



Oral Presentation

Exposé oral

**Written submission from the
Mohawks of the Bay of Quinte**

**Mémoire des
Mohawks of the Bay of Quinte**

In the Matter of the

À l'égard de

Darlington New Nuclear Project

**Projet de nouvelle centrale nucléaire de
Darlington**

Application to renew the nuclear power
reactor site preparation licence for the
Darlington New Nuclear Project

Demande de renouvellement du permis de
préparation de l'emplacement d'une centrale
nucléaire pour le projet de nouvelle centrale
nucléaire de Darlington

Commission Public Hearing

Audience publique de la Commission

June 10-11, 2021

10 et 11 juin 2021



MOHAWKS OF THE BAY OF QUINTE

KENHTEKE KANYEN'KEHA:KA

COMMUNITY INFRASTRUCTURE/ TECHNICAL SERVICES/ ENVIRONMENT

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Phone 613-396-3424 Fax 613-396-3627

May 7, 2021

Cnsc.interventions.ccsn@canada.ca

RE: June 9-10 Public Hearing on OPG's Application for Licence Renewal for Darlington New Nuclear Project

Greetings,

The Mohawks of the Bay of Quinte are seeking to intervene, by way of written submission and oral presentation, to the Ontario Power Generation's Licence to Prepare Site for the Darlington New Nuclear Project.

Please find attached, the Mohawks of the Bay of Quinte's written submission of the comments to be presented to the Commission. The Mohawks of the Bay of Quinte's (MBQ) written submission has been completed by XCG Consulting Limited on behalf of MBQ. In addition to our comments, MBQ would like to reiterate that we have concerns with nuclear energy, the storage of waste, and new nuclear technology.

Communication on this matter can be communicated to Chief R. Donald Maracle at rdonm@mbq-tmt.org, MBQ CAO David Souliere at cao@mbq-tmt.org, and Nicole Storms at nicoles@mbq-tmt.org.

Sincerely,

Original signed May 7, 2021 by

Chief R. Donald Maracle

May 7, 2021

XCG File No.: 1-664-67-01

Chief and Council
Mohawks of the Bay of Quinte
24 Meadows Drive
Tyendinaga Mohawk Territory, ON
K0K 1X0

Re: Environmental Review of Licensing Documentation Related to the Ontario Power Generation's Licence to Prepare Site for the Darlington New Nuclear Project

Dear Chief and Council:

1. INTRODUCTION

XCG Consulting Limited (XCG) was retained by the Mohawks of the Bay of Quinte (MBQ) to conduct a review and analysis, from the perspective of MBQ and their interests, of relevant licensing documentation in relation to Ontario Power Generation's (OPG) Licence to Prepare Site (LTPS) for the Darlington New Nuclear Project (DNNP) renewal. This engagement was made possible through the Canadian Nuclear Safety Commission (CNSC) Participant Funding Program (PFP), which provided participant funding to various stakeholders, including MBQ.

The DNNP site is located in the Municipality of Clarington, in the Regional Municipality of Durham, about 70 kilometres east of Toronto on the north shore of Lake Ontario. The DNNP site is approximately 177 hectares in area and is bounded to the north by the South Service Road of Highway 401 and to the south by Lake Ontario. To the west, the site is bounded by a large industrial complex associated with the St. Marys Cement limestone quarry and processing plant, and to the east the Darlington Nuclear Generating Station.

The MBQ community, the Tyendinaga Mohawk Territory (TMT), is on the north shore of the Bay of Quinte, approximately 140 kilometres east of the DNNP. Protection of the natural environment is a high priority for the MBQ.

Thus, it is of critical importance to the MBQ that environmental management of future site preparation activities and operations at the DNNP be carried out in a manner that will minimize the risk of environmental and human health impacts that could affect the MBQ and its traditional lands. This principle was a key consideration during the completion of XCG's environmental review.



