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Supplementary Information

Written Submission from the Radiation Safety Institute of Canada

In the matter of

Ontario Power Generation

Application to refurbish Pickering Nuclear
Generating Station and to renew licences
for the Pickering Nuclear Generating
Station and Waste Management Facility

Commission Public Hearing Part 2

October 2026

Renseignements supplémentaires

Mémoire d'Institut de radioprotection du Canada

À l'égard de

Ontario Power Generation

Demande concernant la réfection de la
centrale nucléaire de Pickering et le
renouvellement de ses permis pour la
centrale et l'installation de gestion des
déchets

Audience publique de la Commission Partie 2

Octobre 2026



Supplemental Submission to Original Review of Ontario Power Generation's (OPG's) Application to Renew its CNSC Licence for the Pickering Nuclear Generating Station and Pickering Waste Facility

for

Canadian Nuclear Safety Commission
(Reference: Form number: *PFP 2025 PIC01*)

by

Radiation Safety Institute of Canada



**Radiation Safety
Institute of Canada**
Institut de radioprotection du Canada

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Submitted to:

*Participant Funding Program administrator
Canadian Nuclear Safety Commission
P.O Box 1046, Station B
280 Slater Street
Ottawa, ON K1P 5S9
Tel: 1-800-668-5284*

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1 Introduction

1.1 About the Radiation Safety Institute of Canada

Founded in 1980, the Radiation Safety Institute of Canada (RSIC) is an independent, national organization dedicated to promoting and advancing radiation safety in the workplace, in the environment, and in the community. Our commitment to the principle of “good science in plain language”® underpins everything we do. The Radiation Safety Institute of Canada is incorporated under federal statute as a not-for-profit corporation and is also a registered charity (number: 106861511RR001).

The Radiation Safety Institute of Canada offers a broad range of educational, technical, and scientific services to businesses, government organizations, health care providers, communities, and individuals across Canada and around the world. The Institute is known for the high quality and scientific integrity of its work, and the practical and helpful assistance of its staff. The Institute’s independent information service receives hundreds of calls and e-mails every year, for information and assistance on workplace radiation questions.

1.2 Project

The *Radiation Safety Institute of Canada* (Institute) applied for and is to receive funding through CNSC’s Participant Funding Program (PFP 2025 PIC01). This funding is intended to assist in the review of *Ontario Power Generation’s* (OPG’s) application and associated documents, including CNSC and OPG Commission Member Documents and comment on RSIC’s areas of interest related to the refurbishment of the Pickering Nuclear Generating Station (Pickering NGS), and licence renewal for the Pickering NGS and Pickering Waste Management Facility (Pickering WMF).

This document summarizes the review of newly available material to supplement RSIC’s initial review, previously submitted.

2 Review of Additional Documentation Obtained after RSIC’s initial review

Note that RSIC had not realized the deadline had been extended when its original review was submitted. The Institute downloaded the following files (including additional files not previously available) from the related CNSC website (<https://www.cnscccsn.gc.ca/eng/the->

[commission/hearings/cmd/](#)) on 21 May 2026:

June 23, 2026 public hearing

Published on May 19, 2026

- [CNSC Staff's Review - Ontario Power Generation's Request for Confidentiality in relation to the Application to Refurbish the Pickering Nuclear Generating Station and Renew its Pickering Nuclear Generating Station and Waste Management Facility Licences](#) (PDF, 1 page, 116 KB)
- [CMD 26-H7.1 - Submission from Ontario Power Generation](#) (PDF, 394 pages, 7.1 MB)
- [CMD 26-H7 - Submission from CNSC Staff](#) (PDF, 1143 pages, 59.8 MB)

Published on March 9, 2026

- [Ontario Power Generation - Supplementary information to the Application: Update on Indigenous Engagement Activities](#) (PDF, 10 pages, 271 KB)

