



**Written submission from
Métis Nation of Ontario**

**Mémoire de la
Nation métisse de l'Ontario**

In the Matter of the

À l'égard d'

Ontario Power Generation Inc.

Ontario Power Generation Inc.

Application to extend the operation of
Pickering Nuclear Generating Station
Units 5 to 8 until December 31, 2026

Demande visant à prolonger l'exploitation
des tranches 5 à 8 de la centrale nucléaire de
Pickering jusqu'au 31 décembre 2026

Commission Public Hearing

Audience publique de la Commission

June 2024

Juin 2024



Métis Nation of Ontario
Lands, Resources and Consultations

April 17, 2024

Delivered via Email

Louise Levert

Senior Tribunal Officer, Commission Registry
Canadian Nuclear Safety Commission
Interventions@cnsccsn.gc.ca

RE: Review of the Ontario Power Generation Inc. Application to Extend Operation of Pickering Nuclear Generating Station Units 5 to 8, Supplementary Information and the Licence Amendment Commission Member Document 24-H5

Dear Louise Levert and Canadian Nuclear Safety Commission Staff,

Please accept the following submission by the Métis Nation of Ontario (“MNO”) Region 8. The Pickering Nuclear Generating Station Power Reactor is located within Métis Nation of Ontario’s administrative Region 8. This administrative boundary is outside of the recognized traditional territories associated with the historic Métis communities represented by the MNO.

To clarify, the MNO is not asserting lands and resources (section 35) rights in the Pickering Nuclear Generating Station Power Reactor area, however, the MNO Region 8 Consultation Committee, being the elected leaders of the MNO citizens living in the vicinity of the project, have expressed interest in engaging on the project as Ontario citizens and interested stakeholders.

To this end, MNO Region 8 retained MNP_{LLP} to review the relevant documentation related to the Ontario Power Generation Inc. (“OPG”) Pickering Nuclear Generating Station Power Reactor (“Pickering NGS”) Operating Licence Amendment Application (the “Application”) as it relates to the interests of the MNO Region 8 citizens. This included review and consideration of:

- Commission Member Document (“CMD”) 24-H5 (written submission from CNSC),
- CMD 24-H5.1 (written submission from OPG),
- CMD 24-H5.1A (Supplementary Submission from OPG), and
- OPG’s Environmental Risk Assessment Report for Pickering Nuclear (in brief).

The Pickering NGS has an existing licence to operate commercially until the end of 2024. Operations past 2024 require a public hearing and approval from the Canada Nuclear Safety Commission (“CNSC” or the “Commission”). OPG will be shutting down operation of Pickering reactor Units 1-4 in December 2024 when the licence expires; however, they are seeking to continue operations of Units 5-8. As such, OPG has submitted an application to the CNSC which focuses on the continued operational safety of reactor Units 5-8 until the end of 2026.

The MNP review, and our submission based on that review herein, focused on the above noted documents in the context of the MNO Region 8 involvement, engagement, and areas of interest. Please see below for summaries of information within the above noted documents and key comments for your consideration:

Region 8's Understanding of CNSC Licence Amendment Commission Member Document 24-H5 Results

Within CMD 24-H5 the CNSC describes an overview of the matter being presented, conclusions and recommendations, a discussion of consultation and engagement undertaken with stakeholders and other matters of regulatory interest.

Fitness for Service Programs

The CNSC reviewed OPG's various fitness for service programs and assessments, which examine the physical integrity of Pickering NGS structures, components, and systems. The review found the following to be adequately within regulatory limits:

- Reliability programs (against aging of equipment) for systems and components important to safety,
- Implementation and maintenance of an effective radiation protection program,
- Periodic inspection programs for containment structures and components,
- Contact between pressure tubes ("PT") and calandria tubes ("CT") (contact can create failure in pressure tubes),
- Fuel channels for Units 5–8, and
- The OPG chemistry control program.

CNSC found that the above fitness for service programs were adequate to continue operation of Pickering NGS Units 5-8 until the end of 2026.

