

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Financial Guarantee and Licence Amendment
for OPG's Class I Nuclear Facility Licences in
Ontario

Public Hearing
Date November 1, 2007

RECORD OF PROCEEDINGS

Applicant: Ontario Power Generation Inc.

Address/Location: 22 St Clair Avenue East, 6th floor, Toronto, ON M4T 2S3

Purpose: Financial Guarantee and Licence Amendment for OPG's Class I Nuclear Facility Licences in Ontario

Application received: July 27, 2007

Date of hearing: November 1, 2007

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

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

Secretary: M. A. Leblanc
Recording Secretary: M. Young
General Counsel: S. Maislin Dickson

Applicant Represented By	Document Number
<ul style="list-style-type: none">• K. Nash, Senior Vice-President, Nuclear Waste Management• C. Sidford, Vice-President, Treasurer	CMD 07-H22.1 CMD 07-H22.1A CMD 07-H22.1B
CNSC staff	Document Number
<ul style="list-style-type: none">• B. Howden• R. Barker	<ul style="list-style-type: none">• D. Howard CMD 07-H22 CMD 07-H22.A
Intervenors	Document Number
<ul style="list-style-type: none">• Bruce Power Inc., represented by F. Saunders	CMD 07-H22.2
Others	
<ul style="list-style-type: none">• Ontario Financing Authority, represented by K. Sadlier-Brown, Assistant Deputy Minister, Corporate and Electricity Finance Division	

Licence Conditions:	Requirements met
Licences:	Amended
Date of Release of Decision:	November 29, 2007

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Introduction

1. Ontario Power Generation Inc. (OPG) has requested that the Canadian Nuclear Safety Commission¹ (CNSC) accept the preliminary decommissioning plans (PDPs) and financial guarantee it has submitted for the future decommissioning of its Class I nuclear facilities located in Ontario. The proposed financial guarantee, which was submitted pursuant to licence conditions in the operating licences for the Class I nuclear facilities, is valued at \$9,999 million (M). In addition, OPG requested licence amendments for the Class I nuclear facilities it operates in order to update the licence conditions pertaining to the financial guarantee and the preliminary decommissioning plans.
2. Subsection 24(5) of the *Nuclear Safety and Control Act*² (NSCA) gives the Commission the authority to require that a licensee provide a financial guarantee in a form that is acceptable to the Commission. CNSC Regulatory Guide G-206³ provides guidance on the attributes of an acceptable financial guarantee in terms of liquidity, certainty of value, adequacy of value and continuity.
3. The Commission requires that OPG establish and maintain an acceptable financial guarantee for the future decommissioning of its Class I nuclear facilities.
4. OPG owns eight Class I nuclear facilities. Their respective operating licences include the following Power Reactor Operating Licences (PROL) and Waste Facility Operating Licences (WFOL):
 - Darlington Nuclear Generating Station (NGS) – PROL 13.15/2008
 - Pickering A NGS – PROL 04.05/2010
 - Pickering B NGS – PROL 08.13/2008
 - Bruce A NGS – PROL 15.06/2009
 - Bruce B NGS – PROL 16.08/2009
 - Western Waste Management Facility (WMF) – WFOL-W4-314.00/2017
 - Pickering WMF – WFOL-W4-350.02/2008
 - Darlington WMF – WFOL-W4-355.00/2012
5. The scope of the financial guarantee includes the decommissioning activities related to the Pickering A and Pickering B, Bruce A and Bruce B, and Darlington NGSs, and the Pickering, Darlington and Western WMFs. The operating licences for the Bruce A and Bruce B NGSs are held by Bruce Power. Under agreements with Bruce Power, OPG retains responsibility for the decommissioning of Bruce A and Bruce B, financial guarantee liability for decommissioning and lifecycle management of all used fuel and low and intermediate level waste produced by Bruce A and Bruce B.

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 CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*, June 2000.

6. Currently, the financial guarantee for the facilities is comprised of the following:
 - segregated funds established pursuant to the Ontario Nuclear Funds Agreement (ONFA) between OPG and the Province of Ontario (the ONFA Funds);
 - the trust fund for the management of used fuel established pursuant to the Nuclear Fuel Waste Act (NFWA) (the NFWA Trust); and
 - the Provincial Guarantee pursuant to the Provincial Guarantee Agreement between the CNSC and the Province of Ontario, which came into effect July 31, 2003 (the Provincial Guarantee).

