

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Environmental Assessment Referral Regarding
Ontario Power Generation Inc.'s Proposal to
Construct and Operate New Nuclear Reactors at
the Darlington Nuclear Generating Station Site

Date of
hearing December 5, 2007

RECORD OF PROCEEDINGS

Proponent: Ontario Power Generation Inc.

Address/Location: 700 University Avenue, Toronto, Ontario M5G 1X6

Purpose: Environmental assessment referral regarding Ontario Power Generation Inc.'s proposal to construct and operate new nuclear reactors at the Darlington Nuclear Generating Station site

Application received: September 20, 2006

Project description received: April 17, 2007

Date of meeting: December 5, 2007

Location: Canadian Nuclear Safety Commission (CNSC) Headquarters,
280 Slater St., 14th. Floor, Ottawa, Ontario

Members present: L.J. Keen, Chair A. Harvey
C.R. Barnes M. McDill
A. Graham

Secretary: M.A. Leblanc
Recording Secretary: P. Bourassa

Date of Release of the Decision: January 7, 2008

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Introduction

1. The Canadian Nuclear Safety Commission¹ (CNSC) has received an application from Ontario Power Generation Inc. (OPG) for a licence to prepare a site for the future construction of additional nuclear reactors on the Darlington Nuclear Site within the municipality of Clarington, Ontario.
2. The proposal by OPG involves the site preparation, the construction and operation of up to four additional nuclear reactors to produce up to 4800 MW of baseload electricity, as well as the construction and operation of the appropriate waste management facilities. OPG is considering different technologies for the new reactors that include Pressurized Heavy Water Reactors (PHWR), Pressurized Water Reactors (PWR), Boiling Water Reactors (BWR) and Pressurized Hybrid light/heavy water Reactors (PHR) of Canadian and foreign designs.
3. Before considering OPG's application for the necessary licences (site preparation, construction and operation licences) under the *Nuclear Safety and Control Act*², the Commission must consider the results of an environmental assessment (EA). This consideration includes making a decision on the potential for the project to cause adverse environmental effects, and determining a subsequent course of action under the *Canadian Environmental Assessment Act*³ (CEAA).
4. The Commission is a responsible authority⁴ under the CEAA in regard to this matter. As OPG's project falls within the *Comprehensive Study List Regulations*⁵ of the CEAA, the Commission is required to submit an Environmental Assessment Track Report to the federal Minister of Environment (the Minister) which includes a Recommendation to the Minister on the proposed track for the EA. These possible tracks are to either continue the EA as a comprehensive study or refer the EA to a review panel or mediator. Alternately, if the Commission is at any time of the opinion that the project may cause significant adverse environmental effects or that public concerns warrant a reference to a review panel, the Commission may refer the matter directly to the Minister for referral to a review panel or mediator.

Issue

5. The Commission needed to decide which of two paths forward it would follow at this early stage of the EA, as described in the following paragraphs 6 and 7.

¹ The *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² S.C. 1997, c. 9.

³ S.C. 1992, c.37.

⁴ Responsible authority in relation to an EA is determined in accordance with subsection 11(1) of the CEAA.

⁵ SOR/94-638.

6. Pursuant to section 21 of the CEAA, the Commission is required to proceed with public consultation and report to the Minister on the scope of the project, the factors to be considered in its assessment and the scope of those factors, public concerns in relation to the project, the potential of the project to cause adverse environmental effects, and the ability of the comprehensive study to address issues relating to the project. The Commission is also required to recommend to the Minister either to continue with the environmental assessment by means of a comprehensive study, or to refer the project to a mediator or review panel.
7. The Commission may decide, pursuant to section 25 of the CEAA, to request to the Minister to refer the project to a mediator or a review panel if, at any time, it is of the opinion that (a) a project, taking into account the implementation of any mitigation measures that the responsible authority considers appropriate, may cause significant adverse environmental effects, or (b) public concerns warrant a reference to a mediator or a review panel.

