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The Regional Municipality of Durham Information Report

From: Chief Administrative Officer
Report: #2024-INFO-26
Date: April 12, 2024

Subject:

Durham Region's Submission to the Canadian Nuclear Safety Commission (CNSC) regarding Ontario Power Generation's (OPG) application for a Power Reactor Operating Licence (PROL) Amendment for the Pickering Nuclear Generating Station (NGS).

Recommendation:

Receive for information

Report:

1. Purpose

1.1 To provide Regional Council with an update on the Region's participation in the upcoming Canadian Nuclear Safety Commission (CNSC) hearing for the Pickering Nuclear Generating Station (NGS).

2. Background

2.1 The mandate of the CNSC is to regulate the use of nuclear energy and materials to protect health, safety, security and the environment; to implement Canada's international commitments on the peaceful use of nuclear energy; and to disseminate objective scientific, technical and regulatory information to the public.

2.2 The CNSC will hold a public hearing to consider the application from OPG to amend the Power Reactor Operating Licence (PROL) for the Pickering NGS on June 19-20, 2024. OPG's application is to extend the operation of Pickering NGS 'B' units (Units 5 to 8) until December 31, 2026. The remaining Pickering NGS A units (Units 1 and 4) will cease operations at the end of 2024.

2.3 On January 30, 2024, Ontario [announced](#) its support for OPG's plan to proceed with the next steps toward refurbishing Pickering NGS 'B' units (Units 5 to 8). Following shutdown, units will be defueled and dewatered so that refurbishment activities can begin, pending regulatory approval. As units return to service, they will

be reconnected to Ontario's bulk electricity grid. Based on OPG's preliminary schedule, the proposed refurbishment of Pickering NGS is anticipated to be completed by the mid-2030s.

- 2.4 Durham Region is an experienced and informed nuclear host community. From 2020 to 2021, Regional Council reconfirmed its position on a number of nuclear sector issues (see Previous Reports and Decisions below). These positions, in particular [Durham's Nuclear Sector Strategy](#) are the basis of the Region's submission to the CNSC.

3. Next Steps

- 3.1 Staff will submit Durham Region's written intervention (Attachment #1) to the CNSC by April 29, 2024.
- 3.2 Staff will continue to monitor the approval process and will report back on new developments as appropriate.

4. Previous Reports and Decisions

- 4.1 The following Regional staff reports related to the nuclear sector have been approved by Regional Council:
- a. Report #[2010-J-29](#), Update on Durham Nuclear Issues and Response to the Joint Review Panel on the New Nuclear Darlington (NND) Project Environmental Impact Statement (EIS) and Application for Licence to Prepare Site
 - b. Report #[2011-J-29](#), Darlington New Nuclear Project Update and Request for Funding for Provision of Consulting Services to Complete a Regional Economic Impact Assessment
 - c. Report #[2011-J-41](#), New Nuclear Darlington (NND) Project Update – Results of the Joint Review Panel Process
 - d. Report #[2020-EDT-9](#), Natural Resources Canada Small Nuclear Reactor Action Plan 2020
 - e. Report #[2021-COW-8](#), Region's Submission to the Canadian Nuclear Safety Commission (CNSC) for Ontario Power Generation's (OPG) renewal application for the Power Reactor Site Preparation Licence (PRSL) for the Darlington New Nuclear Project (DNNP) and Council's position on nuclear sector issues
 - f. Report #[2021-COW-9](#), Response to the Canadian Radioactive Waste Policy Review
 - g. Report #[2021-COW-37](#), Durham Region Nuclear Sector Strategy 2022-2032

5. Relationship to Regional Plans

6. This report aligns with [Durham Region's Nuclear Sector Strategy](#), [Durham Region's Economic Development and Tourism Strategy and Action Plan](#) and the following strategic goals and priorities in the [Durham Region Strategic Plan](#):
- a. Under the goal of Environmental Sustainability, Priority 1.1 is to accelerate the adoption of green technologies and clean energy solutions through strategic partnerships and investment.
 - b. Under the goal of Environmental Sustainability, Priority 1.1 is to demonstrate leadership in sustainability and addressing climate change.
 - c. Under the goal of Economic Prosperity, Priority 3.4 is to capitalize on Durham's strengths in key economic sectors to attract high-quality jobs.