Issues

7. In considering the application, the Commission was required to decide:
 - a) if the proposed financial guarantee for \$9,999M constitutes an acceptable financial guarantee for the decommissioning of OPG's Class I nuclear facilities located in Ontario; and
 - b) if OPG has fulfilled the requirements of the applicable licence conditions in the operating licences that it holds for its Class I nuclear facilities.
8. Furthermore, the Commission was required to decide, with respect to the to the licence amendments to OPG-operated facilities, pursuant to subsection 24(4) of the NSCA:
 - c) if OPG is qualified to carry on the activity that the amended licences would authorize; and
 - d) 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.

Public Hearing

9. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review OPG's request.
10. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a public hearing held on November 1, 2007 in Ottawa, Ontario. During the hearing, the Commission considered written submissions and heard oral presentations from CNSC staff (CMD 07-H22 and CMD 07-H22.A) and OPG (CMD 07-H22.1, CMD 07-H22.1A and CMD 07-H22.1B). The Commission also considered a written intervention from Bruce Power (CMD 07-H22.2 and CMD 07-H22.2A).

11. In its submission, CMD 07-H22.2, Bruce Power had requested that the hearing be adjourned, but later withdrew its request for the reasons stated in a supplementary CMD 07-H22.2A.
12. The Commission notes that the Bruce A and Bruce B operating financial guarantee is not the subject of this hearing matter and that the operating financial guarantee for these facilities remains in place.
13. It is understood that the decommissioning of the Bruce A and Bruce B NGSs are covered by OPG's PDP and financial guarantee for decommissioning and that the Bruce A and Bruce B operating licences need not include licence conditions relating to the PDP nor the financial guarantee for decommissioning.

Decision

14. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*, the Commission concludes that OPG is qualified to carry on the activity that the amended licences will authorize. The Commission is of the opinion 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, accepts the financial guarantee provided by Ontario Power Generation Inc. for the future decommissioning of its Class I nuclear facilities located in Ontario consisting of the proposed ONFA Funds and NFWA Trust in the amount of \$9,189M and the Guarantee by the Province of Ontario in the amount of \$809M.

Furthermore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the following licences currently held by Ontario Power Generation Inc.:

- Darlington NGS – PROL 13.15/2008
- Pickering A NGS – PROL 04.05/2010
- Pickering B NGS – PROL 08.13/2008
- Western WMF – WFOL-W4-314.00/2017
- Pickering WMF – WFOL-W4-350.02/2008
- Darlington WMF – WFOL-W4-355.00/2012

The amended licences remain valid until their respective expiry dates, unless suspended, amended, revoked or replaced.

Issues and Commission Findings

15. In making its decision, the Commission considered issues related to the acceptability of the financial guarantee.

Preliminary Decommissioning Plans and Financial Guarantee

16. CNSC staff reported that OPG provided updated PDPs for all of its Class I nuclear facilities. CNSC staff conducted a review of the PDPs in relation to the CNSC-issued guidelines for PDPs, as set out in CNSC Regulatory Guide G-219⁴. CNSC staff reported that the PDPs are acceptable and are consistent with CNSC Regulatory Guide G-219.
17. OPG stated that it prepared cost estimates for the five NGSs (Pickering A, Pickering B, Darlington, Bruce A and Bruce B), used fuel management, low and intermediate level waste management, and the three waste management facilities (Pickering, Western and Darlington). In its submission, OPG detailed the cost estimates for the decommissioning of these facilities.
18. OPG submitted the following cost estimates for January 1, 2008, which total \$9,999M:
 - Five OPG-owned NGSs, \$3,739M;
 - Used fuel management, \$5,433M;
 - Low and intermediate level waste management, \$789M; and
 - Three OPG-owned WMFs, \$37M.
19. OPG stated that the cost estimate for the five NGSs takes into account a unit cost factor based on actual project experience. The cost estimate also takes into account the application of work difficulty factors, which recognize site-specific conditions in addition to factors related to radiation protection.
20. OPG also stated that the cost estimate for used fuel management takes into account a financially conservative scenario that is based on the assumption that a deep geologic repository for used fuel would be in service by the year 2035.
21. OPG stated that, while the low and intermediate level waste generated at OPG's NGSs is currently stored primarily at the Western WMF, it was assumed that the planned low and intermediate level waste deep geologic repository would be in service by 2017. OPG further stated that the cost estimate for low and intermediate level waste management includes all costs for the storage of low and intermediate level waste produced by the end of the financial guarantee year until placement in a permanent repository.

