



**Oral presentation**

**Exposé oral**

**Written submission from the  
Darlington Nuclear Community  
Advisory Council**

**Mémoire du  
Darlington Nuclear Community  
Advisory Council**

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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Applicability of the Darlington New Nuclear Project environmental assessment and plant parameter envelope to selected reactor technology

Applicabilité de l'évaluation environnementale et de l'enveloppe des paramètres de la centrale à la technologie de réacteur sélectionnée pour le projet de nouvelle centrale nucléaire de Darlington

**Commission Public Hearing**

**Audience publique de la Commission**

**January 2024**

**Janvier 2024**

**DARLINGTON NUCLEAR GENERATING STATION**  
**Community Advisory Council**

November 19, 2023

**CD# NK054-CORR-00531-10849**

Mr. Denis Saumure  
Commission Registrar  
Canadian Nuclear Safety Commission  
280 Slater Street  
Ottawa, ON K1P 5S9

Dear Mr. Saumure,

**Notice of Participation at the CNSC Public Hearing 2024-H-02 and Written Submission in support of the DNNP Hearing on Applicability of the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelop to the Selected Reactor Technology**

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This letter notifies the CNSC pursuant to Rule 18 of the “CNSC Rules of Procedure” of the Darlington Nuclear Community Advisory Council’s (CAC) intent to appear at the Public Hearing 2024-H-02 and to provide the associated written submission (this letter) regarding the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelope to the Selected Reactor Technology.

The CAC supports OPG’s (Ontario Power Generation) position on the applicability of the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelop to the General Electric Hitachi (GEH) BWRX-300 reactor. Our support is based on our knowledge of the history of Darlington Nuclear Generating Station (DNNGS) and our review of the Environmental Impact Statement (EIS) Review and updated Plant Parameter Envelope. See Appendix A for a list of documents reviewed. OPG has provided this Council and the community with updates on the Darlington New Nuclear Project over many years.

The CAC previously intervened in the CNSC (Canadian Nuclear Safety Commission) public hearing on June 9 and 10, 2021 regarding the Ontario Power Generation application to renew its Site Preparation License for the Darlington New Nuclear Project.

The Council (formerly known as the Darlington Nuclear Site Planning Committee) was formed around 1992. Its membership represents a large number of sectors in the community, including community associations, municipal government, health, the environment, education, youth, business and members at large. All members live or work in an area from Clarington to Oshawa and all serve on a voluntary basis without compensation. There are currently 12 members serving on the CAC.

The Council advises Darlington Nuclear on subjects of interest and concern to the community related to operations at the site. Primary areas of discussion include the environment, public health and safety, and the economy. All meetings are open to the public and minutes are available on OPG's website.

In the years leading up to the original Site Preparation Licence granted in 2012, the Council was consulted by Darlington Nuclear regarding the environmental assessment of the site designated for the proposed new nuclear project. Recently, OPG has provided the Council with a comprehensive update about the Site Preparation License—thus, we are informed and up to date on the SMR's (Small Modular Reactor).

Annually, OPG provides the CAC with Darlington Nuclear Groundwater Monitoring Program (GMP) and Environmental Monitoring Program (EMP) results. The data includes monitoring results pertaining to lands to be used for the Small Modular Reactors.

On Sept. 26, 2023, OPG provided the CAC with a summary of their submission to the CNSC regarding the EIS Review and provided CNSC Public Hearing details. On behalf of the CAC and as Chair/ Facilitator, I reviewed the following documents: OPG's Written Submission in support of the Hearing on Applicability of the Darlington New Nuclear Project (DNNP) Environmental Assessment and Plant Parameter Envelope to the Selected Reactor Technology; DNNP Environmental Impact Statement Review Report for Small Modular Reactor BWRX-300.

## **Intervention**

We are aware that OPG's 2022 application for the Licence to Construct was based on one BWRX-300 reactor. That said, the EIS review that is the subject of our intervention is for a build out of up to four BWRX-300 reactors on the site.

The current OPG review assessed whether the DNNP is consistent with the proposed 2012 new nuclear power plant subject to an environmental assessment (EA) under the Canadian Environmental Assessment Act (CEAA). At the time, a federal joint review panel (JRP) concluded that the Project is not likely to cause significant adverse environmental effects, provided the mitigation measures proposed and commitments are followed.