7. Attachments

Attachment #1: The Regional Municipality of Durham submission regarding Ontario Power Generation's application for a Power Reactor Operating Licence Amendment for the Pickering Nuclear Generating Station

Prepared by: Caitlin Rochon, Manager, Corporate Initiatives, at 905-668-7711 extension 6263 in collaboration with staff from Planning and Economic Development, Works, Health, Finance and the CAO's Office.

Approved by: Sandra Austin, Executive Director, Strategic Initiatives at 905-668-7711 extension 2449.

Respectfully submitted,

Elaine C. Baxter-Trahair
Chief Administrative Officer



The Regional Municipality of Durham

Submission regarding Ontario Power Generation's application for a Power Reactor Operating Licence Amendment for the Pickering Nuclear Generating Station

April 2024

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Glossary of Acronyms

AAZ	Automatic Action Zone
EA	Environmental Assessment
CNSC	Canadian Nuclear Safety Commission
DPZ	Detailed Planning Zone
DNHC	Durham Nuclear Health Committee
DNNP	Darlington New Nuclear Project
DRPS	Durham Regional Police Service
GTA	Greater Toronto Area
JRP	Joint Review Panel
ITER	International Thermo-nuclear Energy Reactor
KI	Potassium Iodide
MOU	Memorandum of Understanding
NGS	Nuclear Generating Station
NRCan	Natural Resources Canada
NWMO	Nuclear Waste Management Organization
OPG	Ontario Power Generation
PPE	Plant Parameter Envelope
PROL	Power Reactor Operating Licence
ROP	Regional Official Plan
SMR	Small Modular Reactor

1. Message from the Regional Chair

Dear President Berube and Independent Members of the Canadian Nuclear Safety Commission,

On behalf of Durham Region, I am pleased to show support for Ontario Power Generation (OPG) in its application to amend its Power Reactor Operating Licence for the Pickering Nuclear Generating Station, to extend the operation of Units 5 to 8 until December 31, 2026.

Nuclear has always been a vital part of our story. Since the 1960s, Durham Region has been one of Canada's principal nuclear jurisdictions; a proud, informed and experienced host community at the forefront of innovation.

Durham's two provincially owned nuclear generating stations, supply chain and research and development capacity, and global expertise have enabled our region to become a hub of nuclear academia, engineering and manufacturing.

We are home to a strong cluster of nuclear energy-supporting organizations; institutions that offer unique nuclear post-secondary degree programs; Canada's first on-grid SMR and more, which enable us to continue to play a leadership role in this sector.

We take great pride in being the Clean Energy Capital of Canada. This comes with considerable responsibility to protect the well-being of our residents and the environment, while also helping to sustain our local economy.

We are supportive of OPG's application to amend its Power Reactor Operator License. Globally, our future depends on decarbonizing our communities. The Pickering Nuclear Generating Station safely produces the clean, reliable energy that Ontarians greatly benefit from everyday.

Sincerely,

John Henry
Regional Chair and Chief Executive Officer
The Regional Municipality of Durham

2. Acknowledgement

The Region of Durham exists on lands that the Michi Saagiig Anishinaabeg inhabited for thousands of years before European colonization. These lands are the traditional and treaty territories of the Nations covered under the Williams Treaties, including the Mississaugas of Scugog Island First Nation, Alderville First Nation, Hiawatha First Nation, Curve Lake First Nation, and the Chippewa Nations of Georgina Island, Beausoleil and Rama.

We honour, recognize, and respect Indigenous Peoples as rights holders and stewards of the lands and waters on which we have the privilege to live. In our efforts towards reconciliation, we continue to build and strengthen relationships with First Nations, as well as the large Métis communities and growing Inuit communities here in Durham. We commit to learning from Indigenous values and knowledge, building opportunities for collaboration, and recognizing that we are all connected.

