

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Application to Amend the Power Reactor
Operating Licence for Darlington Nuclear
Generating Station

Hearing
Dates February 12 and 13, 2008

RECORD OF PROCEEDINGS

Applicant: Ontario Power Generation Inc.

Address/Location: P.O. Box 4000, Bowmanville, ON L1C 3Z8

Purpose: Application to Amend the Power Reactor Operating Licence for Darlington Nuclear Generating Station

Application received: December 18, 2007 and November 29, 2007

Date of hearings: February 12 and 13, 2008

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

Members present: M. Binder, Chair

Secretary: K. McGee
Recording Secretary: P. Reinhardt

Licence: Amended
Date of Release of Decision: February 25, 2008

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Introduction

1. Ontario Power Generation inc. (OPG) has applied to the Canadian Nuclear Safety Commission¹ (Commission) for an amendment to the Power Reactor Operating Licence (PROL) for the Darlington Generating Station (DNGS), located in Bowmanville, Ontario. The current licence number is PROL 13.17/2008.
2. OPG requested a change to the wording in Appendix B of the Operating Policies and Principles (OPs&Ps) (document revision 22), sections 1.1.4 and 1.1.5 to implement the use of long bundle pairs in ODD numbered positions in the DNGS reactors. OPG also requested a change in the same Appendix to update the Consolidated Nuclear Emergency Plan.
3. OPG currently uses long fuel bundles as part of its routine refuelling operations to maintain the fuel bundle to shield plug gap. The use of long bundles is necessary to control fretting of the pressure tube at the burnish mark and to maintain the average core gap within the analysed limits to minimize the effects of relocation reactivity. At the present time the usage of the long bundles is authorized only in EVEN positions, not in ODD positions.

Issues

4. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*² (NSCA):
 - a) if OPG is qualified to carry on the activity that the amended licence would authorize; and
 - b) if in carrying on that activity, OPG would make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Hearing

5. The Commission, in making its decision, considered information presented for two hearings held on February 12 and 13, 2008 in Ottawa, Ontario. During the hearings, the Commission considered written submissions from CNSC staff (CMD 08-H105 and 07-H153) and OPG (CMD 08-H105.1 and 07-H153.1).

¹The *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.

Decision

6. Based on its consideration of the matter, the Commission concludes that OPG is qualified to carry on the activity that the amended licence will authorize. The Commission is of the opinion that that OPG, in carrying on that activity, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends PROL 13.17/2008, issued to Ontario Power Generation Inc. for its Darlington NGS, Bowmanville, Ontario. The amended licence PROL 13.18/2008 remains valid until February 29, 2008.

7. With this decision, includes the licence conditions as recommended by Commission CNSC staff in CMD 08-H105.

Issues and Commission Findings

8. In making its licensing decision, the Commission considered a number of issues relating to OPG's qualification to carry out the proposed activities and the adequacy of the proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.

Qualifications and Protection Measures

9. CNSC staff noted in its submission that OPG currently maintains the fuel bundle to shield plug gap by utilizing long fuel bundles as part of its routine refuelling operations. The use of long bundles ensures the control fretting of the pressure at the burnish mark and it maintains the average core gap within the analysed limits to minimize the effects of relocation reactivity during a Large Loss of Coolant Accident (LLOCA). These long bundles are authorized for use in the actual Operational Policies and Principles (OP&Ps) in the EVEN positions only. However as a result of axial elongation of the pressure tubes, the channel gaps have continued to increase and many channels have reached the maximum allowable number of long bundles in EVEN positions which explain the need to use them now in ODD positions.

10. CNSC staff further noted that the only change in the procedure would be the use of long bundle pairs in different positions (ODD) as the ones prescribed at this time (EVEN). This is not a change that will, according to CNSC staff, pose any unreasonable risk to the health and safety of persons, protection of the environment, maintenance of national security and measures required to implement international obligations to which Canada has agreed.
11. CNSC staff recommended that the permanent change in the wording of Operating Policies and Principles (OP&P) Appendix B, Section 1.1.4 and 1.1.5 be granted, pursuant to subsection 24(2) of the *NSCA*.
12. CNSC staff noted that OPG' request to update Appendix B to refer to the latest version of the Consolidated Nuclear Emergency Plan (CNEP) Report is administrative in nature and would not change the existing physical work or any of the physical activities at the licensed facility, nor would it change in a substantive way the terms or conditions of the existing licence. The updated Consolidated Nuclear Emergency Plan fulfills the requirements detailed in CNSC Regulatory Guide G-225, *Emergency Planning at Class I Facilities and Uranium Mines and Mills*.
13. CNSC staff recommended that the Commission amends the licence to refer to the latest version of the Consolidated nuclear Emergency Plan.

Application of the *Canadian Environmental Assessment Act*

14. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*³ (CEAA) have been fulfilled.
15. CNSC staff reported that it had completed an Environmental Assessment (EA) determination. CNSC staff stated that there was no requirement for an EA pursuant to subsection 5(1) of the CEAA.
16. The Commission determined that there was no requirement for an Environmental Assessment pursuant to subsection 5(1) of the CEAA. The Commission is satisfied that all applicable requirements of the CEAA have been fulfilled.

Conclusion

17. The Commission has considered the information and submissions of CNSC staff and OPG as presented in the material available for reference on the record.

³ S.C. 1992, c. 37.

18. The Commission is of the opinion that the applicant meets the requirements of subsection 24(4) of the NSCA. That is, the Commission is of the opinion that OPG is qualified to carry on the activity that the amended licence will authorize and that it will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.
19. The Commission therefore amends, pursuant to section 24 of the *Nuclear Safety and Control Act*, PROL 13.17/2008, issued to Ontario Power Generation for its Darlington NGS, Bowmanville. The amended licence, PROL 13.18/2008 remains valid until February 29, 2008, unless suspended, amended, revoked or replaced.

Michael Binder,
President
Canadian Nuclear Safety Commission

Date of Release of Decision: February 25, 2008