In May 2012, the Government of Canada accepted the JRP's conclusions for the DNNP and JRP recommendations and a 10-year Power Reactor Site Preparation Licence was issued. That Licence was renewed for another 10 years in 2021.

One of the commitments listed in the DNNP Commitment Report (Written Submission, p. x) is for OPG to comprehensively review the EIS once the specific technology is selected to ensure that the results of the EIS remain valid. Thus, a Plant Parameter Envelope (PPE) was developed for the project as a basis for evaluating the potential safety and environmental effects of the multiple reactor design being considered.

The 2009 EIS was based on 198 design parameters using the limiting value from a range of potential reactor types considered at the time. While the BWRX-300 was not one of the reactors considered at the time, the current analysis compared the BWRX-300 to the PPE used in the earlier EIS. The analysis found that eight environmental values were not in the original envelope. Through further analysis these values were not seen to impact the conclusions of the EIS and the EIS remains valid. We concur.

Our support for analysis with respect to the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelope to the Selected Reactor Technology is based, but not limited to, the following:

1. Small Modular Reactors, specifically the General Electric Hitachi (GEH) BWRX-300 reactors, provide a solution for OPG's decarbonization objectives.
2. The BWRX-300 reactor meets or exceeds regulatory safety requirements.

We concur with the review of the EIS and conclusions drawn based on the application of a Plant Parameter Envelope approach. Specifically, that the environmental effects of the SMRs fit within existing DNNP EA. We concur that the environmental effects over the entire lifecycle of the proposed BWRX-300 plant are not fundamentally different from the reactor technologies assessed under the DNNP Environmental Assessment.

Advantages acknowledged by the CAC of 4 BWRX-300 facilities are:

1. The BWRX-300 has a smaller footprint and utilizes once-through lake water cooling.
2. No radiological liquid effluent is released during normal operation of the facilities. One coolant and diffusion pipe is required for all four plants. There are no significant radiological effects as a result the BWRX-300 reactor being a zero radioactive liquid facility, which the CAC sees as a significant benefit (PPE, p 47).
3. There are fewer human health effects with effects being below regulatory limits (PPE, p. 50).

4. There are no permanent effects to groundwater flow. And, there is an opportunity to retain on-site ponds, wetlands, vegetation habitat and shoreline habitat. There will be less marine and shoreline work. No lake infilling is good. (PPE. P. 44, 46)

### **Recommendations**

1. The land use description on Page 39 of the PPE analysis is missing the reference to the completion of Highway 418 since 2012. (See PPE p. 38) This should be added to the PPE analysis and Cumulative Effects analysis.
2. We would ask that any permanent landscape effects because of excavation and grading required for the 4 BWRX-300 reactors that will be visible to the public, be finalized through the benefit of public consultation. (PPE. P38)
3. Given that the Nuclear Waste Management Organization (NWMO) has an active radioactive waste fuel cask transportation program, and given that the BWRX-300 fuel cask will involve heavier transportation and more effects on local roads, (PPE p. 40) that OPG liaise with NWMO on this matter.
4. We note that the start of this construction has forced a 1.4 km off-road section of the Great Lakes Waterfront Trail (GLWT) to be detoured to an on-road section of Energy Drive. OPG-Darlington has participated in this section of the trail since the 1990s and was historic with their re-imagination of how to integrate public access into public utility land uses. This integration should be recaptured in the new SMR project. This is a golden opportunity to integrate the detoured section of the trail in the upfront plans of this groundbreaking world class project.

Important background information: The GLWT, stretching over 3,000 km from Sault Ste Marie to the Quebec border, is a signed route connecting over 155 communities and First Nations along the Canadian shores of the Great Lakes and St. Lawrence River. This trail was awarded a 2017 trail of distinction by the Ontario Government. OPG is a partner in celebrating the nature and culture of these Great Lakes.

The GLWT is part of a strategy to protect and connect people to the largest group of freshwater lakes on earth. It is a legacy project of the Waterfront Regeneration Trust (a charity) and its community partners.

This trail is part of the province's Great Lakes Strategy and an award-winning initiative recognized by the Ontario Association of landscape architects, Parks, and Recreation Ontario, the Tourism Industry Association of Ontario, and the Durham Region Environmental Advisory Committee.

5. The CAC recommends that at appropriate times, OPG liaise with the CAC on the progress of its follow-up program.
6. OPG should ensure ongoing vigilance with respect to species at risk. (PPE p. 39)

## Conclusion

In conclusion, the Darlington Community Advisory Council supports the analysis with respect to the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelope to the Selected Reactor Technology.