3. Introduction

Since the 1960s, Durham Region has been proud to be at the forefront of nuclear innovation. The nuclear facilities, supply chain, research and development capacity, and academic expertise found within our borders make Durham Region Canada's premier nuclear jurisdiction.

Durham Region is an experienced and informed nuclear host community. We are home to two large-scale nuclear generating stations, the Port Granby Project, and will soon be the site of Canada's first on-grid SMR.

Regional Council has expressed its support of refurbishments at Pickering Nuclear Generating Station (NGS) and Darlington NGS, the ITER¹ Project, Canada's SMR Action Plan, and re-licensing applications for the existing stations to the CNSC through Regional Council resolutions and Regional submissions. While the Region remains ineligible for CNSC's intervenor funding and has long argued that the provincial property tax policy for nuclear generating stations unfairly disadvantages host municipalities, it is important for the Region to participate in this hearing process and submit this intervention to demonstrate our continued commitment to the sector.

Municipalities provide and deliver valuable programs and services to meet the needs of their residents and local businesses. As a regional municipality, Durham has responsibilities to protect the well-being of our residents and the environment and to sustain our local economy.

Globally, our future depends on decarbonizing our communities and economy. In January 2020, Regional Council declared a climate change emergency. To act on this direction, the Region is implementing programs to reduce greenhouse gas emissions,

¹ International Thermo-nuclear Energy Reactor Project – in the 1990s, the site now proposed for the DNNP was the site of Canada's bid for the ITER project. The ITER bid was won by France.

build climate resiliency, and is striving to be a carbon-neutral community. Durham Region has been recognized as a leader in municipal efforts to address climate change and we understand that nuclear energy will play a pivotal role in Canada's transition.

4. Durham Region and OPG's Partnership

Durham Region has a strong relationship with OPG. This includes regular meetings between staff to facilitate detailed conversations about projects and identify opportunities for partnership, presentations to staff, and a facility tour. Additionally, the Region partners with OPG on the following initiatives:

Community Engagement

Durham Region appreciates the activities undertaken by OPG to raise awareness of the nuclear sector within the community over the years including the Neighbours Newsletter, information centres, community advisory committees and media campaigns. Durham Region and OPG have partnered for a variety of community engagement activities including emergency preparedness week events and to develop a nuclear emergency preparedness public awareness strategy.

Emergency Management

For decades, the Region has played a leading role in nuclear emergency planning and has significant responsibilities under the Provincial Nuclear Emergency Response Plan (PNERP). As such, the Region has developed a high level of expertise in nuclear emergency preparedness. Durham Region works closely with OPG and local emergency services to ensure that appropriate planning, practice and coordination are in place to respond to any emergency that may affect the community. OPG provides funding for this program through a Memorandum of Understanding (MOU).

Potassium Iodide (KI) Pill Distribution Program

Since 2014, Durham Region has been working in partnership with OPG on a potassium iodide (KI) distribution program that includes distributing new tablets, collecting tablets nearing expiration, developing and disseminating KI educational materials and raising awareness within the community about the availability of KI. KI tablets are distributed to all homes and businesses within the 10-kilometer Detailed Planning Zone (DPZ) surrounding Pickering and Darlington NGS and KI tablets are available free to anyone living up to 50 km from either nuclear generating station by ordering them online at preparetobesafe.ca. OPG provides funding for this program through a MOU.

Durham Nuclear Health Committee

OPG provides funding and technical assistance to the [Durham Nuclear Health Committee \(DNHC\)](#). DNHC was established in 1995 at the direction of the province as a committee of Durham Regional Council that is chaired by the Region's Commissioner and Medical Officer of Health. The DNHC is a forum for discussing and addressing

potential radiation and environmental human health impacts. Membership of the DNHC consists of ten public members and three alternate public members from Whitby, Oshawa, Ajax, Clarington and Pickering, who are appointed by Council; two representatives of OPG; and four provincial/regional government representatives. OPG staff regularly provide educational presentations and updates on environmental monitoring.