2. PROJECT SUMMARY

The following is an excerpt from the project description of the DNNP provided to MBQ by CNSC during the application process for the PFP:

OPG currently holds a 10-year licence to prepare site that was issued in 2012 following a multi-year Joint Review Panel Environmental Assessment (EA) process under the Canadian Environmental Assessment Act, 1992 (CEAA 1992). OPG is requesting a 10-year renewal of the licence to prepare site with no proposed changes to the scope of the planned activities described in OPG's current licence. The activities listed in OPG's licence to prepare site are the following:

- a) Construction of site access control measures;*
- b) Clearing and grubbing of vegetation;*
- c) Excavation and grading of the site to a finished elevation of approximately +78 metres above sea level (masl);*
- d) Installation of services and utilities (domestic water, fire water, sewage, electrical, communications, natural gas) to service the future nuclear facility;*
- e) Construction of administrative and support buildings inside the future protected area;*
- f) Construction of environmental monitoring and mitigation systems; and*
- g) Construction of flood protection and erosion control measures.*

OPG has not commenced licensed activities to date. Since 2012, OPG has been conducting limited work in support of commitments made during the EA and licensing process. These are formally managed as conditions of the licence. While OPG does not need to complete all commitments related to site preparation in order to receive a renewed licence, they must be completed before OPG is allowed to conduct the site preparation activities related to that commitment. This is ensured through the CNSC compliance program.

To date, OPG has not selected a reactor technology for this project, however, it has indicated to the CNSC that it aims to apply for a Licence to Construct the new nuclear reactors at some point in the future.

As noted above, planned site activities involve site preparation only as part of this LTPS renewal.

3. INFORMATION SOURCES

3.1 Licensing Documentation and Reports Reviewed

Documents and related reports XCG reviewed were downloaded from the OPG and CNSC websites pertaining to the DNNP. Based on available allotted review time, the following documents were identified as containing the most relevant information related to the scope of this review:

- “OPG Written Submission in support of the renewal of Darlington New Nuclear Project's Power Reactor Site Preparation Licence Commission Member Document CMD 21-H4.1,” Ontario Power Generation (CD#NK054-CORR-00531-10568), dated February 21, 2021. [Referred to in this review as the “OPG CMD report”];



- “A Licence Renewal Ontario Power Generation Inc. Darlington New Nuclear Project Commission Member Document CMD 21-H4.1,” CNSC, dated March 8, 2021. [Referred to in this review as the “CNSC CMD report”];
- “Darlington New Nuclear Project Power Reactor Site Preparation Licence Renewal Application,” Ontario Power Generation (CD#NK054-CORR-00531-10522, dated June 29, 2020, [Referred to in this review as the “OPG renewal application”];
- “DNNP – Submissions of Aggregate Assessment Report and CNSC Staff’s Prior Written Notification of Document Change: Darlington New Nuclear Project Commitments Report R004, (OPG#NK054-CORR-00531-10530” and related attachments, dated June 29, 2020, [Referred to in this review as the “OPG aggregate assessment report”];
- “Update on Darlington New Nuclear Licence Renewal,” OPG, PowerPoint Presentation to the Mohawks for the Bay of Quinte, dated October 7, 2020; and
- “OPG DNNP Licence Renewal,” CNSC, PowerPoint Presentation to Mohawks of the Bay of Quinte and XCG, dated February 24, 2021.

3.2 OPG and CNSC Information Sessions

The following indigenous engagement activities took place with MBQ related to the OPG LTPS:

- On October 7, 2020, OPG presented a PowerPoint presentation via webcam to the MBQ Environmental Services Coordinator and the Consultation Coordinator. The presentation was titled “Update on Darlington New Nuclear Licence Renewal;” and
- On February 24, 2021, CNSC presented a PowerPoint presentation via webcam to the MBQ Environmental Services Coordinator and XCG staff titled “OPG DNNP Licence Renewal.”

Both presentations provided a brief overview of the LTPS and the licensing process.

4. ENVIRONMENTAL REVIEW FINDINGS

Presented below are the key findings of XCG’s review of the information obtained from the sources described in Section 3.

4.1 Loss of Habitat

Part of the DNNP is to develop the site to make way for new access roads, site servicing, administrative and support buildings and other construction related activities. The OPG commitments report outlines many terrestrial environment mitigation measures and plans that include:

- Salvage and relocate aquatic plants and biota where practicable to a suitable existing location or create a habitat in advance of site preparation activities;
- Maintain access for wildlife travel on the east-west wildlife corridor during construction activities;
- Minimize areas to be cleared;



- Post construction, re-plant 40 to 50 hectares of cultural meadow and 15 to 20 hectares of cultural thicket with native shrub plantings on the project site.

