



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Canada

MID-TERM REPORT ON OPG DARLINGTON NEW NUCLEAR PROJECT LICENCE TO PREPARE SITE

CMD 18-M55.A

December 13, 2018

CNSC Staff Presentation



Outline



- Purpose
- Background
- CNSC staff oversight of OPG activities
- CNSC activities
- Closing remarks

Purpose

The logo of the Canadian Nuclear Safety Commission (CNSC) is circular, featuring a stylized atomic symbol with three orbiting electrons and a central nucleus. The acronym 'CNSC' is written on the left side and 'CCSN' on the right side, with a small red maple leaf in the center.

The Commission requested, in its *Record of Decision* for the Licence to Prepare Site, a mid-term update on the Darlington New Nuclear Project (DNNP):

“The mid-term update shall include:

- ***results of compliance activities and licensee’s performance***
- ***information on control of land use around the site***
- ***implications from the findings of the Fukushima Task Force***
- ***information on environmental monitoring and follow-up program”***

This mid-term CMD is presented for information

BACKGROUND

Background - Darlington Site



Source: OPG

Background - Chronology

Date	Activity
2006	OPG applies for a Licence to Prepare Site (LTPS)
May 2007	OPG submits project description, Environmental Assessment (EA) commences under <i>CEAA 1992</i>
October 2009	Joint Review Panel (JRP) is established to review both EA and LTPS application
March 21 - April 8, 2011	JRP Public Hearing on EA and LTPS in Courtice, Ontario
August 2011	JRP submits final EA Report with recommendations to Federal Minister of Environment who presents it to the Governor in Council
May 2012	Government of Canada responds to the JRP recommendations
August 2012	Commission issues LTPS for a term of 10 years
December 2013	Ontario government decides to defer decision to build new nuclear power plant



Joint Review Panel (JRP)

- Panel
 - Established by the Minister of the Environment and the President of the CNSC
 - Carried the EA review panel duties (CEAA 1992) and powers of the Commission (NSCA)
- Conclusion of JRP hearing process
 - DNNP is not likely to cause significant adverse environmental effects provided mitigation measures are in place
 - OPG is qualified to carry out activities described in the application
- The JRP, as a panel of the Commission, subsequently issues a 10 year site preparation licence for DNNP



Power Reactor Site Preparation Licence (PRSL)

Authorized site preparation activities:

- construction of site access control measures
- clearing and grubbing of vegetation, excavation and grading of the site
- installation of services and utilities
- construction of support buildings inside the future protected area
- construction of environmental monitoring and mitigation systems
- construction of flood protection and erosion control measures

OPG has not performed any of the above site preparation activities to date

Performance against Licence Conditions (1/2)

General

- Licence Condition 1.1 (Prerequisite to site preparation activities)
 - provision of required documents prior to commencing site preparation activities

Site Specific Conditions

- Licence Condition 10.1 (Licensing commitments)
 - *“The licensee shall implement the mitigation measures proposed and commitments made during the Darlington JRP process.”*
- Licence Condition 10.2 (JRP recommendations)
 - *“The licensee shall implement the applicable recommendations of the Darlington Joint Review Panel Report in accordance with the Government of Canada response.”*

There has been no amendment to the Licence Condition Handbook since issuance of the licence

Performance against Licence Conditions (2/2)



Work undertaken to date consists of long-lead activities to address OPG DNNP Commitments Report (Licence Conditions 10.1 and 10.2)

- Bank Swallows Mitigation Measures
- Condenser Cooling Water Assessment
- Fish Habitat Compensation Plan and Round Whitefish Action Plan

CNSC staff is satisfied that the DNNP Commitments Report is complete and comprehensive



CNSC STAFF OVERSIGHT OF OPG ACTIVITIES TO ADDRESS DNNP COMMITMENTS

Bank Swallow Mitigation Measures and Plan

JRP recommendation:

- Prior to any destruction of Bank Swallow habitat, OPG is required to implement its proposed Bank Swallow mitigation measures (such as artificial habitat)

Status:

- Bank Swallows are now designated as a threatened species under the *Species at Risk Act*
- To date there have been no impacts to Bank Swallows since no site preparation activities have taken place
- CNSC staff reviews OPG's annual reports on the long term monitoring of bank swallows colonies, annual burrow counts and implementation of artificial nesting habitat



Once-through Condenser Cooling

JRP recommendation:

- OPG to evaluate the cost-benefit of cooling tower versus once-through condenser cooling, applying the principle of best available technology economically achievable

Status:

- OPG has identified once-through cooling as the preferred option based on assessment of factors such as, terrestrial and aquatic habitat loss, amount of excavation, water consumption, etc.
- CNSC staff, the Department of Fisheries and Oceans Canada (DFO) and Environment Canada and Climate Change (ECCC) reviewed the analysis and concluded that **once-through cooling is acceptable subject to meeting specific conditions:**
 - an acceptable baseline study by which to measure impingement and entrainment reductions
 - design requirements around a live fish return system and approach velocities
 - satisfactory completion of OPG commitments related to the selection of a once-through cooling system



Aquatic Environment Characterization

With proposed once-through condenser cooling

- OPG has begun to conduct studies to characterize the aquatic baseline and help optimize the location of intake and diffuser structures for DNNP
- CNSC staff reviewed and accepted, in coordination with DFO and ECCC, the sampling methodology proposed for a more comprehensive aquatic survey in the area of potential intake and diffuser locations



Fish Habitat Compensation Plan

JRP recommendations:

- No infill until reactor technology is chosen and certainty that the project will proceed
- No infill beyond a depth of 2 meters in lake Ontario

Status:

- No site preparation activities to date and no lake infill
- Big Island Wetland project was established to create a new fish habitat that would offset any future potential habitat loss
 - CNSC staff, along with DFO, reviewed and accepted the Big Island Wetland project, and continues to monitor the compensation plan



Round Whitefish Action Plan

JRP recommendation:

- *“OPG to continue the research element of the proposed Round Whitefish Action Plan for the specific purpose of better defining the baseline condition...”*

Status:

- CNSC staff have reviewed studies conducted on genetics and temperature effect on eggs and spawning habitat and found:
 - no discrete Round Whitefish genetic populations were identified along the north-central shore of Lake Ontario
 - Round Whitefish are a thermally sensitive species, however, the embryos appear to be able to withstand warmer temperatures than once thought
- OPG to submit final DNNP Round Whitefish Action Plan 60 days prior to commencement of lake infill activities





CNSC ACTIVITIES TO ADDRESS JRP RECOMMENDATIONS

Land Use Planning (1/2)

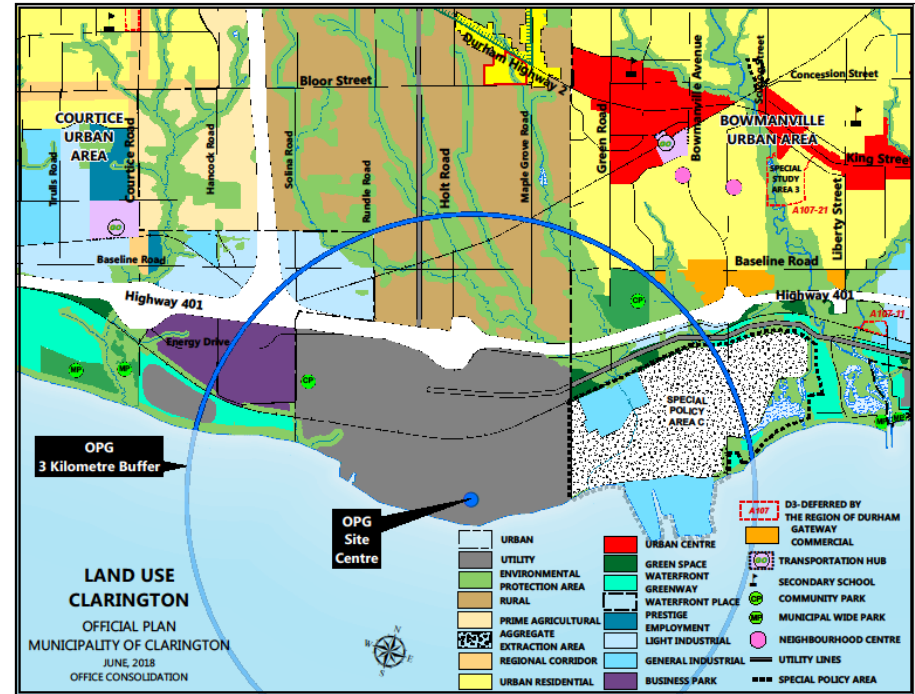


JRP recommendation:

- CNSC engage stakeholders to develop a policy for land use around nuclear generating stations

Status:

- CNSC has engaged federal/provincial/municipal authorities in addressing land use planning



Source: Municipality of Clarington

Land Use Planning (2/2)



- CNSC met with provincial and municipal stakeholders and OPG to address land use planning JRP recommendations (June 2013)
- Government of Ontario published the 2014 Provincial Planning Statement (PPS)
 - CNSC found new policy on land use compatibility to be consistent with JRP recommendations
 - the Municipality of Clarington is currently reviewing its official plan to align with the PPS

Fukushima Task Force Lessons Learned



- CNSC developed and updated regulatory documents to take into account the lessons learned from the Fukushima Daiichi event
- Two of these documents are most relevant to the PRSL:
 - *REGDOC-1.1.1, Site Evaluation and Site Preparation for New Reactor Facilities*, which focused on the need for robust characterisation of the site
 - *REGDOC-2.10.1, Nuclear Emergency Preparedness and Response*, which provides requirements regarding the planning basis for emergency preparedness programs

**Updated requirements will be implemented
in LTPS activities**

Public Engagement



- OPG has informed key stakeholders on the status of the project as part of their Public Information Program which includes:
 - public newsletters
 - regional and municipal public meetings
- DNNP information available on CNSC website
- CNSC staff provide an annual update to the Commission through the Regulatory Oversight Report on NPPs

Indigenous Consultation and Engagement

- Indigenous Consultation

- CNSC Staff consulted with Indigenous communities with interest in the DNNP project as part of the initial EA and licensing process

- Indigenous Engagement

- all of the identified Indigenous groups with interest in the DNNP project have been informed of the current mid-term update and OPG's intent to renew the licence in 2022

**CNSC staff continue to engage with all interested
Indigenous communities**

CLOSING REMARKS

Summary and Conclusion

- CNSC staff have reviewed and monitored progress on activities associated with the DNNP Commitments report and have found OPG to be compliant with the conditions of their licence
- CNSC staff have addressed JRP recommendations related to land use planning and lessons learned from Fukushima
- OPG has communicated to CNSC their intention to renew the licence when it expires in 2022

CNSC staff continue to carry out regulatory oversight to ensure OPG continues to meet licence requirements



Questions

Thank You!



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