Policing

The Durham Region Police Service (DRPS) has an excellent working relationship with both the Emergency Preparedness and Security program and the Emergency Services Unit within OPG. To maintain a strong working relationship, DRPS participates in security and emergency services training and exercise activities in OPG's Emergency Management Program. This includes natural, technological and human-induced (criminal) emergencies or disasters. DRPS also participates in annual "Force on Force" security exercises and training opportunities in the roles of participant, observer and evaluator. The DRPS and OPG have an MOU for Off-Site Response that provides the framework for police response.

Air and Water Quality Monitoring

Durham Region has a partnership with OPG to host air quality monitoring stations on Regional property. Durham and OPG also work together to monitor Lake Ontario as a drinking water source by collecting and analyzing samples at all Lake Ontario based water supply plants for byproducts of the nuclear generating process. We work together to share monitoring and modelling data relating to water quality.

Regional Land Use Planning

On May 17, 2023, Durham Region Council adopted the new Regional Official Plan (ROP). The new ROP recognizes the history and the long-term opportunities related to nuclear power generation in the Region. The new ROP is currently awaiting provincial approval.

The new ROP identifies a Regional interest in the planning and regulatory process for new and refurbished nuclear development in the Region as well as the decommissioning and long-term plan for future use of the Pickering NGS lands.

The new ROP has implemented policies and mapping to protect the Automatic Action Zone (AAZ) surrounding both the Darlington and Pickering NGS. The Automatic Action Zone for the Pickering NGS includes lands between Whites Road and Duffins Creek, from the Lake Ontario shoreline to Highway 401. This area includes extensive existing residential areas. The new ROP requires that any new development which proposes a sensitive land use within this area are required to minimize and mitigate potential adverse impacts.

Figure 12 of the new ROP illustrates the AAZs. CNSC and OPG staff had the opportunity to review through the consultation process for the new ROP. Several effective meetings were held throughout policy development with both CNSC and OPG staff.

5. Regional Participation in Nuclear Policy and Regulatory Affairs

In 2021, we engaged broadly with partners, Indigenous rights holders and the community to gain insight into how the Region should participate in the nuclear sector. Through this process, we developed [Empowering the Community: Durham Region's Nuclear Sector Strategy](#) which aims to empower Durham Region by building an understanding of the nuclear sector, working with partners to seize opportunities, and preparing for an evolving future. As outlined in the strategy, the Region is committed to playing an active role in nuclear regulatory processes and policy development across all levels of government to protect the interests of our community.

Through the development of this strategy, the Region committed to working with OPG and other stakeholders to advance and accelerate repurposing plans for Pickering NGS. Durham Region partnered with OPG and the City of Pickering to review the Financial, Economic and Social Impact Study on the retirement of Pickering NGS so that the Region could better understand the steps ahead in decommissioning the facility and prepare to meet the coming challenges. Since the conclusion of that study, Ontario [announced](#) its support for OPG's plan to proceed with the next steps toward refurbishing Pickering NGS 'B' units (Units 5 to 8).

We are approaching this project with future generations in mind and will continue to advocate for policies that prioritize community fiscal and socio-economic well-being throughout the life cycle of nuclear facilities. This has included active participation in Natural Resources Canada's (NRCan) policy development process for [Canada's Policy for Radioactive Waste Management and Decommissioning](#) and the Nuclear Waste Management Organization's (NWMO) engagement on the [Integrated Strategy for Radioactive Waste](#).

This is Durham Region's third intervention application to the CNSC in 2024 and we anticipate participating in at least one more. Participating in regulatory processes for facilities within the Region is important, however, it places strain on municipal resources. Over the next decade, we anticipate annual involvement in CNSC hearings and provincial and federal policymaking related to the nuclear and broader energy sector. We urge the CNSC and operators to support financial arrangements that recognize the responsibilities associated with being a nuclear host community and the importance of this participation to ensure the well-being of host communities.

