



**Written submission from  
Municipality of Clarington**

**Mémoire de la Municipalité de  
Clarington**

In the Matter of the

À l'égard d'

**Ontario Power Generation Inc.**

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**Ontario Power Generation Inc.**

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Application for a licence to construct one BWRX-300 reactor at the Darlington New Nuclear Project Site (DNNP)

Demande visant à construire 1 réacteur BWRX-300 sur le site du projet de nouvelle centrale nucléaire de Darlington (PNCND)

**Commission Public Hearing  
Part-2**

**Audience publique de la Commission  
Partie-2**

**January 2025**

**Janvier 2025**

# Clarington

Submission from the

## Municipality of Clarington

regarding the application of Ontario Power Generation (OPG) for a Licence to Construct one BWRX-300 reactor for its Darlington New Nuclear Project.

November 4, 2024

With respect to the Part 2 Hearing, starting January 8, 2025, in Ajax, Ontario.



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# Land Acknowledgement

The Municipality of Clarington is situated within the traditional and treaty territory of the Mississaugas and Chippewas of the Anishinabeg, known today as the Williams Treaties First Nations. Our work on these lands acknowledges their resilience and their longstanding contributions to the area now known as the Municipality of Clarington.

# Introduction

The Municipality of Clarington is a vibrant nuclear host community known for its thriving energy sector, picturesque green space, historic downtowns, and as a great place to raise a family. Located on the shores of Lake Ontario at the eastern gateway to the Greater Toronto Area, Clarington is a place of possibilities.

Clarington residents enjoy waterfront trails alongside Lake Ontario, Greenbelt-protected farmlands, and the natural beauty of the Oak Ridges Moraine. More than 107,000 people call Clarington home, and this population is expected to grow to 221,000 by 2051.

Clarington is one of eight municipalities located in Durham Region. As a lower-tier municipality, Clarington is responsible for local services, including emergency and fire services, municipal law enforcement, animal services, snow removal, roads, community planning, issuing building permits and more.

Home to Darlington Nuclear Generating Station, Clarington is a founding member of the Canadian Association of Nuclear Host Communities, a not-for-profit association that supports current and future nuclear host communities in a proactive relationship with the nuclear industry.

The map below shows the location of the Darlington Nuclear Generating Station within the Municipality of Clarington and The Regional Municipality of Durham, in relation to the Greater Toronto Area and areas to the east.



Map courtesy of Durham Region

# Message from Mayor Foster

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

On behalf of the Municipality of Clarington, I am pleased to show support for Ontario Power Generation (OPG) in its application for a Licence to Construct a BWRX-300 reactor facility under the *Nuclear Safety and Control Act*.

Nuclear energy has been an integral part of Clarington since the 1990s. Our Municipality—as a proud, informed, and experienced host community—has been at the forefront of nuclear progress and innovation, playing a significant role in the industry.

The Darlington Nuclear Generating Station, research and development, isotope production, waste storage expertise and supply chain made our area a local hub for the nuclear industry.

Clarington continues to play a leadership role in this sector. Clarington is a leading member of the Canadian Association of Nuclear Host Communities (CANHC), a not-for-profit association that supports local governments by acting as a resource for all current, future, and interested nuclear host communities, while maintaining the best interest of their communities in an ongoing proactive relationship with the Canadian nuclear industry and regulator.

As Chair of the CANHC, the Association works to help support the efforts of the broader nuclear ecosystem, including the Nuclear Waste Management Organization (NWMO). Clarington staff also support this work and serve in key roles – as part of our commitment to residents to be an informed and engaged host community. Additionally, CANHC is actively collaborating with other international host communities and the International Atomic Energy Agency (IAEA), acting as a founding member of a recently launched global host community partnership.

Clarington is also a founding partner in the Central and Eastern Ontario Isotope Alliance (CEOIA), a partnership among isotope producers, related equipment suppliers, local leaders, and medical isotope users in the healthcare sector working to expand isotope production, processing, and use in the region.

We are not only proud of our nuclear experience and expertise, but also deeply committed to the safety of our residents, the well-being of the environment, and the sustainability of our local economy. This commitment is at the core of our submission.

This intervention will establish the groundwork for the construction and subsequent

deployment of Small Modular Reactors (SMRs), both domestically and globally. Collaboration throughout this process is essential to ensure success. Successful deployment made here will pave the way for future developments. Throughout the new nuclear development process, host community agreements will address the needs of both the communities they serve and the operator. These agreements are fundamental documents that will help facilitate the successful deployment of this technology nationwide and beyond.