Proceeding

8. Pursuant to the *Canadian Nuclear Safety Commission By-laws*, the President of the Commission convened a meeting of the Commission to consider the issue. The Commission considered the path forward based on the Commission's extensive experience on major nuclear projects and with the intent to ensure an effective and efficient process.
9. The Commission, in making its decision, considered OPG's project description (CMD 07-M45). The Commission also considered the views already expressed by public interest groups and in media reports on major nuclear projects, as well as the Commission's extensive experience with consultation on major nuclear projects. The Commission notes that the proponent, OPG, also requested that this project be referred directly and immediately to the Minister for referral to a review panel.

Decision

10. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*,

the Commission requests the federal Minister of the Environment to refer Ontario Power Generation Inc.'s proposed project to a review panel, pursuant to paragraph 25(b) of the CEAA.

11. In making this request, the Commission notes that, should the Minister accept the request that the proposed project be referred to a review panel, the Commission is open to discuss process options to further assist in the effective conduct of the EA, including the option that the Minister approve the conduct of the environmental assessment by the Commission pursuant to section 43 of the CEEA (substitute panel) or, alternatively, that the Commission lead a joint review panel under section 40 of the CEEA.

Issues and Commission Findings

Application of the CEEA

12. The CEEA requires that an EA be completed if there is both a prescribed action by a federal authority (commonly referred to as a “trigger”) and a “project”. The proposal involves the site preparation, construction and operation of a nuclear generating station (NGS) as well as the construction and operation of a waste management facility. This is an undertaking in relation to a physical work and as such is a “project” for the purposes of the CEEA.
13. The CNSC is a federal authority as defined in the CEEA. Paragraph 5(1)(d) of the CEEA requires that an EA be conducted before a federal authority exercises a regulatory power or duty prescribed in the *Law List Regulations* under the CEEA. The CNSC has the authority to issue licences for activities involved in OPG’s proposal under the authority of Section 24(2) of the NSCA, which is prescribed in the *Law List Regulations*³. Therefore there is a “trigger” for an EA.
14. The project is also not of a type listed in the *Exclusion List Regulations*⁶ of the CEEA.
15. The Commission therefore concludes that an EA of the proposed project to prepare, construct and operate a NGS is required pursuant to the CEEA.

Type of Environmental Assessment

16. The proposal involves a new Class 1A nuclear facility that is a nuclear fission reactor that has a production capacity of more than 25 MW. As such, OPG’s project falls within the *Comprehensive Study List Regulations* of the CEEA. Therefore, the CNSC must ensure that a comprehensive study of the project is initiated.

⁶ SOR/94-639.

Federal and Provincial Coordination

17. The CNSC is a responsible authority under the CEAA identified for this Comprehensive Study. As well, the Canadian Transportation Agency, Fisheries and Oceans Canada and Transport Canada are likely responsible authorities, depending on whether they would need to take action for the purpose of enabling the project to be carried out. The CNSC will be the coordinating responsible authority.
18. Through the application of the CEAA *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*⁷ *Federal Coordination Regulations*⁸, Parks Canada, Health Canada, Environment Canada and Natural Resources Canada have been identified as federal authorities for providing expert assistance during the EA.
19. The CNSC has been informed by the Province of Ontario that the province has no mandate to make nuclear facilities subject to its environmental assessment requirements under the Ontario *Environmental Assessment Act*⁹ and that it does not foresee a possibility for triggering clause 7(1) of the Canada-Ontario Agreement for Environmental Assessment Cooperation. However, the Province of Ontario has requested that it be kept informed of any developments with respect to the EA process.
20. The Commission therefore concludes that a joint EA with the Province of Ontario is not required in this case but that CNSC staff will keep the Province of Ontario informed of future developments.

Project Description

21. The Commission considered the project description as submitted by OPG. In this regard, the Commission also considered the interaction with existing and potential nuclear facilities at the site.
22. In its project description, OPG indicated that it has not yet selected the type of reactors to construct but would use a multiple technology approach and consider four different types of reactors for the purposes of the environmental assessment. These include pressurized heavy water reactors, pressurized water reactors, boiling water reactors and pressurized hybrid light/heavy water reactors.
23. The Commission considered that a similar project, that is site preparation, construction and operation of a new NGS, has not been carried out in Canada in recent decades. The most recent facility to join Canada's nuclear fleet is the Darlington NGS which reactors came into service in the early 1990's.

⁷ S.O.R./97-181.

⁸ SOR/97-181.