Published on January 22, 2026

- [Revised Notice of Public Hearing and Participant Funding - OPG's Application to refurbish the Pickering Nuclear Generating Station and renew its Pickering Nuclear Generating Station and Waste Management Facility Licences](#) (PDF, 5 pages, 112 KB)

Published on August 5, 2025

- [Ontario Power Generation - Application to renew Pickering Nuclear Generating Station Power Reactor Operating Licence and Pickering Waste Facility Operating Licence](#) (PDF, 354 pages, 8.27 MB)

Published on July 21, 2025

- [Notice of Public Hearing and Participant Funding - OPG's Application to refurbish the Pickering Nuclear Generating Station and renew its Pickering Nuclear Generating Station and Waste Management Facility Licences](#) (PDF, 4 pages, 112 KB)

3 Risk Analysis: Refurbishment of Pickering NGS Units 5–8

CMD 26-H7, “Submission from CNSC Staff” (uploaded 19 May 2026) and OPG's CMD 26-H7.1 are the main inputs to this supplemental review. They are discussed in sequence below.

3.1 Review of CMD 26-H7 CNSC Staff Submission

CMD 26-H7 is a Canadian Nuclear Safety Commission (CNSC) staff submission for Ontario Power Generation's (OPG) application to refurbish and continue operating Pickering Nuclear Generating Station (NGS) Units 5–8, renewing their licence through December 31, 2036. The document identifies risks but also assesses OPG's mitigation measures. CNSC staff ultimately concluded the risks are manageable and recommended approval, contingent on the duty to consult with Indigenous Nations being fulfilled.

3.1.1 Radiation Risks to the Public

The document reports that maximum annual effective doses to members of the public from the Pickering site ranged from only 1.2 to 2.0 μSv per year between 2020 and 2024, well below a regulatory limit of 1,000 $\mu\text{Sv}/\text{year}$. CNSC staff's independent environmental monitoring (sampling air, water, soil, sediment, and food in the vicinity of the site in 2021 and 2025) confirmed these results.

OPG's Predictive Environmental Risk Assessment (PERA) modelled the full refurbishment and continued operations period and found the highest predicted radiation dose to a member of the public would be 1.24 $\mu\text{Sv}/\text{year}$, concluding that no adverse health effects are anticipated.

Radiological effluent releases to air and water have been maintained well below derived release limits (DRLs) throughout the current licence period.

Of note: The refurbishment will involve handling and removing irradiated reactor components (e.g., fuel channels, feeders, steam generators), which increases radiological exposure risk for workers. OPG plans to use lessons learned from the Darlington NGS refurbishment, mock-up

training, and existing dose management programs. CNSC staff indicated they will verify these controls through on-site inspectors.

3.1.2 Radiation Risks to Workers

No worker received a radiation dose exceeding regulatory limits during the current licence period. Average annual worker doses ranged from 1.4–2.4 mSv at the NGS and 0.4–0.8 mSv at the Waste Management Facility (WMF), both well below the 50 mSv/year regulatory limit.

Two action-level exceedances for internal tritium intake occurred during the licence period, but doses in both cases remained well below the regulatory limit, and corrective actions were implemented.

Of note: Refurbishment will create changing hazard conditions across the site, including higher neutron dose rates from irradiated components and increased conventional hazards (e.g., falls, heavy equipment), as expected with findings from the Darlington refurbishment. OPG is developing a health and safety integration plan to manage these risks.

3.1.3 Environmental Risks — Aquatic Environment (Lake Ontario)

This is one of the more prominent environmental risk areas identified in the document. The proposed Deep-Water Intake (DWI) will be a 1.5 km tunnel into Lake Ontario. This will disturb lakebed sediments and displace aquatic habitat during construction. The PERA confirmed this as an anticipated adverse effect.