Yours sincerely,

Dave Hardy, BA (Hons), MES, R.P.P., F.C.I.P.  
Facilitator  
Darlington Nuclear Community Advisory Council

### Contact:

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### Enclosures:

- CAC Terms of Reference
- List of CAC members with affiliations

### cc. to:

- Darlington Nuclear Generating Station (DN GS)
- Pickering Nuclear Generating Station (PNGS)
- PNGS Community Advisory Council
- Durham Nuclear Health Committee
- Municipality of Clarington
- City of Oshawa
- Region of Durham
- City of Pickering
- Town of Ajax
- City of Toronto

### MPs and MPPs:

- Ajax
- Pickering
- Durham
- Markham-Stouffville
- Northumberland and Peterborough South
- Oshawa
- Pickering-Uxbridge
- Whitby
- Scarborough-Rouge Park
- Scarborough-Guildwood

## **Appendix A**

2023 09 18 Ontario Power Generation, Written Submission in support of the Hearing on Applicability of the Darlington New Nuclear Project's Hearing on Applicability of the Darlington New Nuclear Project Environmental Assessment and Plant Parameter Envelope to the Selected Reactor Technology CMD 24-H2.1

2023 06 28 Ontario Power Generation, Darlington New Nuclear Project Environmental Impact Statement Review Report for Small Modular Reactor BWRX-300 NK054-REP-07730-00055-R001

## Darlington CAC Members and Affiliations, 2023

Jim Boate, Community Member

Sami Elhajjeh, Ward 1 Councillor, Clarington

Cara Gregory, Central Lake Ontario Conservation Authority

Shiela Hall, Clarington Board of Trade

Bethany Metovic, Bowmanville Hospital Foundation

Mary Novak, Community Member

Jennifer O'Meara, Municipality of Clarington

Pat Pingle, Community Member

Heather Reid, Student, Durham College

Penny Smith, Community Member

Stacey Wanamaker, Student, Ontario Technical University



**DARLINGTON NUCLEAR COMMUNITY ADVISORY COUNCIL**  
**DRAFT**  
**TERMS OF REFERENCE**

In order to take a broad approach to community consultation, Darlington Nuclear Generating Station (DN) decided in 2010 to develop and implement a wide-ranging community consultation and communication program. The core component of the program is the formation of a Community Advisory Council (Darlington CAC). The CAC will build on the heritage of the former Darlington Site Planning Committee, a committee which has served OPG and the community in a similar function for the last 20 years. The Council is made up of citizens, representatives of non-government organizations and members of local government staff who examine a number of issues associated with the existing and future generating stations located at the Darlington Nuclear site.

This document sets out the scope of work and administrative procedures for the Community Advisory Council. It will be discussed and revised from time to time by the Council and Darlington Nuclear.

### **1.0 DARLINGTON CAC Purpose and Activities**

The Community Advisory Council assists Darlington Nuclear Generating Station(s) (DN) in identifying and responding effectively to the concerns of the community. The Council:

- Identifies community issues and concerns.
- Provides advice to DN on community expectations in all areas of interest or concern to the community as well as topics raised by DN.
- Defines the actions members believe will be required to continuously improve operations at the site and promote the well-being of the community.
- Provides advice on DN communications activities and performance reports to the community on the environmental, economic and social effects of the operation of the plant on the community.
- Monitors programs at the station which have an impact on the community.
- Provides input into environmental assessments related to DN, e.g. on refurbishment of nuclear reactors and new nuclear construction.
- Participates in tours of relevant DN or municipal sites.
- Identifies target outreach groups.
- Provides advice in identifying and implementing community outreach activities.
- From time to time, produces a report to the community on DARLINGTON CAC activities
- Maintains a brochure on the DARLINGTON CAC as an information and recruiting tool, updating it as required.
- Works with other organizations and consultation mechanisms related to the nuclear industry in the Region, in a manner that maximizes information sharing and minimizes duplication.

Council advice focuses on, but is not limited to, the following topics:

- The effects of Darlington Nuclear operations on the environmental, health, safety, social and economic interests of the community.
- Government plans for Ontario's future energy mix and security of supply as they apply to the area.
- Waste management activities on and off site that relate to Darlington Nuclear, including the work of the Nuclear Waste Management Organization (NWMO).

- New technologies and trends in nuclear power or other forms of power that may involve the Darlington site.