We are supportive of OPG's application and are committed to remaining an informed and engaged partner, as the technology is further developed and engineered. This submission includes 18 Recommendations to help ensure this, predicated on building capacity and sustaining the development of an engaged and informed host community. Clarington has a strong and trusting relationship with OPG, and we are confident in their abilities to safely undertake this work.

Clarington is fortunate to be at the forefront of SMR technology deployment – with a world-class operator in OPG and licensing facilitated by a globally recognized regulator in the CNSC.

**Sincerely,**



**Adrian Foster**

**Mayor of the Municipality of Clarington**





# Executive Summary

All nuclear facilities have a local impact, and elected municipal governments have a unique opportunity to contribute to the clean energy transition and enhance their community well-being with the economic and social advantages that it brings.

The Municipality of Clarington stands at the forefront of the deployment of Small Modular Reactor (SMR) technology in Canada and appreciates its continued relationship with Ontario Power Generation (OPG). This relationship has been built and matured over several decades and provides the confidence that this will be a successful project.

We are committed to enhancing our collaborative efforts to facilitate the project and foster the development of a dynamic economic cluster, thereby ensuring sustained and long-term prosperity for the region. All while notably providing much-needed, clean baseload electricity to the grid, to support all of Ontario.

This submission has been created based on what Clarington has learned both locally and globally as it pertains to best practices related to being a host community. It is understood that some of the comments and Recommendations may be beyond the scope of this hearing, it is important that they be included in this submission.

## **Recommendations:**

**Within this submission, there are 18 Recommendations. Clarington respectfully requests that the CNSC consider the Recommendations for this licence and as applicable to the future Licence to Operate.**



# Community Engagement and Impact

## Local Capacity

Local municipalities, such as the Municipality of Clarington, face significant challenges in fully participating in Commission hearings. Despite being integral parties in the nuclear regulatory process, municipalities lack the necessary resources and expertise to effectively intervene and advocate for their communities' interests.

This has imposed considerable strain on host communities. The Municipality of Clarington, for instance, was not positioned to undertake a full technical assessment of OPG's licence application earlier in this regulatory review. This lack of capacity can hinder the municipality's ability to effectively engage in this important file.

As a host community, it is important for Clarington to meaningfully participate in the CNSC's regulatory processes, be involved in provincial and federal policymaking, and build relationships with the global nuclear community; however, this places strain on municipal resources.

We urge the CNSC and operators to support financial arrangements that recognize the importance of this participation to ensure the well-being of host communities.

### **Recommendations:**

- CNSC to support host communities through its funding programs, as accessed by the Canadian Association of Nuclear Host Communities (CANHC), which can act as a central repository for interventions and best practices.
- Operators to provide capacity-building support to host communities, potentially through Host Community Agreements or other means.

## Public Information and Disclosure

As part of CNSC's mandate for disseminating information to the public and its licence condition for public information and disclosure imposed on the operator, there remains a notable gap that host communities do not receive official correspondence regarding upcoming hearings from the Commission. A procedural change would significantly enhance the Municipality's ability to plan effectively for the future and maintain transparent communication with all parties involved; as well as amplify the message within the local community.

Informal communication outside the regulatory process remains an important way to effect meaningful change. It remains critical throughout the licensing process that there be regular updates with the operators to address the changing needs of the community.

### **Recommendation:**

- CNSC or the operator, provide the Municipal Clerk, in writing, with the appropriate public notice for any hearings within the jurisdiction of the host community. This should apply to both upper and lower-tier municipalities.

## Social Licence

As a host community, Clarington is dedicated to playing an active role in nuclear regulatory processes and policy development at all levels of government to safeguard the interests of our community.

Our advocacy champions policies that emphasize environmental stewardship, along with the fiscal and socio-economic well-being of communities, throughout the entire lifecycle of nuclear facilities. In undertaking this project, our focus remains steadfast on benefiting future generations.

There remains concern regarding the hold points where host communities can be engaged, outside of the licensing process – this should be explored and global best practice considered.

### **Recommendation:**

- CNSC to review global best practices to consider additional formal opportunities for host communities to be engaged.

# Host Community Agreement

## Best Practices and Opportunities

To highlight the role of local government as a partner in safe and responsible nuclear energy production, the Municipality of Clarington joined leaders from other global host communities and signed the Nuclear Communities Global Partnership Declaration. It calls on all levels of government considering nuclear facilities to actively listen to local communities, engage in early dialogue, provide resources for participation, and establish partnerships throughout the full lifecycle of a nuclear project or facility including, early planning and development, regulatory review and decision-making, operations, closure and decommissioning and abandonment phases of a nuclear project.