⁹ R.S.O. 1990, C. E.18.

24. The Commission considered that OPG intends to use a Multiple Technology approach and consider four different types of reactors. In this regard, the Commission also considered the potential for uncertainties associated with the proposed project.
25. Based on the above considerations, the Commission concludes that OPG's proposed project is a major, complex nuclear project that involves potential uncertainties.

Referral to the Federal Minister of the Environment

26. In considering the path forward for the EA, the Commission considered the ability of the comprehensive study to address issues related to the project and public concerns in relation to major nuclear projects. These considerations are described in the following paragraphs.

Public Concerns

27. The Commission notes that consultation is an important aspect of an EA. Therefore, to assist in its decision whether to proceed with the EA under section 21 of the CEAA, the Commission considered the various communication and public consultation activities carried out by OPG with respect to the proposed project and the views and concerns expressed by Aboriginal peoples and stakeholders, including federal authorities, provincial, regional and municipal governments, and members of the public.
28. The Commission considered OPG's statement¹⁰ that it had received a greater level of public interest in this proposed project than in any other recent projects such as the proposed refurbishment of the Pickering B NGS or the construction or expansion of its waste management facilities. OPG further stated that, in its opinion, the level of public interest warrants an early referral to the Minister for referral to a review panel.
29. The Commission further considered that public interest groups have requested review panels for other nuclear projects in the past, based on their level of concerns with the proposals. Based on its extensive experience on major nuclear projects and the specific complexity and potential uncertainties associated with OPG's proposal to use new technology, the Commission anticipates that public interest groups may have significant concerns with the proposal to construct and operate another NGS in Canada.
30. The Commission also considered public concern raised during consultations on the Province of Ontario's potential electricity supply mix to meet existing and projected base-load requirements. The proposed Integrated Power System Plan (IPSP) proposed by the Ontario Power Authority includes nuclear capacity from both the refurbishment and new build of a NGS. The public concerns expressed during the Ontario Power Authority's stakeholder consultations on the IPSP included such issues as radioactive waste management, the potential for high consequence events with a low probability of occurrence, and radioactive and conventional lifecycle emission.

¹⁰ Letter from D. P. McNeil, OPG, to P. Webster, CNSC, dated May 18, 2007, E-docs 3049460.

31. Taking into consideration the proximity of the proposed site to Lake Ontario and the related concerns expressed by intervenors at past Commission hearings, the Commission also anticipates concerns from public interest groups whose scope of interest is beyond the regional area of the proposed site.
32. The Commission is of the opinion that it has sufficient information from both present and past consultations on other major nuclear projects with interested parties, stakeholders, Aboriginal peoples and the general public to adequately determine the path forward on the EA at this stage.
33. The Commission concludes that a review panel EA of the project is warranted. Therefore, the Commission, pursuant to section 25 of the CEAA, will request that the Minister refer the project to a review panel.

Conclusion

34. Pursuant to paragraph 25(b) of the CEAA, the Commission determines that public concerns warrant that a request is made to the Minister for referral to a review panel. In further support of this request, the Commission is of the opinion that issues related to the project warrants a request to the Minister for his referral to a review panel.
35. The Commission is also of the view that making a direct request to the Minister for referral to a review panel at this stage is an effective and efficient use of the process under the CEAA.
36. The Commission therefore requests that the federal Minister of the Environment refer the project to a federal environmental assessment review panel.
37. To assist in the effective conduct of a review panel, the Commission recommends that the Minister consider approving the conduct of the environmental assessment by the Commission pursuant to section 43 of the CEAA (substituted panel). This recommendation is based on the extensive expertise and experience of the Commission in nuclear projects in Canada, its capacity and expertise in conducting environmental assessments, its international network and its status as an independent quasi-judicial administrative tribunal and court of record under the *Nuclear Safety and Control Act*. A substituted panel would also be in line with current regulatory streamlining and improvement initiatives, leading to a more efficient and effective review of this major resource project.

38. If the Minister decides not to approve a substituted panel under section 43 of the CEAA, the Commission then recommends that the Minister consider the option of the Commission leading a joint review panel under section 40 of the CEAA.

Linda J. Keen,
President
Canadian Nuclear Safety Commission

Date of release of Decision: January 7, 2008