Specific concerns include:

- Loss of aquatic habitat from DWI construction
- Sediment disturbance during tunnelling
- Fish impingement risks during the transition period before DWI is operational

OPG must obtain a Fisheries Act Authorization (FAA) from Fisheries and Oceans Canada (DFO) before any in-water work begins and will be required to implement fish habitat compensation measures to offset habitat loss. CNSC staff and DFO are jointly reviewing the environmental plans. Once operational the DWI is expected to *reduce* fish impingement and entrainment compared to the current surface water intake.

3.1.4 Environmental Risks — Groundwater

Groundwater is sampled at over 100 monitoring wells across the Pickering site. The PERA and OPG's own groundwater monitoring concluded that radiological and non-radiological contaminants of potential concern remain low, with no adverse effects on groundwater quantity or quality and no anticipated impacts from refurbishment activities.

3.1.5 Environmental Risks — Air Quality and Noise

The PERA noted the possibility of individual exceedances of air quality and noise guidelines during construction activities related to the refurbishment and DWI construction. These are typical of large construction projects. OPG committed to additional monitoring and mitigation measures to address this. CNSC staff considered the approach adequate.

3.1.6 Radioactive Waste Risks

Refurbishment will generate significantly increased volumes of radioactive waste. This will be primarily low- and intermediate-level waste (LLW and ILW) from replaced reactor components (fuel channels, feeders, steam generators). These components have no approved permanent disposal destination nationally (Canada's long-term radioactive waste repository is still in development).

OPG is constructing the Pickering Component Storage Structure (PCSS) to store this waste on-site in the interim. This was authorized by the CNSC in July 2025. This is an on-site solution pending a long-term national strategy.

Used nuclear fuel continues to be stored in dry storage containers (DSCs) at the Pickering WMF. Storage building #5 is being expanded from 1,200 to 1,410 DSCs. CNSC staff found this expansion acceptable.

3.1.7 Accident and Emergency Risks

The document identifies several accident-related risks and safeguards:

- **Severe accidents** (beyond design basis): OPG has a severe accident management program, including severe accident management guidelines and emergency operating procedures. A Level 2 probabilistic safety assessment (PSA) is required to be updated before the restart of units.
- **Serious process failures:** A licence condition requires Commission approval before restarting a reactor after any event that caused or could have caused significant fuel damage or a significant release (defined as a release resulting in a dose exceeding 0.5 mSv to a typical member of the critical group).
- **Return-to-service risks:** CNSC staff have established four regulatory hold points for each unit (i.e., before fuel load, before leaving guaranteed shutdown state, before exceeding 1% full power, and before exceeding 65% full power) requiring sign-off before progression.

The refurbishment period itself (all units shut down 2027–2030) reduces operational accident risk but increases construction and radiological work risks.

3.1.8 Climate Change Risks

CNSC staff requested OPG to assess the Pickering NGS's resilience to climate change in 2024. OPG submitted its assessment in April 2025 and concluded that current nuclear safety analyses remain valid and that the station is prepared for projected extreme weather events. Routine monitoring is expected to detect climate-related changes before they impact safety.

Of note: a more detailed climate change risk assessment is due to CNSC staff in January 2028, indicating this work is ongoing. Specific climate concerns relevant to a Lake Ontario site include lake level fluctuations, increased summer water temperatures (relevant to cooling), and ice and flooding hazards.

3.1.9 Indigenous Rights and Community Risks

The document is explicit that CNSC staff found the proposed DWI construction may have potential impacts to potential or established Aboriginal and/or treaty rights of Indigenous Nations and communities.

CNSC staff formally determined that the *Duty to Consult* applies and made CNSC approval of the licence contingent on that duty being fulfilled. As of the original proposed hearing date (June 23, 2026), consultations will be ongoing with several First Nations. Rights Impact Assessments (RIAs) are still being completed and will be submitted before Part 2 of the hearing.

3.1.10 Security Risks

The document addresses nuclear security as a Safety and Control Area (SCA) in section 6.12 and confirms satisfactory performance ratings. By their nature, specific security measures and vulnerabilities are not disclosed in this public document.