It is unclear who would be responsible for ensuring and overseeing these activities during construction. The Joint Review Panel (JRP) recommended OPG perform a thorough evaluation of the site layout before site preparation activities begin. MBQ would be interested in reviewing the findings of the evaluation, and may be interested in an opportunity to assist with the planning stages.

In addition, it is unclear who will be conducting the transfer of plants and if there would be an opportunity for MBQ or other indigenous groups to be involved with this process.

4.2 Lake Infilling

As a technology has not yet been selected for the DNNP, the OPG commitments report identifies the possibility of approximately 40 hectares of lake infilling to a depth of 2 metres. MBQ strongly agrees with the JRP recommendation that no lake infilling occurs unless there is certainty that the DNNP will proceed. The above construction activities and loss of habitat have the potential to affect aquatic species in Lake Ontario. Therefore, it is essential for OPG to follow through with mitigating the impacts by continuing to undertake appropriate aquatic habitat protection and/or restoration projects.

In the event infill activities are required as part of the DNNP, OPG must provide for review a lake infill design report, fish habitat compensation plan, and Round Whitefish action plan. These should be reviewed by the Department of Fisheries and Oceans (DFO) as stated in the OPG commitment report. The above design report and compensation plans must be prepared in accordance with the DFO Authorization under Fisheries Act Sections 32 and 35(2) to determine fish habitat compensation requirements and mitigation options. The authorization under the Fisheries Act will be required prior to any lake infilling and confirms that DFO will work with OPG to ensure that, as a condition of authorization, no lake infill occurs unless there is certainty that the DNNP will proceed, and that appropriate mitigation measures and habitat compensation have been implemented.

OPG indicates that good industry management practices will be implemented during any activities associated with lake dredging, infilling, and lake blasting. This will include suspended sediment management to meet appropriate regulatory requirements for discharge into Lake Ontario. Selection and placement of infill materials will be undertaken consistent with the criteria outlined in the Ontario Ministry of the Environment's Fill Quality Guide and Good Management Practices for Shore infilling in Ontario, 2011.

Any lake infilling is of concern to the MBQ as it has the potential to negatively impact water quality, aquatic plants and biota, fish spawning and natural habitat areas. Therefore, it is critical to the MBQ that OPG follow through with commitments to ensure lake infilling occurs in accordance with DFO approvals and requirements.

4.3 Fish Habitat Compensation

As noted in the above section, lake infilling requires OPG to obtain DFO approval prior to any lake infilling activities. One of the conditions of obtaining approval is the development of a fish compensation plan. The fish compensation plan will only be developed in the event it is determined that lake infilling will occur based on the DNNP design.



Provisions for the development of a fish habitat compensation plan are included in the commitments report. Prior to lake infilling OPG commits to working with and obtaining approval from DFO, Ministry of Natural Resources (MNR), and Central Lake Ontario Conservation Authority (CLOCA), as required, for the fish habitat compensation plan. The final fish habitat compensation plan will contain components that will address the requirements under section 35(2) of the Fisheries Act, specifically the harmful alteration, disruption, and destruction of fish habitat (HADD), and under Section 32, the destruction of fish by any means other than fishing. The finalised plan developed by OPG will be consistent with No Net Loss guiding principles. In accordance with DFO policy the Management of Fish Habitat (DFO 1986), OPG intends to undertake measures to compensate for and mitigate against the loss of fish and fish habitat arising from the DNNP.

As appropriate, baseline information on Round Whitefish preferred habitat will be used as an input into some of the physical compensation projects, as appropriate once data from the baseline studies for a Round Whitefish Action Plan are generated. These options will be reviewed by OPG to determine if they are suitable for this species and/or other species or groups of species of interest.

If required fish habitat compensation will be developed either on-site or off-site as opportunity allows to offset the loss of direct and indirect fish habitat and to satisfy requirements of DFO, MNR, CLOCA, and the Fisheries Act authorization.

The area of potential future thermal discharge mixing zone will be taken into consideration as a physical habitat disruption and will be included in fish habitat offsetting requirements.

As the TMT is downstream of the DNNP in Lake Ontario with many TMT community members actively fishing in the Bay of Quinte, the livelihood and well-being of MBQ band members depends on the quality of the fish and other freshwater aquatic life in Lake Ontario and in particular the Bay of Quinte. Therefore, it is imperative from MBQ's perspective that OPG follow through with its commitments to ensure fish habitat is maintained and/or reinstated at the DNNP or suitable offset locations.