⁴ CNSC Regulatory Guide G-219, *Decommissioning Planning for Licensed Activities*, June 2000

22. OPG further stated that the cost estimates for the WMFs are based on facility infrastructures and take into consideration that the projected costs cover decommissioning to be carried out following the removal of the stored waste.
23. In its submission, OPG detailed the variance analysis, which compared the cost estimate for 2008-2012 to that from 2003-2007. OPG explained that the increase in the cost estimate is largely a result of changing economic assumptions, as well as an increase in NGS decommissioning costs and other waste management estimates.
24. CNSC staff reported that OPG applied contingency factors to its base cost estimates. For decommissioning and long term waste management programs, the contingency factor averages 23% over the base cost estimates. For the smaller operations component of the estimates, which is based upon existing experience, the contingency factor is applied at an average rate of 10% over the base cost estimates. CNSC staff stated that these contingency factors are acceptable and consistent with CNSC Regulatory Guide G-206.
25. OPG proposed that the financial guarantee for \$9,999M be provided as \$9,189M from the ONFA Funds and the NFWA Trust, and \$809M from the Provincial Guarantee. OPG explained that the composition of the financial guarantee in 2008 is based on the projected fund values at the time of the effective date of the financial guarantee.
26. OPG stated that the NFWA Trust was established in November 2002 in accordance with the *Nuclear Fuel Waste Act*⁵ and currently meets the requirements of that Act. OPG further stated that the ONFA Funds, which consist of the Decommissioning Segregated Fund and the Used Fuel Segregated Fund, were established in July 2003 and are held in the custodianship of financial institutions. OPG noted that CNSC access to the ONFA Funds is provided through a legal agreement between the CNSC, OPG and the Province of Ontario.
27. OPG also stated that the Provincial Guarantee covers the residual balance of the financial guarantee requirement. OPG noted that a guarantee covering the period from July 2003 to December 2007 was initially provided in July 2003 by means of a legal agreement between the CNSC and the Province of Ontario, but that it expires on December 31, 2007. OPG proposed that the new Provincial Guarantee cover the first three years of the 2008-2012 period for which the financial guarantee has been projected, since it is not expected to be required beyond December 31, 2010. OPG explained that it expects the value of the ONFA Funds and the NFWA Trust to exceed the financial guarantee requirement by January 2011.
28. CNSC staff proposed to update the Commission with a status report on the financial guarantee in the fall of 2010 to ensure that the Commission is aware of the status of OPG's financial guarantee leading up to the expiry of the Provincial Guarantee.

⁵ S.C. 2002, c. 23.

29. OPG stated that the value of the financial guarantee requirement will change over the five-year period due to changes in the present value of the cost estimates and due to additional waste volumes generated. OPG provided projections for the value of the financial guarantee and for the value of the ONFA Funds and NFWA Trust. OPG stated that the projections are based on its planned contributions to those funds, as well as conservative assumptions on the growth of the funds.
30. OPG stated that it will continue to provide an annual status report to CNSC staff detailing the amounts accumulated in the ONFA Funds and the NFWA Trust, as well as any material changes in the decommissioning plans or waste management plans, waste quantities, or cost estimates that may impact the financial guarantee requirement, as well as the manner in which the financial guarantee requirement will remain acceptable. CNSC staff stated that it would advise the Commission on any adverse changes that may occur in the financial guarantee, based on its annual reviews.
31. CNSC staff stated that it reviewed OPG's financial guarantee. CNSC staff reported that OPG's financial guarantee cost estimates and the financial guarantee instruments are acceptable and consistent with CNSC Regulatory Guide G-206.
32. The Commission inquired about the responsibility for the management of the ONFA Funds. OPG responded that the ONFA Funds are jointly managed by OPG and the Province of Ontario.
33. The Commission asked whether OPG has used any money from the fund with regard to the removal of fuel at the Pickering A NGS for the purpose of decommissioning. OPG responded that it has. OPG explained that funds have been drawn down for the purposes of defuelling the Pickering A reactors, which was done under predefined rules with predefined oversight.
34. The Commission inquired about the impact on the cost estimate of the projected in-service date of 2017 for the deep geologic repository for low and intermediate level waste. OPG responded that the cost estimate is based on the assumption that the repository will be in service by 2017, and, should that facility be delayed by any significant amount of time, OPG would reassess the cost estimate and report it to the CNSC. OPG noted that, although additional costs would be incurred for the interim storage period, the impact of a delay may not necessarily increase the cost estimate because the present value of the construction of the repository would decrease.
35. The Commission, noting that the financial guarantee covers a five-year period, asked CNSC staff if it expects any changes in the regulatory guidance that may alter the regulatory framework over that five-year period. CNSC staff responded that it is currently starting a project to review and revise the two CNSC Regulatory Guides G-206 and G-219, but, at the present time, it does not expect there to be any impact on the current financial guarantee.