Host community agreements vary in their design and content both within Canada and globally. More work is needed to create an understanding of best practices and to ensure they have appropriate mechanisms for review. This is essential to acknowledge the ongoing responsibilities associated with being a nuclear host community.

### **Recommendations:**

- Support the creation of a host community agreement framework for best practice, that includes all phases of the nuclear project, including early planning, decommissioning and unanticipated shutdowns.
- Encourage operators to routinely review and update the host community agreement; at agreed upon intervals.

## Emergency Management and Responses

In respect to emergency planning/management in Ontario, municipalities and their fire services have been drawn into more of a leadership role in this area. For nuclear host communities, this has resulted in a significant increase in work.

Under the Emergency Management and Civil Protection Act, Clarington is required to prepare for emergencies based on Hazard Identification and Risk Assessment. In addition to common emergencies such as weather events and the transportation of hazardous goods, Clarington must also be prepared for nuclear emergencies. The Province is primarily responsible for mitigating the off-site effects and coordinating the off-site response to a nuclear emergency, however municipal resources are a critical part of any response. The Province should provide host communities with funding to undertake the necessary comprehensive planning and training required for nuclear emergencies.

This includes familiarizing personnel with nuclear zones, developing large-scale evacuation plans, creating communications plans, maintaining the emergency workers center, training the Municipal Control Group in nuclear emergency management, leading nuclear emergency exercises with upper-tier and provincial government levels, providing nuclear emergency education to the community, conducting annual fire safety inspections of the nuclear site, reviewing and approving multiple fire safety plan documents annually, participating in emergency exercises with emergency response and personnel, and engaging in live fire joint training with the Darlington Nuclear Generating Station's Fire Brigade.

Furthermore, with the commencement of the construction phase of the SMRs at Darlington, additional emergency response training and services will be required, placing a further strain on existing resources.

A Memorandum of Understanding (MOU) governing this relationship requires updating and further clarity regarding roles and responsibilities before operations begin.

**Recommendations:**

- Provincial government to provide additional funding to host municipalities to fund additional emergency management functions.
- Require an updated MOU between the Municipality and OPG as part of Licence to Operate; inclusive of clarity on fire and emergency response during the operational phase.

## Infrastructure and Economic Considerations

The nuclear sector is undergoing a remarkable transformation with innovative projects such as recycling radioactive materials, medical isotope production, large-scale refurbishments and new SMRs. These projects are supported by substantial investments from both the provincial and federal governments – and do garner broad economic impact. It is vital that these investments help ensure the host communities are not burdened with the infrastructure lift, in addition to reaping comparatively smaller economic benefits.

It is notable that in recent years, OPG has made significant efforts to support local businesses in the broader community. This is encouraging and greatly appreciated by the Municipality. However, we continue to believe that to deliver better community economic benefit, local companies need more opportunities to compete for procurement contracts from OPG.

Nuclear energy production and technology development should have strong roots locally, and the sector should offer a variety of high-value economic opportunities to the people who have supported this industry for decades. Additionally, coordinated efforts to foster the creation of a robust economic cluster will further enhance the economic prosperity for the region and province more broadly, by attracting related businesses and encouraging collaboration within the sector.

### **Recommendation:**

- That the operator considers implementing a policy to prioritize the procurement of goods and services from local vendors (within 50 kilometres) whenever feasible, thereby fostering local economic growth and sustainability.

## Land Use Planning and Fiscal Impact

The Clarington Official Plan works in concert with the Durham Regional Official Plan, to protect land in the proximity of the Darlington Nuclear Generating Station from new sensitive land uses. Local municipal governments work together to protect the Automatic Action Zones, as defined in the Provincial Nuclear Emergency Response Plan for the Darlington Nuclear Generating Station, from encroachment by sensitive land uses.

Further, due to federal jurisdiction, the site benefits from development charge exemptions. These limitations put undue financial burden on municipalities, given the added services required to support the facility. Some of these needs could theoretically be offset by economic spin-offs, particularly through supply chain development, but Clarington, despite being a host community for three decades and host to a multi-billion-dollar refurbishment, has been limited in attracting supply chain.

The rate per square metre for payments in lieu of taxes on generating buildings and facilities has not increased since 1968. As a result, the payments in lieu of taxes paid on these properties have eroded. The longer the Darlington Nuclear Generating Station operates in Clarington, the greater the cumulative effect of this unfair practice.