3.1.11 Key Points from CNSC Staff Submission

CNSC staff's overall conclusion is that OPG's programs provide adequate protection for the public and environment, and they recommended approval. The most substantive challenges at the time of the RSIC's review are: (1) the outcome of Indigenous consultation, particularly regarding the DWI; (2) the long-term management of refurbishment waste in the absence of a national repository; and (3) the ongoing climate change resilience work; (4) the aquatic habitat impacts from DWI construction are acknowledged as real but considered manageable with regulatory conditions.

3.2 Review of OPG's CMD 26-H7.1

Document: CMD 26-H7.1, Ontario Power Generation written submission to the CNSC, dated May 15, 2026 (394 pages)

Scope of the application: Renewal and consolidation of the Power Reactor Operating Licence (PROL) and Waste Facility Operating Licence (WFOL) for the Pickering Nuclear Generating

Station (Units 1–8) and the Pickering Waste Management Facility (PWMF). The application covers concurrent refurbishment of Units 5–8 (for an additional 30+ years of operation), decommissioning of the already-shutdown Units 1–4, and continued dry-storage of used nuclear fuel on-site.

3.2.1 Overall Characterisation

This is a technically detailed submission that follows CNSC regulatory document requirements across all 14 Safety and Control Areas (SCAs). OPG presents a picture of strong historical performance: public doses consistently below 1% of the 1 mSv/year regulatory limit, no reportable spills at the PWMF during the current licence period, and top-quartile conventional safety awards. However, the document also acknowledges several risks and unresolved items that warrant scrutiny by the Commission and intervenors.

3.2.2 Risks to the Public

3.2.2.1 Radiological Dose During Normal Operations

OPG reports that the annual dose to the public from Pickering NGS and PWMF has consistently remained below 1% of the regulatory public dose limit (1,000 μ Sv/year). The document's own Predictive Environmental Risk Assessment (PERA) estimates the dose to a conservative "Harvester" receptor (i.e., an Indigenous person living near the site and consuming traditional foods) at 1.24 μ Sv/year (0.12% of the limit).

Of note: The PERA is described as preliminary (Rev 0 submitted June 2025, Rev 1 in preparation). Comments from Curve Lake First Nation were received only in May 2026 and OPG states it "remains committed to addressing these comments." The Commission should satisfy itself that the PERA is sufficiently mature before granting a licence to refurbish.

3.2.2.2 Accident Risk and Probabilistic Safety Assessment (PSA)

The document acknowledges that the Pickering NGS PSAs were last fully updated in 2022/2023. OPG states it will not perform a full-scope, REGDOC-2.4.2-compliant PSA update until the end of 2032, which is *after* Units 5, 6, and 7 have already been restarted post-refurbishment. The 2029 interim update covers only Unit 5.

Of note: This means Units 6 and 7 will restart under a PSA model that does not fully reflect their post-refurbishment configuration. While OPG argues the 2029 model conservatively captures the configuration, this is a gap. Refurbishment introduces significant plant modifications (new fuel channels, feeders, boilers, digital instrumentation, enhanced moderator/emergency

cooling systems), all of which should ideally be captured in PSA models *before* restart. The CNSC accepted this phased schedule, but it represents residual uncertainty in the quantified accident risk profile during early post-refurbishment operation.

3.2.2.3 Emergency Preparedness and Planning

OPG references its Consolidated Nuclear Emergency Plan and states it conducts regular exercises. The Detailed Planning Zone for emergency preparedness is noted as meeting CNSC requirements. The Pickering site is surrounded by one of the most densely populated areas adjacent to any nuclear plant in Canada (the Durham Region, with Scarborough/Toronto to the west).

Of note: The document does not explicitly discuss this proximity as a risk amplifier, nor does it discuss how emergency response planning scales to the simultaneous operation of refurbishment construction, active Units 5–8 operation, and Units 1–4 decommissioning. This creates three distinct risk profiles active on the same site at the same time.