36. The Commission, noting CNSC staff's proposal to provide a report to the Commission in the fall of 2010 on the status of the financial guarantee, sought further information from CNSC staff in this regard. CNSC staff stated that it will advise the Commission of the value of the ONFA Funds and NFWA Trust prior to the expiry of the Provincial Guarantee.
37. The Commission asked OPG whether it would undertake to prepare the status report for the fall of 2010, noting that CNSC staff would have an opportunity to review it before it is presented to the Commission. OPG responded that it would.
38. The Commission sought further clarification concerning the value of the Provincial Guarantee. A representative of the Ontario Financing Authority stated that the value of the Provincial Guarantee will be the residual amount available, that is, the difference between the value of the ONFA Funds and NFWA Trust and the amount required by the CNSC. The representative of the Ontario Financing Authority noted that the amount of the Provincial Guarantee, which is estimated to be \$809M, will be determined based on the value of the ONFA Funds and NFWA Trust at the end of the year. The representative of the Ontario Financing Authority noted that the value of the Provincial Guarantee can reach up to \$1.5 billion.

Licence Amendment

39. OPG requested that the operating licences for the facilities it operates be amended to include a reference to the most recent revisions to the PDPs and the revised financial guarantee arrangements.
40. CNSC staff included in its submission a detailed assessment of the licence conditions to be amended, as well as the replacement licence conditions.
41. CNSC staff stated that, upon review of OPG's request, it is of the opinion that OPG is qualified to carry out the activity that the amended licences will authorize and that OPG 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

Application of the *Canadian Environmental Assessment Act*

42. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*⁶ (CEAA) have been fulfilled.

⁶ S.C. 1992, c. 37.

43. CNSC staff reported that it had completed an Environmental Assessment (EA) determination concerning the licence amendments. CNSC staff stated that there was no requirement for an EA pursuant to subsection 5(1) of the CEEA because the requested amendment does not involve any proposed undertaking, and is therefore not a 'project' as defined in section 2 of the CEEA.
44. The Commission is satisfied that all applicable requirements of the CEEA have been fulfilled. The Commission concurs with CNSC staff's assessment that no EA is required.

Conclusion

45. The Commission has considered the information and submissions of CNSC staff and OPG as presented in the material available for reference on the record.
46. The Commission is satisfied that the financial guarantee submitted by OPG is acceptable.
47. The Commission therefore accepts the financial guarantee provided by Ontario Power Generation Inc. for the future decommissioning of its Class I nuclear facilities located in Ontario consisting of the proposed ONFA Funds and NFWA Trust in the amount of \$9,189M and the Guarantee by the Province of Ontario in the amount of \$809M.
48. The Commission expects that CNSC staff will continue to review OPG's annual report on the status of the financial guarantee and ensure that the financial guarantee remains valid. The Commission also expects that CNSC staff will report to the Commission any deviation in the status of the financial guarantee, in the form of a Significant Development Report.
49. Furthermore, the Commission is of the opinion that OPG meets the requirements of subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is of the opinion that OPG is qualified to carry on the activity that the amended licences 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.
50. The Commission therefore amends, pursuant to section 24 of the *Nuclear Safety and Control Act*, the following licences currently held by Ontario Power Generation Inc.:
 - Darlington NGS – PROL 13.15/2008
 - Pickering A NGS – PROL 04.05/2010
 - Pickering B NGS – PROL 08.13/2008
 - Western WMF – WFOL-W4-314.00/2017
 - Pickering WMF – WFOL-W4-350.02/2008
 - Darlington WMF – WFOL-W4-355.00/2012

51. The amended licences remain valid until their respective expiry dates, unless suspended, amended, revoked or replaced.

Linda J. Keen,
President
Canadian Nuclear Safety Commission

Date of release of Decision: November 29, 2007