4.4 Bank Swallows and Related Species

As noted in the OPG aggregate assessment report, mitigative measures must be considered for species at risk such as Bank Swallows and other related bird species. The technology of the DNNP has not been selected, therefore the mitigation plans are currently generalized in their framework and will be developed based on DNNP requirements. The mitigation measures recommended include scenarios with no disturbance of the existing natural bluff, to degrees of bluff removal, and complete bluff removal. In each instance a framework for the development of a mitigation plan has been prepared. Based on the future site development plan, mitigative measures and plans will be developed in consultation with CNSC, Environment Canada (EC), MNR, and CLOCA.

The preferred mitigation measures include the development of the site in a manner that minimizes the destruction of the natural bluff using the best available technologies that are achievable. The bluff should only be removed if it is determined that this is absolutely necessary for the DNNP.



If it is determined that all bluff habitats would be lost as part of site development, implementation of a mitigation plan that includes the following is required:

1. Provision of artificial Bank Swallow habitat on the adjacent Darlington Nuclear (DN) site.
2. Acquisition of lands containing existing colonies for study and protection.
3. Provision of artificial nesting habitat for related species such as Chimney Swift and Purple Martins on the DN site.
4. Partnering to undertake research into declining aerial foragers in Ontario.
5. Integration of interpretive opportunities, such as, interpretive signage and observation decks.

The loss of bluff habitat for foraging aerial species include Bank Swallows is not anticipated to have a direct impact on the TMT lands or MBQ residents. However, the loss of any natural habitat and disturbance of species at risk is of great concern to MBQ. MBQ supports the preferred mitigation measure that includes the development of the site in a manner that minimizes the destruction of the natural bluff and associated nesting habitat.

4.5 Environmental Practices During Construction

The OPG commitments report outlines that erosion, sediment, dust, and surface water control plans, etc. will be developed in consultation with regulatory agencies and good industry management practices.

As design details are not yet finalized, the OPG commitments report states that the erosion and sediment control plan will be submitted to various organizations including CNSC, DFO, MNR, CLOCA no later than 3 months prior to commencement of proposed activities. It is unclear if these timelines are concurrent or consecutive.

In regard to oversight during site improvements, the OPG commitments report indicates that OPG will review environmental management and protection plans provided by a vendor and will actively monitor vendor activities with respect to their compliance with the plans. It is unclear if CNSC will also actively monitor OPG's vendor activities. MBQ believes that CNSC oversight is required to ensure site control plans are followed and that no releases occur to Lake Ontario that could in any way be detrimental to fish and/or fish habitat since the TMT is downstream of the DNNP in Lake Ontario.

Many TMT community members fish in the Bay of Quinte, and thus their livelihood and well-being depends on the quality of the fish and other freshwater aquatic life in Lake Ontario and in the Bay of Quinte, in particular. Any releases have the potential to negatively impact freshwater aquatic life. Therefore, it is important, from the MBQ's perspective, that OPG follow through with its efforts to limit releases, and that these mitigation measures be implemented as soon as is practicable not only for the Round Whitefish population, but other fish species and invertebrate populations in the lake.

4.6 Environmental Spills

Prior to site development OPG notes that they are committed to having spill prevention and contingency plans in place that include spill control measures to reduce the probability of spills occurring and to reduce the potential effect of a spill on the environment. OPG indicates that



good industry management practices will be implemented as part of the Environmental Management and Protection Plan(s) to prevent releases.

Immediate notification should be provided to MBQ if any environmental spills have the potential to impact Lake Ontario directly or indirectly, and subsequently negatively impact TMT lands, waters, or residents.

OPG should follow through with the implementation of these plans as quickly as possible.

4.7 Seismic Events and Extreme Weather

As noted in the OPG commitments report, limited seismic data is currently available for the DNNP site as it was reported that only four boreholes currently exist in the DNNP construction area. Reviewed information provided limited detail on seismic design parameters for the future DNNP. Recent earthquakes affected Ontario in 2010 and 2012 that measured 5.0 and 5.2, respectively on the Richter scale. Recent EF2 tornadoes occurred in southwestern Ontario in August 2015. This demonstrates the potential for natural disasters and extreme weather events to occur in the vicinity of the DNNP. Therefore, it is imperative that the DNNP utilize the highest design standards to withstand earthquakes and tornadoes, and any other natural disasters that have the potential to occur.