3.2.2.4 Deep Water Intake (DWI) Construction

OPG proposes installing a new deep-water intake from Lake Ontario during the refurbishment period. The document is explicit that detailed engineering design is still ongoing, costs are uncertain, and "if these challenges cannot be resolved within acceptable technical and financial parameters," OPG may fall back to the existing surface intake. The DWI construction requires tunnelling under the lakebed, potential shoreline modification, and spoils management. These will all occur adjacent to Lake Ontario, the drinking water source for millions of people.

Of note: The document acknowledges possible disturbance of previously undisturbed lakebed, potential impacts to fish habitat and shoreline, and the possible presence of marine archaeological resources. The spoils management plan has not yet been developed. Indigenous Nations flagged concern about this work affecting asserted treaty rights.

3.2.3 Risks to Workers

3.2.3.1 Radiological Dose During Refurbishment

Refurbishment of CANDU reactor internals (particularly fuel channel and feeder replacement (the "retube")) is one of the most radiologically intensive activities in the nuclear industry. This involves working near activated and contaminated components. The document describes robust ALARA programs, dose constraints, and the development of new tooling (including

robotic systems) to reduce exposure. OPG references its experience from Darlington NGS refurbishment as the template.

Of note: The document does not provide projected collective dose estimates for the Pickering Units 5–8 refurbishment. For comparison, the Darlington refurbishment has involved substantial collective doses to workers. Given that Pickering involves four units rather than Darlington's four units being done in sequence with one already complete, and that Pickering's reactors are of an older design with different geometries, the scale of occupational exposure deserves explicit quantification in public filings.

3.2.3.2 *Conventional Safety for Construction Workers*

Refurbishment will involve thousands of EPC (Engineering, Procurement, Construction) contractor workers on-site, many unfamiliar with the nuclear environment. The document states that contractors are assessed through OPG's audit process and placed on an approved suppliers list, and that conventional safety responsibility rests with the contractor as "Constructor." OPG retains radiation protection oversight.

Of note: The split responsibility model (contractor owns conventional safety; OPG owns RP) can create oversight gaps at complex nuclear construction projects. The document acknowledges Pickering NGS was challenged with two "Significant Event and Frequency" deviations above target in 2022. Scaling up to a multi-thousand-person refurbishment workforce substantially increases the probability of serious conventional injuries. The document does not quantify this risk or describe specific augmented oversight mechanisms for the refurbishment construction phase.

3.2.3.3 *Simultaneous Decommissioning and Refurbishment*

The co-location of active decommissioning (Units 1–4) and refurbishment construction (Units 5–8), with Units 6, 7, and 8 still operating for some period, creates complex interaction risks. OPG states interface agreements will be in place, but the document's discussion of how the multiple concurrent workforces, hazards, and radiation zones will be managed and kept separated is relatively high-level.

3.2.3.4 *Tritium Exposure*

The document notes two historical action-level exceedances for internal dose (one tritium-related), after which the tritium monitoring program was revised. Heavy water containing tritium will be extensively managed during the refurbishment. This work includes draining

moderators and heat transport systems and storing or shipping heavy water to Darlington. The heavy water management plan is described as “in development”.

Of note: Airborne tritium (HTO) is the primary internal dose pathway for nuclear workers. The large-scale heavy water handling during retube activities elevates this risk. The document provides program descriptions but no quantitative projections for tritium air concentrations or anticipated internal doses during refurbishment outages.

3.2.4 Risks to the Environment

3.2.4.1 *Radioactive Effluents to Lake Ontario*

Derived Release Limits (DRLs) are established for airborne and waterborne releases. The document states actual releases are a small fraction of the tritium release limit. Effluent monitoring complies with CSA N288.5-22.

Of note: It is not clear whether refurbishment itself, particularly the draining and processing of large volumes of tritiated heavy water, and the decontamination of activated components, will cause any temporary increases in waterborne or airborne tritium releases above historical operational levels. This should be addressed.