## **2.0 DARLINGTON CAC Composition**

To ensure that the Council is representative of community opinion, membership will be as broad as possible, within the limits set by Council effectiveness. Membership will include individuals (who may or may not be members of community organizations) as well as representatives of specific community organizations and staff members from local governments. Members will be sought primarily from Durham Region, and will also include participation from those using the Darlington area as a commuter route.

In recruiting members representing specific organizations, the facilitator will determine which individual (and alternative) will represent the organization; this decision will be made in consultation with the organization, the DARLINGTON CAC and DN management. Representatives of particular organizations will be expected to communicate the concerns of their constituencies at DARLINGTON CAC meetings and share DARLINGTON CAC feedback with their constituencies.

Citizens at large will be persons who have demonstrated an interest in community affairs and the role of Darlington Nuclear in the community. The DARLINGTON CAC, DN management or the facilitator may recommend citizens at large for membership on the Council. As well, citizens may recommend themselves. The facilitator will recruit citizens at large in consultation with the DARLINGTON CAC and DN management. Every effort will be made to ensure that the Council as a whole reflects the demographic diversity and range of stakeholder interests in Durham Region. While it is unlikely that all relevant constituencies will be represented on the Council at any one time, it is anticipated that, over time, all of these constituencies will play a role in Council discussions.

### **Constituencies**

Citizens at Large Appointed Representatives:

- Residents of Durham Region and Clarington
- Business
- School Board
- Post-secondary Education
- Oshawa and Bowmanville General Hospitals
- Youth (high school or postsecondary student)
- Women in Nuclear (or Women in Engineering)\*
- Agricultural Community
- Faith Community (ecumenical focus)
- Waterfront trail user
- Local Neighbourhood/Community Associations
- Central Lake Ontario Conservation Authority
- Durham Region
- Municipality of Clarington
- City of Oshawa

### **3.0 Role of Members of Council**

All members of the Council will be equals. Members will be expected to participate vigorously in debates to ensure that their position or the position of the organization they represent is understood. At the same time, however, members will show respect to each other, whether or not they agree. Members will work toward providing constructive, actionable advice to Darlington Nuclear.

In order to ensure that the Darlington CAC reflects a broad range of community interests, members or alternates are expected to attend all meetings. If the repeated absence of a member is felt to be limiting the ability of the Darlington CAC to carry out its work effectively, the facilitator may ask the member to withdraw or take a leave of absence.

At the end of each meeting, members will review the meeting and note any opportunities for process improvements. As well, the Darlington CAC will annually conduct evaluations of the consultation process to ensure that the Darlington CAC is operating as effectively as possible.

### **4.0 Role of Darlington Nuclear**

Darlington Nuclear will:

- Provide information on agenda topics in a timely manner so the Council can assist DN to develop an appropriate course of action.
- Provide operating and scientific expertise from internal resources to support the work of the Council; Darlington Nuclear will endeavour to provide independent professional resources to support the work of the Council when that expertise is required.
- Arrange for resource persons from the Ministry of Energy, Ontario Power Authority or other relevant agencies to attend meetings to address Darlington CAC questions when OPG is not the logical organization to respond.
- Participate in discussions with a view to developing solutions and actions to meet the objectives of the company and the community.
- Use the Council as a sounding board with respect to the tone, objectivity and content of communications.
- Provide feedback to the Council on decisions taken and on progress of programs.

### **5.0 Recommendations and Reporting Relationships**

#### **5.1 Reporting to Darlington Nuclear**

The Darlington CAC will submit advice and recommendations to the Darlington Nuclear Site Senior Vice President. There is a preference for face-to-face communications between the Council and representatives of senior DN management concerning advice and feedback. Both recommendations from the Darlington CAC and responses from DN management will be documented in the minutes. In cases where DN has decided not to follow Council recommendations, the reasons for this decision will be explained to the Council. The facilitator is responsible for recruitment of new members under the direction of the Darlington CAC and DN management.

## **5.2 Relationship of the Darlington CAC to the Broader Public**

The work of the Darlington CAC will be of interest to the public and many different stakeholder groups. Darlington CAC meetings will be advertised and will be open to the public. Members of the public who want to attend meetings should arrange with the facilitator in advance; at the meeting they will be invited to make comments during a specified period on the agenda.