Periodic Safety Review

OPG completed a Periodic Safety Review ("PSR2") for the Pickering NGS 2018-2028 relicensing, which examined plant design and the cumulative effects of plant aging against plant operation. The PSR2 found that the plant can be expected to continue safe operation until the end of 2024, followed by long-term storage. Based on the need to extend operations of Units 5 to 8 till 2026, a reassessment of the PSR2 was conducted specifically for Pickering NGS Units 5 to 8 ("PSR2-B") to assess the safe commercial operation of these units from 2024 to 2026. The PSR2-B identified gaps that were amalgamated with issues identified in the original PSR2. These gaps and issues were developed into an Integrated Implementation Plan ("IIP"). The IIP outlines planned actions to address these gaps and issues; it included 32 OPG commitments with completion criteria and targets, all of which must be met by December 31, 2024. OPG's PSR2-B concluded that the current plant design, operation, processes, and management system will ensure continued safe operation of Pickering NGS Units 5 to 8 to December 2026. The CNSC accepted OPG's findings and stated that both the PSR2-B and the IIP met CNSC regulatory requirements.

Radiation Protection

OPG's radiation protection program is meant to ensure that radiation contamination levels received by individuals are monitored and controlled to be maintained "as low as reasonably achievable" ("ALARA"). The CNSC concluded that OPG's radiation protection program meets regulatory requirements and is sufficient for the continued operation of Units 5-8 until 2026. OPG has also indicated that it intends to continue application of the ALARA principle throughout operation until the end of 2026. With respect to radiation protection measures and controls, the CNSC found that the following are acceptable for controlling radiation doses to workers:

- OPG's ALARA principal application,
- Controlling radiation doses to workers, and
- Radiological hazard controls and radioactive contamination controls.

Key Comments on Engagement with MNO Region 8

CNSC CMD 24-H5

The CNSC identified the MNO Region 8 as an Indigenous group who expressed interest in the Pickering NGS. However, there is no specific description of engagement activities with the MNO Region 8 within the CNSC CMD 24-H5 other than an indication that the CNSC has a Terms of Reference in place for long-term engagement with the MNO.

Most descriptions of engagement activities with CNSC or OPG within the CNSC CMD generalize "Indigenous Nations and communities" and do not specify where specific engagement occurred with the MNO Region 8. For example, the CNSC CMD indicates that OPG "*shares information related to station operations, plans for the end of commercial operation, environmental reporting, employment/procurement opportunities, and other priority topics for Indigenous Nations and communities that they engage with*" (CMD 24-H5, p. 79). There is no specification as to what has been shared with the MNO Region 8.

It is recommended that in future documents or reports, reference to ongoing engagement and relationships with the MNO Region 8 are reported on in a disaggregated way to allow for consideration of adequacy/accuracy.

OPG CMD 24-H5.1

OPG's written submission provides some specification as to its engagement with the MNO Region 8, indicating that it has "*provided information*" to MNO Region 8, who has "*expressed interest in Pickering NGS continued operations and licensing activities*" (CMD 24-H5.1, p. 72). OPG's written submission also states that information related to the following areas of interest were shared with the MNO Region 8:

- Waste storage and transportation at Pickering NGS,
- Thermal plume at Pickering NGS and potential impacts to fish and habitat,
- Department of Fisheries and Oceans authorization regarding fish impingement and entrainment,
- Pickering End of Commercial Operations timeline,
- Pickering Decommissioning timeline, and

- The Environmental Monitoring Program.

OPG also specified that it has engaged with MNO Region 8 on the end of commercial operations processes, though no details were provided related to the MNO Region 8's concerns or comments on that process.

It is recommended that in future OPG documents or reports, reference to results from ongoing engagement with MNO Region 8 be reported to allow for consideration of accuracy.

Key Comments on Emergency Preparedness

OPG's written submission included multiple updates and enhancements to improve reactor reliability, as well emergency preparedness and response related to conventional emergencies, nuclear emergencies, and fire emergencies. In its review, OPG noted that the province is responsible for notification to and protection of the public, and that OPG's responsibilities with respect to the public are more limited to notification:

In the unlikely event of an emergency at Pickering NGS, OPG would perform the appropriate notifications to the Province, CNSC, and local municipalities in accordance with established procedures. (CMD 24-H5.1, p. 35)

Public alerting measures include: the use of sirens; a telephone dialing system; radio, television, social media; the use of Canada's National Public Alerting System (including alert distribution to cell phones).

The CNSC concluded that OPG's emergency management programs and implementation of these programs met regulatory requirements and will adequately support operations until the end of 2026.

Emergency management programs and implementation can be future points of discussion between MNO Region 8 and OPG. Some additional measures of interest may include the provision of potassium iodide ("KI") pills to the MNO Region 8 for distribution to Region 8 citizens residing within a certain vicinity of the facility, where appropriate.

