- International benchmarking indicates practices of issuing licences of longer, and sometimes unlimited, duration

Long licence duration is a common practice internationally and proven to be safe



CNSC staff assessment of the request for a 30-year licence period:

- CNSC's mature and agile regulatory oversight allows for effective compliance verification and enforcement regardless of licence period
- CNSC is committed to maintain engagement and consultation with Indigenous Nations and communities and the public
- Multiple opportunities exist for Commission interaction and engagement, such as status updates, licence amendments, significant event reporting

**CNSC's modern regulatory framework
ensures consistent oversight of licensed activities**



INFORMATION REQUESTED BY COMMISSION

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Periodic Safety Review (PSR)

The Commission requested additional information on the Periodic Safety Review process

A PSR involves an assessment of the state of the plant and its performance to evaluate conformance to modern codes, standards and practices, and to identify any factors that would limit safe long-term operation

The conduct of a PSR is a requirement that can be aligned with licence renewals and form part of the licensing basis for a regulated facility

PSR outcomes demonstrate that the licensee will implement safety improvement over the course of operation

OPG's Darlington PSR basis document and Integrated Implementation Plan (IIP) were reviewed and accepted by CNSC staff



RESPONSES TO INTERVENTIONS

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Assessment of climate change impacts on safety

- **Existing processes of cyclical assessments and reviews** – Periodic Safety review (10 years), Probabilistic Safety Assessment (5 years), Environmental Risk Assessment (5 years)
- **CNSC staff review** these submissions and assess if climate change was appropriately taken into consideration
- **Memorandum of Understanding** with Environment and Climate Change Canada, leveraging their expertise
- CNSC staff requested OPG conduct a **climate change resiliency assessment**, which OPG will submit in February 2027 for CNSC staff review

Existing
processes
ensure
consideration
of climate
change
impacts



Decommissioning and Long-Term Waste Management Plan

- Current decommissioning plan was submitted in 2022 and covers the period of 2023-2027.
- It includes projected shutdown dates for each reactor at the Darlington NGS, which reflect life extension following refurbishment.
- After the end of operation, used fuel will be removed from the facility and placed in a long-term storage facility (such as the Deep Geologic Repository).
- The Nuclear Waste Management Organization will be responsible for long-term management of intermediate and high-level waste once a long-term storage solution is prepared.

Details of long-term waste management
to be provided in decommissioning plans



Refurbishment

- In 2015, the Darlington license was amended to allow for OPG to proceed with refurbishment activities.
- During the licence period, CNSC staff conducted 43 compliance verification activities related to CH&S (3 Type II and 40 field inspections).
- CNSC staff evaluated the Conventional Health and Safety program and reviewed events. All findings of non-compliance were of negligible or low safety significance, with the exception of one medium finding in 2016.
- Responding to experience, OPG has implemented and completed several corrective actions.
- CNSC has a memorandum of understanding with the Ministry of Labour, Immigration, Training and Skill Development

No lost time
injuries at
Darlington
NGS since
2018



Planning Zones

- **Emergency Management Ontario** is responsible for determining the size of *Emergency Planning Zones*, including *Ingestion Planning Zones*
- Response planning is detailed in the **Provincial Nuclear Emergency Response Plan (PNERP)**
- Evacuation time estimates are based on current census data and future population growth projections on a per-decade basis until the end of life of the facility
- **REGDOC-2.10.1 Nuclear Emergency Preparedness and Response** is aligned with IAEA Safety Standards

An IAEA Emergency Preparedness Review mission concluded that Canada has a well-developed and mature emergency response system in place across all levels of government



Events at Tritium Removal Facility

During the current licensing period, no weekly derived release limits, or DRL, have been exceeded.

- **Action level exceedance for week ending September 4, 2023:**
Within the weekly derived release limits (31.9%)
- **Action level exceedance for week ending January 29, 2024:**
Within the weekly derived release limits (0.38%)

DRL are calculated such that releases will not result in exceeding the annual dose limit to the public. Action levels serve as an early warning to indicate a possible loss of control, are well below DRL and require reporting to the CNSC.

Releases have been below weekly Derived Release Limits



CONCLUSIONS AND RECOMMENDATIONS

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CNSC staff propose the Commission:

- Accept OPG's proposed licence length of 30 years
- Introduce a new licence conditions for OPG to conduct ongoing Indigenous engagement activities

CNSC staff support OPG's proposal, developed in consultation with Indigenous Nations and communities, for decennial reviews during the licence period



CNSC staff propose that the Commission:

- **Conclude**, pursuant to paragraphs 24(4)(a) and (b) of the NSCA, that OPG:
 - i. Is qualified to carry on the activities authorized by the licence
 - ii. Will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed
- **Renew** the licence to operate, as provided in Part 2 of CMD 25-H2, which would authorize OPG to continue to operate the Darlington NGS until November 30, 2055.
- **Delegate the authority** to CNSC staff as set out in section 5.6 of CMD 25-H2



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- Various minor errors are listed in **Annex A** of this presentation
- Inaccuracies are administrative in nature and **do not impact** CNSC staff's conclusions on safety performance at the sites
- **This presentation reflects the corrected information**



Annex A – Errata to CNSC staff CMD 25-H2

- The compliance rating for Conventional Health and Safety in 2016 was SA, not FS