### **Recommendations:**

- Mandate a comprehensive review of the financial arrangements between host communities, other levels of government, and nuclear facility operators.
- Encourage the Federal and Provincial governments to recognize the challenges host communities face and advocate for additional ministerial support in recognition of the additional municipal responsibilities.

## Canadian Association of Nuclear Host Communities

The Municipality of Clarington is a member of the Canadian Association of Nuclear Host Communities (CANHC), which represents municipalities, both upper, lower and single tier, from across Canada that host or are interested in a hosting nuclear facility. CANHC has been in existence since the early 2000s and has become increasingly active due to the nuclear renaissance taking place globally.

CANHC plays a crucial role in ensuring that host communities have the knowledge, resources, and advocacy needed to foster safe, secure, and prosperous environments

for nuclear facilities. CANHC has members from provinces across Canada representing communities from various stages of the nuclear lifecycle – all providing valuable insights and expertise, particularly as the nuclear sector navigates a global renaissance.

CANHC has become the central access point for host communities to access CNSC funding opportunities, as municipalities are ineligible for funding. This has created a financial and human resource burden on volunteer-led CANHC – particularly on the Municipality of Clarington.

With financial support, CANHC can expand its efforts to provide essential information, education, and advocacy to benefit the communities and Canada's broader nuclear landscape.

**Recommendations:**

- CNSC to support CANHC with broader, predictable funding, to support host communities from a knowledge and capacity building perspective as well as to facilitate hearing interventions.
- Encourage the Federal and Provincial governments to recognize the challenges host communities face and advocate for enhanced support and resources, in recognition of the additional municipal responsibilities.



# BWRX-300 Reactor

## Technology

It is recognized that the BWRX-300 represents the tenth-generation evolution of a well-proven nuclear reactor technology. Clarington is proud to be at the forefront of its deployment as we work diligently to meet our clean energy goals, both domestically and globally. Through CANHC, Clarington is participating nationally as well as internationally to promote the deployment of SMRs. Industry will need to continue to work collaboratively with all stakeholders to capitalize on the first-mover advantage in front of us.

With four decades of having CANDU reactors operating in Clarington, local officials and residents are quite familiar with that technology. The same cannot be said of the BWRX-300. There are some features that Clarington will be eager to understand as briefings and details become available.

### **Recommendation:**

- Continue to educate the community, municipal staff and elected officials about the technology as it works through all phases of the regulatory review, and continue to do so for the lifecycle of the facility.

## Safety

### *Emergency Management*

During the construction phase, it is expected that there will be a joint response between OPG (and their contractor, Aecon) and Clarington Emergency and Fire Services (CEFS) to serve the emergency response needs of up to 1,200 construction workers each day. During this construction phase, emergencies may involve confined space rescue, rope rescue, collapse, water rescue, entrapment, heavy urban search and rescue, and trench rescue. CEFS can provide several of these services and will rely on fire protection service agreements with other Fire Departments for the remainder.

The Memorandum of Understanding governing emergency response is currently under re-negotiation, and an updated version will be necessary to address OPG's application for a Licence to Operate.

**Recommendation:**

- Require an updated MOU governing emergency response between the Operator and Municipality, prior to issuance of Licence to Operate.

## Waste

Ensuring the safe storage of used fuel is of critical importance to the Municipality of Clarington. To date, the Municipality has been satisfied with the interim storage solution at the Darlington Used Fuel Dry Storage Facility, owned and operated by OPG.

However, this facility was designed to accommodate used CANDU reactor fuel in specially designed dry storage casks. As the BWRX-300 reactor will employ a different type of fuel assembly, which will be replaced during periodic outages rather than through online refuelling, the situation is not identical to the CANDU model. Clarington has been engaged by the operator, and it is expected and understood that this used fuel will be held on-site, in an interim capacity, like how it is for the existing CANDU reactors, until a long-term siting location is secured. Given the differences in reactor technology, however, there remains some uncertainty as to the sufficiency of these measures, the type of cask that will be used for dry storage, and the space available should a long-term solution not be forthcoming on NWMO timelines. Consideration will need to be given to the long-term storage of this specific type of waste.

Further, it is expected and understood that the same interim approach to storing Low and Intermediate Level Waste will be taken.

**Recommendations:**

- OPG to provide more clarity around the sufficiency of on-site storage of used fuel.
- CNSC and OPG to continue to educate the community, municipal staff and elected officials about nuclear waste.
- OPG to continue to work other levels of government, including the NWMO to find a long-term storage solution for the waste – in a period not more than 35 years from start of operation.



*Clarington*

Municipality of Clarington

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