Additionally, the CNSC noted in its CMD 24-H5 that off-site emergency response planning is within provincial jurisdiction. The provincial body responsible for the emergency response planning is Emergency Management Ontario ("EMO") who administers the Provincial Nuclear Emergency Response Plan Master Plan ("PNERP"), including the PNERP Plan for the Pickering NGS. EMO is in the process of updating the PNERP, which the CNSC indicates will undergo public review during the OPG licensing period.

The MNO Region 8 may communicate with the province regarding the PNERP update and ensure the Region 8 is afforded the opportunity to provide input.

Key Comments on Environmental Protection

The CNSC reviewed the Pickering NGS Environmental Risk Assessment ("ERA") and predictive effects assessment.

The ERA is a technical document based on monitoring data that includes a Human Health Risk Assessment and Ecological Risk Assessment for risks posed by radiological and non-radiological contaminants of potential concern (“COPCs”) to receptors of the human and ecological environment, respectively.

The CNSC completed a technical review of the document and found that adverse effects on the human and ecological environments due to COPCs released into the air or water is unlikely and recommended that the Commission authorize the operation of Pickering NGS Units 5-8 until the end of 2026.

They also found that OPG’s effluent monitoring programs (for non-radiological contaminants) and environmental monitoring program (for radiation, radiological, and non-radiological COPCs) are effective for protecting human health and the environment. The CNSC provided recommendations to OPG to validate ERA findings, which included engagement with Indigenous communities and the incorporation of Indigenous Knowledge. OPG has committed to this approach for future ERAs. It is recommended that OPG continue engagement with the MNO Region 8 to allow for review and provision of input on future ERA findings.

An important note from the CNSC review of the OPG ERA is that Pickering NGS’s estimated maximum annual dose of radiological and non-radiological contaminants to members of the public is 0.0019mSV. The CNSC characterize this as well below the regulatory limit (1mSV/year) and concluded that members of the public living in the vicinity of Pickering NGS are protected from impacts due to radiological and non-radiological contaminants.

However, this may not address perception-based concerns MNO Region 8 citizens may have (i.e., mistrust or misinformation). The Region 8 Consultation Committee has indicated that further engagement is required to increase citizen comfort with nuclear facilities and looks forward to engagement with OPG on this topic.

OPG Environmental Risk Assessment

Potential risks to human receptors were assessed using incremental lifetime cancer risks for potential carcinogens (using hydrazine) and found that Sport Fishers’ diets exceeded the acceptable cancer risk level for hydrazine by 6.7 times. This was based on a conservative assumption that 100% of the fish in a Sport Fisher’s diet were collected within 500m of the condenser cooling water discharge; though OPG also argued that fishers’ diets would include fish from other sources unaffected by emissions. There was no discussion in the ERA surrounding acceptable thresholds of fish ingestion while remaining under the acceptable risk level for carcinogenic hydrazine.

As some MNO Region 8’s citizens harvest fish in the area around the Project, the MNO Region 8 would like to continue discussions with OPG related to exposure to carcinogens through fish ingestion with and potentially work with OPG on monitoring catch for hydrazine levels.

Additionally, OPG found risks to riparian mammals and birds in the Frenchman’s Bay area (specifically, the muskrat, trumpeter swan, bufflehead, common tern, and ring-billed gull) to exceed acceptable levels. OPG justified this finding by stating it is a conservative result, as many of these receptors do not live near Frenchman’s Bay exclusively. Additionally, OPG stated that any impacts would affect individuals and would

not spread to the broader population. At the Pickering Nuclear site, OPG found risks to terrestrial components (earthworms, terrestrial plants, meadow vole, red-winged Blackbird, red-tailed Hawk, white-tailed deer) to exceed acceptable level. Again, OPG justifies these results by stating that impacts to worms and plants will be largely limited to individuals and impacts to birds will be limited as they are highly mobile and not likely to be exposed to maximum concentrations for the entire year. Additionally, radiological benchmarks are not anticipated to be exceeded for aquatic, riparian, or terrestrial biota.

As some riparian mammals and birds are species of importance to Region 8 these results should be further discussed through ongoing engagement. Further, ongoing monitoring should be completed by OPG to ensure the justifications listed in the ERA are correctly applied.

Overall, we hope these summaries of MNO Region 8's understanding of results and specific comments can facilitate the ongoing engagement and dialogue between Ontario Power Generation Inc. and the MNO Region 8.

Sincerely,

Kate Stewart-McNeil

Regional Councillor, Region 8