



## **Oral presentation**

### **Written submission from the North American Young Generation in Nuclear – Durham Chapter**

In the Matter of the

**Ontario Power Generation Inc.**

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

**Commission Public Hearing**

**June 2024**

## **Exposé oral**

### **Mémoire de North American Young Generation in Nuclear – Durham Chapter**

À l'égard d'

**Ontario Power Generation Inc.**

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

**Audience publique de la Commission**

**Juin 2024**



**29-April-2024**

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Canadian Nuclear Safety Commission  
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**Re: Pickering Nuclear Generating Station – Power Reactor Operating License Amendment Application (Ref 2024-H-05)**

Dear President and Commission Members,

Thank you for giving us the opportunity to intervene for this public hearing. We are submitting this intervention on behalf of the North American Young Generation in Nuclear (NAYGN) – Durham Chapter in support of the Pickering Nuclear Generating Station (Units 5 –8) operating license extension until December 31, 2026.

NAYGN is an association of young professionals and students passionate about the nuclear industry and is focused on professional development, public relations, networking, and community outreach. There are currently over 150 chapters across North America with around 14 chapters in Canada.

NAYGN Durham is a local chapter to the Durham Region, which started its journey in 2008. The chapter organizes various social, professional development and community events such as industry tours, technical seminars, and lunch & learns and informative sessions in the region. The chapter has over 1200 members, most of whom work for the nuclear industry in the Darlington and Pickering area.

We support the Pickering operating license renewal as this facility has been safely operated since its construction. Currently, Pickering provide 14% of the province’s clean and reliable electricity. Also, Pickering has been supplying the world with valuable radioactive isotopes used in global medicine, sterilization, and food preservation.

With the Pickering license renewal, OPG will continue to demonstrate its ability to safely operate nuclear reactors with public and personnel health and safety as the overriding priority. The province will continue to benefit from this source of clean and reliable electricity which not only supports the Canadian economy but also contributes strongly to our fight against global climate change.

The following reasons and examples are why NAYGN Durham is strongly in support of extending the operating license of Pickering NGS Units 5 to 8 from December 31, 2024, to December 31, 2026.

### **Pickering NGS as A Strong Baseload for Clean and Reliable Power for Ontario**

Nuclear power is the backbone of Ontario's electricity system, providing approximately 60% of the province's power. Pickering provides 14 % of the electricity generation. Pickering Generating station is a strong baseload source of power for the province of Ontario with a 3, 100 Megawatts of total output.

Extending the life operations of Pickering B (Units 5 –8) would secure more than 2,100 MW of clean, reliable nuclear power for Ontario for another 2 years. This is also in line with the Independent Electricity System Operator (IESO) pathways to decarbonization report released in December 2022. The study has shown that for Ontario to support the increased electrification of different sectors and the growing energy demand, the electricity grid installed capacity would have to increase from 42,000 MW today to 88,000 MW in 2050.

Hence, extending Pickering GS life operations for those two years and beyond would help reach that target significantly and support the growing energy demand of the province.

### **Benefits of Life Extension of Nuclear Generating Stations**

The International Energy Agency (IEA) Nuclear Power in a Clean Energy System [report](#) outlines the importance and benefits of extending nuclear power plants worldwide. The report mentions the following: *“Lifetime extensions of existing nuclear power plants are one of the most cost-effective sources of low-emission electricity and are crucial to getting the energy transition back on track. It is considerably cheaper to extend the life of a nuclear reactor than build a new plant, and costs of extensions are competitive with other clean energy options, including new solar PV and wind projects.”*

Another IAEA [report](#) mentions the following: *“With many current reactors reaching their retirement dates and so few new plant projects underway, we need lifetime extensions of existing plants to keep global nuclear capacity from sharply declining by 2030, particularly in Europe and North America. Without these extensions, it could have major consequences in terms of carbon dioxide (CO2) emissions, air pollution and electricity supply security.”*

Energy security concerns, particularly in the wake of Russia's invasion of Ukraine, have also been linked to countries considering extending nuclear power plants operating life. In the United States, France, Belgium, Japan, Korea and other countries, additional lifetime extensions for existing nuclear reactors have been approved or signaled. For example, Belgium recently decided to extend the operation of two existing reactors from 2025 to 2035, which will meet around 15% of their electricity demand.