3.2.4.2 *Aquatic Impacts — Fish Impingement and Thermal Discharge*

The surface water intake currently causes fish impingement, and the document acknowledges this as one of the drivers for the DWI project. Figure 29 of the document shows annual cumulative fish biomass impingement data. The proposed DWI would reduce impingement, but until it is built (and its construction itself may disturb fish habitat), the existing surface intake impacts continue.

Of note: The DWI construction plan is unfinished, costs are uncertain, and OPG explicitly allows for the possibility of not building it. Lake Ontario aquatic impacts from the surface intake are therefore likely to persist for much or all of the next licence period.

3.2.4.3 *Groundwater*

The document states that tritium concentrations in site-perimeter monitoring wells have been "stable and within historical ranges," with groundwater generally flowing toward Lake Ontario. No off-site adverse impacts are claimed.

Of note: The document provides no absolute tritium concentration numbers for groundwater samples, making it impossible for the public or Commission to independently assess whether

"within historical ranges" means at trace levels or at elevated but sub-limit concentrations. Transparency here would strengthen public confidence.

3.2.5 Long-Term Radioactive Waste

This is a significant concern in the application. Refurbishment of Units 5–8 will generate large quantities of radioactive waste:

- **High-level waste (used nuclear fuel):** OPG continues to accumulate used fuel in dry storage containers at the PWMF on-site. A fifth used fuel dry storage building (SB5) is planned. This existing fuel in storage, plus fuel from many years of post refurbishment operation, will remain in interim storage at Pickering until the NWMO's deep geological repository (DGR) is operational which is currently projected for the mid-2040s.
- **Intermediate-level waste (ILW):** The retube generates large volumes of activated reactor internals (fuel channels, feeders, calandria tubes, pressure tubes). This ILW requires geological disposal; the NWMO's ILW DGR is expected no earlier than 2050. Again, this waste will reside in on-site interim storage.
- **Damaged/defective fuel:** The document acknowledges that approximately 2% of the fuel bundles in the irradiated fuel bays (IFBs) are damaged or defective and cannot be loaded directly into standard DSCs. A conditioning program (canning) is still in preliminary design; transfer to dry storage is not expected until approximately 2034.

Of note: The document presents these interim storage arrangements as safe and within regulatory requirements. The evidence supports that conclusion for the *near term*. However, the Commission should be explicit in its decision that approving refurbishment and extending operation by 30+ years substantially increases the total inventory of radioactive material that will need to be managed on-site for an extended period without a confirmed permanent disposal pathway in operation. The DGR site selection was announced in November 2024 and is encouraging. The gap between waste generation and permanent disposal poses a risk.

3.2.6 Climate Change

OPG's Climate Change Resilience Assessment concludes there are "no immediate impacts to nuclear safety" from projected climate change over the operating period. The document notes that climate projections indicate potential exceedances of operating limits would be "gradual" rather than sudden, and that existing PSAs already consider extreme weather scenarios.

Of note: A plant licensed to operate into the 2060s should be assessed against climate projections through that timeframe, not just the next decade. Lake Ontario surface temperatures and the frequency of extreme weather events are both projected to increase

substantially by mid-century. The document's acknowledgment that this assessment is reviewed on a five-year cycle is appropriate, but the Commission should ensure this commitment is embedded as a licence condition.

3.2.7 Cross-Cutting Observations

Concurrent complexity: The simultaneous execution of refurbishment, decommissioning, and continued operation on a single site, at scale, is unprecedented in Canada. The Darlington refurbishment involved one unit at a time. Pickering proposes to refurbish four units in an accelerated sequence while simultaneously decommissioning four others. The document presents this as manageable, but the risk of competing demands on workforce, supervision, equipment, and emergency response capability deserves more explicit treatment.