Once approved by the members, Council minutes will be posted on the OPG public website ([www.opg.com/community/activities//darlington\\_cac.asp](http://www.opg.com/community/activities//darlington_cac.asp)). Outside meetings, members are free to comment on Ontario Power Generation and Darlington Nuclear, but do so as individuals. Public comments attributed to the Darlington CAC must be approved by the members in advance.

From time to time, the Darlington CAC will produce a report to the community on Darlington CAC activities.

## **5.3 Relationship to Existing Consultation Mechanisms**

The Darlington CAC recognizes that there are other organizations and consultation mechanisms in place related to the nuclear industry in the Region. New initiatives sometimes create new mechanisms for consultation. The Darlington CAC will work with such initiatives in a manner that maximizes information sharing and minimizes duplication.

## **6.0 Conduct of Meetings**

### **6.1 Frequency**

Darlington CAC members can expect to meet 6-10 times a year. Taking the months of July and August off, the Council meets on the second Tuesday of each month at the DNGS Information Centre (unless otherwise arranged).

### **6.2 Facilitation**

The facilitator will serve the interests of both the members of the Council and Darlington Nuclear, without bias.

The facilitator will:

- Coordinate arrangements for meetings with designated Darlington Nuclear staff
- Prepare agendas for all meetings of the DARLINGTON CAC and committees in discussion with DARLINGTON CAC members and Darlington Nuclear
- Facilitate all meetings of the DARLINGTON CAC and subcommittees
- Maintain contact with members and with Darlington Nuclear to ensure that the process is meeting expectations
- Assist technical presenters to make presentation materials understandable, free of industry jargon and responsive to the needs of the members
- Ensure that minutes of meetings are kept, approved by members and distributed on time
- Prepare reports under the direction of the DARLINGTON CAC and its subcommittees
- Work with the DARLINGTON CAC to maintain a work plan
- Work with the DARLINGTON CAC Agenda Advisory Committee (AAC) to ensure the effective development of agendas for DARLINGTON CAC meetings (This committee will

involve DN Public Affairs and Environmental managers on a regular basis, and the Manager of Waste Management when agenda planning requires input on that topic.)

The Darlington CAC will review the effectiveness of the facilitation team on an annual basis. It is the Council's role to make recommendations concerning the facilitation team and DN's role to make hiring decisions.

### **6.3 Minutes**

The facilitator will provide a person who will record the discussion. The minutes will reflect all views expressed by members, including minority positions. The minutes will not attribute comments to a particular person or group unless specifically requested to do so by the person or group. From time to time, members may speak to an official position of their organization, in which case that fact will be noted. Minutes will summarize discussions and will report on the range of opinions offered by members.

Draft minutes from each meeting will be circulated to all members at the same time and be received at least five days before the next meeting. Members are expected to review the minutes in advance and comment on them at the next meeting.

As noted in Section 4.1, Darlington CAC minutes will be posted on the OPG public web site (<http://opg.com>).

### **6.4 Subcommittees**

The Darlington CAC may establish subcommittees to progress their work. Subcommittees appointed to address specific issues will be composed of some members of the Darlington CAC but may, with the approval of the Darlington CAC, add outside members with specific skills in the area being addressed.

Upon reaching a draft report or recommendation, each committee shall submit the same to the full Darlington CAC for review and comment either at a full meeting of the Darlington CAC or by feedback between meetings. Subcommittees will not make recommendations to Pickering Nuclear. Any final report or recommendation will be submitted to DN by the Darlington CAC.

### **7.0 Confidentiality**

Darlington Nuclear may designate specific information as confidential. In doing so, the company will also specify the audiences who can receive the information and the period for which the information will be confidential. Members will then decide whether they will receive the information or withdraw. If they elect to stay, they will respect the confidential designation for the specified period. Meetings will be in camera for the presentation and discussion of confidential information.

### **8.0 Conflict of Interest**

Darlington CAC members will identify issues with which they may have a conflict of interest. The Darlington CAC will then determine if the conflict is such that the member should be excused from the discussion. The Darlington CAC may take any further actions deemed to be necessary to address a situation determined to be a conflict of interest.

Darlington Nuclear will provide to the Darlington CAC on an annual basis a list of community organizations it supports.

### **9.0 Expense Reimbursement**

Darlington CAC membership is voluntary; members will not be reimbursed for time spent working on Darlington CAC activities. However, Darlington Nuclear will reimburse reasonable travel and out of pocket expenses incurred as a result of attending meetings of the Darlington CAC. These expenses will be paid in accordance with OPG reimbursement guidelines.