This is consistent with the [Nuclear Communities Global Partnership](#) March 21, 2024, [declaration](#) which calls on national and regional governments to actively listen to local communities, engage in early dialogue, provide resources for participation, and

establish partnerships throughout the decision-making, development, operations, closure and decommissioning phases of a nuclear project.

6. Durham Region: the Clean Energy Capital of Canada

The Region, in its position as an experienced and informed nuclear host community, is a willing and supportive host community of the Pickering NGS.

The Region understands that the current Pickering Power Reactor Operating Licence (PROL) 48.01/2028, includes continued commercial operation of all reactor units until December 2024 as well as post-shutdown activities associated with removal of fuel and water in preparation for the safe storage of all units. OPG is seeking to amend the operating licence of the Pickering NGS 'B' Units 5 to 8 up to, and no later than, December 31, 2026. The end of commercial operations of the remaining Pickering NGS 'A' Units 1 and 4 remains the end of 2024.

By extending the operations from 2024 to 2026, the Pickering NGS will provide carbon emissions-free electricity to the provincial bulk electricity grid while refurbishments at Darlington and Bruce NGS are completed. Refurbishment at Pickering NGS 'B' will commence once these projects are completed. We understand that OPG is developing plans to decommission the Pickering NGS 'A' units. According to OPG's Pickering Preliminary Decommissioning Plan (PDP), the used fuel will remain onsite until the Nuclear Waste Management Organization's (NWMO) deep geologic repository (DGR) is available. Dismantling and demolition of the station will not begin until all used fuel has been removed. Durham Region remains concerned about delays to NWMO's process to select a site for the DGR as they directly impact the ability to beneficially reuse the Pickering NGS 'A' site.

We urge OPG and other stakeholders to advance and accelerate repurposing plans for the Pickering NGS 'A' site such as attracting medical isotope production and processing operation, a research facility, and other innovative low-carbon energy facilities.

The Region is not positioned to undertake a technical assessment of OPG's licence application, however, we understand that CNSC staff have reviewed OPG's applications and concluded that OPG has adequately demonstrated the fitness for service of major components, including fuel channels, feeders, and steam generators, at the Pickering NGS for continued operation of Units 5 to 8 to December 31, 2026 and that OPG remains qualified to carry on the activities authorized in the Power Reactor Operating Licence (PROL) and continues to make provisions to protect workers, people, and the environment.

As a regional municipality, the safety and well-being of our community are our top priorities. The Region supports the CNSC staff recommendation that the Commission amend the Pickering NGS licence PROL 48.01/2028 to include a condition that the licensee shall implement and maintain an enhanced fitness for service program for fuel channels in extended operation.

With exciting advancements under development for the reuse of radioactive waste, lifesaving medical isotopes under production, large-scale refurbishments and new SMRs, and billions of dollars committed to the industry by both the provincial and federal governments², it is critical that this economic stimulus deliver better economic multiplication throughout the local economy in Durham by attracting and enabling inbound business investment and the establishment of permanent operations by organizations throughout the nuclear value chain. A large proportion of our residents leave Durham Region to travel to their place of employment. Canada's nuclear technology development and manufacturing should have strong roots in Durham Region, and the sector should offer a variety of permanent, local, high-value careers to the people who have supported this industry for decades.

The Region's advantages include its labour force, a strong cluster of existing clean energy businesses and leading academic facilities. The [Invest Durham](#) team has developed resources to assist the industry with understanding opportunities in Durham Region, including real estate options for commercial and industrial investment. For example, Durham is working to establish a clean energy business park on lands that it owns near the Darlington NGS and Darlington New Nuclear Project (DNNP) site.

Durham Region looks forward to continuing its strong partnership with OPG to understand how we can work together to facilitate the project and attract business investment to the region.

² Canada's SMR Action Plan progress update. October 2022.
<https://smractionplan.ca/sites/smractionplan/files/2023-01/full-approved-progress-update-eng-access.pdf>