This clearly shows the benefit of extending the operating life of Pickering Generating station until December 31, 2026 to ensure energy security for the province of Ontario and to support the clean energy transition globally. With that extension, Pickering GS will continue to power two million homes and businesses across Ontario, safely and reliably for two more years.

### **Pickering Production of life saving medical isotope Co-60**

About 40% of the world's single-use medical devices, such as syringes, gloves, implants, and surgical instruments, are irradiated and sterilized with Co-60 (Cobalt-60). Co-60 is also used in medical radiotherapy such as treating cancer. Isotopes extracted from a single Pickering reactor every 24 to 30 months can yield enough Co-60 to sterilize 3.5 billion syringes per harvest. Three of OPG's Pickering reactors are equipped to harvest which allows one to two harvests per year. Ontario's CANDU reactors at Pickering Nuclear and Bruce Power's Bruce B plant produce 50% of the world's supply of Cobalt-60. The extension of commercial operation of Pickering by two years would allow an additional 2-4 harvests or additional sterilization of 7-14 billion syringes.

### **Pickering Nuclear and NAYGN Durham Chapter Community Engagement**

As young professionals developing our careers in the Durham region, the North American Young Generation in Nuclear (NAYGN) Durham has observed firsthand the significant and meaningful impact Ontario Power Generation (OPG) and Pickering Nuclear have had on our communities over the past 45 years. Beyond serving as a substantial employer, Pickering Nuclear embodies OPG's mission to deliver "Power with Purpose" through extensive community engagement initiatives. These efforts, alongside OPG's broader commitments, have made a tangible difference in the lives of local communities.

As responsible corporate citizens, OPG and Pickering Nuclear have demonstrated a steadfast commitment to enhancing the well-being of our communities. Through various initiatives and programs, OPG actively engages with community stakeholders to address local needs and priorities. The Corporate Citizenship Program (CCP) by Pickering Nuclear provides charitable support to over 140 grassroots community initiatives annually in Pickering, Ajax, and Whitby, crucial in addressing various social and environmental challenges.

As part of OPG's commitment to community engagement and social responsibility, the company has supported essential community services in the Durham region. In April 2023, OPG addressed food insecurity by donating \$25,000 to Feed the Need in Durham and supporting local food banks in Pickering, Ajax, Whitby, and beyond. OPG's longstanding support for organizations addressing food vulnerability across Ontario, totaling more than \$900,000, highlights its commitment to community well-being.

The NAYGN Durham chapter and Pickering Nuclear have also actively partnered to engage in various community outreach activities. One recent example of our commitment to community service was the blood drive campaign to support Canadian Blood Services, which saw approximately 60 volunteers donate in 2023. Moreover, the NAYGN Durham Chapter and Pickering Nuclear have organized several community outreach events over the past year and a half, including a Winter Wonders Family Event, Nuclear Secondary School Day, and collaboration with the City of Pickering Main Library. During these events, The NAYGN Durham and Pickering Nuclear teams send engineers and scientists into classrooms to assist with hands-on workshops, answer questions, and help remove barriers associated with entering the STEM field.

Recognizing the importance of education, OPG provides merit scholarships to secondary school graduates entering post-secondary studies in STEM, trades, or Business in Pickering, Ajax, and Whitby. Additionally, OPG collaborated with Indspire to provide twenty \$10,000 scholarships to First Nations (status or non-status), Inuit, or Métis students over a three-year period. OPG also sponsors Soaring, Indspire's Indigenous Youth Empowerment Gathering. Soaring allows Indigenous high school students to learn about career and post-secondary education options by participating in career workshops.

### **Conclusion**

The continued operation of the Pickering Nuclear Generating Station is vital for meeting Ontario's energy needs and sustaining its positive impact on communities. NAYGN Durham supports granting the necessary operating license extension until December 31, 2026, to enable OPG to continue contributing to our region's social, economic, and environmental well-being.

In conclusion, we urge the Canadian Nuclear Safety Commission to consider our intervention and support the Pickering Nuclear Generating Station's operating license extension. This would benefit our community and uphold safety, sustainability, and community engagement principles.

Thanks,

NAYGN Durham Chapter

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