5. SUMMARY OF KEY FINDINGS

The following summarizes the key findings of this environmental review:

1. Part of the DNNP is to develop land throughout the site to make way for new access roads, site servicing, administrative and support buildings and other construction related activities that will result in loss of existing habitats. It is unclear who would be responsible for ensuring and overseeing terrestrial environment mitigation measures and plans during construction. The JRP recommended OPG perform a thorough evaluation of the site layout before site preparation activities begin. MBQ would be interested in reviewing the findings of the evaluation, and may be interested in an opportunity to assist with the planning stages. In addition, it is unclear who will be conducting the transfer of plants and if there would be an opportunity for MBQ or other indigenous groups to be involved with this process.
2. The OPG commitments report identifies the possibility of approximately 40 ha of lake infilling to a depth of 2 metres. MBQ strongly agrees with the JRP recommendation that no lake infilling occurs unless there is certainty that the DNNP will proceed. The above construction activities and loss of habitat have the potential to affect aquatic species in Lake Ontario. Any lake infilling is of concern to the MBQ as it has the potential to negatively impact water quality, aquatic plants and biota, fish spawning and natural habitat areas. Therefore, it is critical to the MBQ that OPG follow through with commitments to ensure lake infilling occurs in accordance with DFO approvals and requirements.
3. Lake infilling requires OPG to obtain DFO approval prior to any infilling activities and to develop a fish compensation plan. If required, fish habitat compensation will be developed either on-site or off-site as opportunity allows to offset the direct and indirect loss of fish habitat. It is imperative from MBQ's perspective that the OPG follow through with its commitments to ensure fish habitat is maintained and/or reinstated at the DNNP.



4. Mitigative measures must be considered for species at risk such as Bank Swallows and other related bird species. MBQ supports the preferred mitigation measures that include the development of the site in a manner that minimizes the destruction of the natural bluff using the best available technologies that are achievable. The loss of any natural habitat and disturbance of species at risk is of great concern to MBQ without suitable consideration and replacement through offsetting.
5. Site control plans for management of erosion, sediment, dust, and surface water control, etc. will be developed in consultation with regulatory agencies following good industry practices. OPG will review environmental management and protection plans provided by a vendor and will actively monitor vendor activities with respect to their compliance with the plans. It is unclear if CNSC will also actively monitor OPG's vendor activities. MBQ believes that CNSC oversight is required to ensure site control plans are followed and that no releases occur to Lake Ontario that could in any way be detrimental to fish and/or fish habitat since the TMT is downstream of the DNNP in Lake Ontario.
6. OPG notes that they are committed to having spill prevention and contingency plans in place that include spill control measures to reduce the probability of spills occurring and to reduce the potential effect of a spill on the environment. OPG should follow through with the implementation of these plans as quickly as possible. In the event of an unplanned release that could potentially affect the TMT, either in the long term or the short term, OPG should provide immediate notification to the MBQ.
7. Limited information on seismic design parameters is available for the future DNNP. Recent earthquakes affected Ontario in 2010 and 2012 that measured 5.0 and 5.2 on the Richter scale, respectively. Recent EF2 tornadoes occurred in southwestern Ontario in August 2015. This demonstrates the potential for natural disasters and extreme weather events to occur in the vicinity of the DNNP. Therefore, it is imperative that the DNNP utilize the highest design standards to withstand earthquakes and tornadoes, and any other natural disasters that have the potential to occur.

6. LIMITATIONS

This review relied on information provided in documents produced by others. In conducting this peer review, XCG assumed that the information presented in these documents is accurate. XCG did not conduct investigations or inquiries in order to independently verify the information provided in the documents. Therefore, XCG does not accept responsibility for any inaccuracies in the available information.

The scope of this letter report is limited to the matters expressly covered. This report was prepared for the sole benefit of the client to whom the report is addressed, and may not be relied upon by any other person or entity without the written authorization of XCG Consulting Limited. As such, the scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users. If others use or reuse this document or the findings, conclusions, or recommendations represented herein it is at the sole risk of said users.



7. CLOSURE

If you have any questions regarding the above, or require anything further, please do not hesitate to contact me.

Yours very truly,

XCG CONSULTING LIMITED

ORIGINAL SIGNED MAY 7, 2021 BY

Kevin Shipley, M.A.Sc., P.Eng., EP(CEA), EP, QP_{RA}
Director / Senior Consultant

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