PSA timing gap: As noted above, the post-refurbishment Probabilistic Safety Assessment (PSA) for Units 6 and 7 will not be complete until 2032, after those units have restarted. The Commission should consider whether licence conditions should require interim PSA submissions before each unit restarts rather than relying on the 2032 comprehensive update.

Pending IIP: The Integrated Implementation Plan (IIP), which is the safety improvement roadmap output from PSR3, had not been accepted by the CNSC at the time of this submission. OPG states the IIP acceptance is expected before return-to-service post-refurbishment. The Commission should ensure this is a hard condition, not a target.

Transparency on quantitative risk metrics: The document does not detail key quantitative risk indicators such as current Severe Core Damage Frequency (SCDF) and Large Release Frequency (LRF) values from the 2022/2023 PSA update; projected collective dose for the refurbishment; or actual tritium concentrations in groundwater and effluents relative to Derived Release Limits (DRLs). Greater transparency on these numbers would meaningfully assist the Commission and the public.

3.2.8 Observations from Review of OPG's CMD 26-H7.1

OPG's submission reflects a mature safety culture and a credible near-term safety case for Pickering. The historical safety record at the site is strong. The most significant risks are not those of a catastrophic accident in the near term as there is a reasonable case that these are low, but rather the accumulation of long-lived radioactive waste without a licensed permanent disposal pathway, the complexity of executing refurbishment, decommissioning, and operation simultaneously, and the PSA timeline gap during the critical early post-refurbishment period. The CNSC should give these issues particular attention in the hearing and consider whether specific licence conditions (e.g., on PSA submission schedules, Integrated Implementation Plan

(IIP) acceptance, PERA finalisation, and DGR progress milestones) are warranted before units are returned to service.

4 Summary: RSIC Supplemental Review of OPG's Pickering NGS Licence Application

This report by the Radiation Safety Institute of Canada (RSIC) reviews OPG's application to refurbish and relicense Pickering Nuclear Generating Station Units 5–8 through 2036.

4.1 Key Findings

Radiation & Public Safety

Public doses from the site during routine operations have been under 0.2% of regulatory limits, and worker doses have also been well within the worker regulatory limits. However, the refurbishment process (replacing fuel channels, feeders, steam generators) has potential to significantly increase worker radiological exposure, and OPG has not publicly disclosed projected collective dose estimates.

Aquatic Environment

A proposed 1.5 km Deep-Water Intake (DWI) tunnel into Lake Ontario poses risks during construction (i.e., habitat disruption, sediment disturbance, fish impacts). The DWI's engineering design is unfinished and OPG may abandon it entirely, meaning existing surface intake impacts could persist for the full licence period.

Radioactive Waste

Extending operations by 30+ years will substantially grow the inventory of high- and intermediate-level waste stored on the shore of Lake Ontario, near a densely populated area. Canada's deep geological repository isn't expected to be operational until the mid-2040s at earliest, leaving no confirmed permanent disposal pathway for decades.

Accident Risk Gap

The post-refurbishment Probabilistic Safety Assessment (PSA) for Units 6 and 7 won't be completed until 2032. Which is *after* those units have already restarted. This is an acknowledged gap in the quantified accident risk profile.

Operational Complexity

Simultaneously refurbishing four units, decommissioning four others, and continuing operations on a single site is unprecedented in Canada. RSIC flags this as a potential risk to workforce management and emergency response capacity.

Climate Change

OPG's climate resilience assessment only covers roughly the next decade, but the plant is licensed to operate into the 2060s. RSIC recommends this assessment be embedded as a binding licence condition.

Indigenous Consultation

It is not clear whether the Duty to Consult with affected First Nations (particularly regarding Deep-Water Intake construction on their traditional territory) has been fulfilled.

5 RSIC's Overall Position

RSIC acknowledges OPG's strong historical safety record but recommends the CNSC attach specific licence conditions around probabilistic safety assessment submission schedules, finalization of the environmental risk assessment, and ensuring a robust and long-term high level waste management program.