

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent Ontario Power Generation Inc.

Subject Environmental Assessment of the Construction  
and Operation of the Western Waste  
Management Facility Refurbishment Waste  
Storage Project

Date March 2, 2006

**RECORD OF PROCEEDINGS**

Proponent: Ontario Power Generation Inc.

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

Purpose: Environmental Assessment of the Construction and Operation of the Western Management Facility Refurbishment Waste Storage Project

Date(s) of hearing: February 15, 2006

Location: Canadian Nuclear Safety Commission (CNSC), Headquarters, 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: P.D. Bourgeau  
General Counsel: J. Lavoie

| <b>Applicant Represented By</b>   | <b>Document Number</b> |
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Date of Decision: February 15, 2006

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## 1. Introduction

Ontario Power Generation (OPG) has submitted a Letter of Intent to the Canadian Nuclear Safety Commission (CNSC<sup>1</sup>) to seek approval to prepare the site, and to construct and operate refurbishment waste storage buildings at the Western Waste Management Facility (WWMF), located at the site of the Bruce Nuclear Generating Station near Tiverton, Ontario.

OPG proposes to increase the storage capacity of the WWMF to accept and store radioactive wastes resulting from reactor refurbishment activities from the Bruce A Nuclear Generating Station (NGS) and possibly from the Pickering and Darlington NGSs in Ontario, as well as from the on-going operation of those stations.

Before the Commission can decide on the proposed licence amendment, the Commission must, in accordance with the requirements of the *Canadian Environmental Assessment Act* (CEAA)<sup>2</sup>, make a decision on an Environmental Assessment (EA) screening of the proposal. This *Record of Proceedings* describes the Commission's consideration of the EA Screening Report and its reasons for decisions on the results. The Commission is the sole responsible authority for the EA<sup>3</sup>.

The guidelines for this EA (EA Guidelines<sup>4</sup>), including definitions of the scope of the project and scope of the assessment, were established by the CNSC on January 26, 2005. The EA Guidelines were used by CNSC staff in preparing the EA Screening Report<sup>5</sup> (Screening Report). Expert federal authorities and various stakeholders were provided opportunities to comment on the EA Guidelines and on the draft Screening Report. The Screening Report and CNSC staff's disposition of comments from stakeholders and federal authorities are attached as Appendix A through C to CMD 06-H103 respectively.

### Issues:

In considering the Screening Report, the Commission was required to decide:

1. whether the Screening Report is complete;

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<sup>1</sup> In this *Record of Proceedings*, 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.

<sup>2</sup> S.C. 1992, c. 37

<sup>3</sup> Responsible Authority in relation to an EA is determined in accordance with subsection 11(1) of the CEAA.

<sup>4</sup> *EA Guidelines (Scope of Project Assessment) for the Environmental Assessment of the Proposed Construction and Operation of Refurbishment Waste Storage (RWS) Buildings by Ontario Power Generation (OPG) at the Western Waste Management Facility on the Bruce Power Site*, Appendix A of the *Screening Report on Environmental Assessment of the Proposed Refurbishment Waste Storage Project at the Western Waste Management Facility*, in CMD 06-H103.

<sup>5</sup> *Screening Report on Environmental Assessment of the Proposed Refurbishment Waste Storage Project at the Western Waste Management Facility*, in CMD 06-H103.

2. whether the project, taking into account the mitigation measures identified in the Screening Report, is likely to cause significant adverse environmental effects;
3. whether the project will be referred to the federal Minister of the Environment for referral to a review panel or mediator (i.e., pursuant to paragraph 20(1)(c) of the CEEA); and
4. whether the Commission will proceed with its consideration of the application for a licence amendment under the *Nuclear Safety and Control Act*<sup>6</sup> (NSCA) (i.e., consistent with paragraph 20(1)(a) of the CEEA).

Hearing:

Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission (hereafter referred to as the Commission) to hear the matter.

The Commission, in making its decision, considered information presented for a hearing held on February 15, 2006 in Ottawa, Ontario. The hearing was conducted in accordance with the Commission's process for considering matters pursuant to the CEEA and Rule 3 of the *Canadian Nuclear Safety Commission Rules of Procedure*<sup>7</sup>. During the hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 06-H103) and heard oral presentations from OPG. The Commission determined that it was not necessary to hold a public hearing on the matter.

## 2. Decision

Based on its consideration of the matter, as described in more detail in this *Record of Proceedings*, the Commission decides that:

- a) the Environmental Assessment Screening Report appended to CMD-06-H103 is complete; that is, the scope of the project and assessment were appropriately determined in accordance with sections 15 and 16 of the *Canadian Environmental Assessment Act*, and all of the required assessment factors were addressed during the assessment;
- b) the Commission will not refer the project to the federal Minister of the Environment for his referral to a federal Environmental Assessment review panel or mediator;
- c) the project, taking into account the mitigation measures identified in the Environmental Assessment Screening Report, is not likely to cause significant adverse environmental effects; and

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<sup>6</sup> S.C. 1997, c. 9

<sup>7</sup> SOR/2000-211

d) consistent with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*, the Commission will proceed to consider the application for licence amendment under the provisions of the *Nuclear Safety and Control Act*.

### 3. Issues and Commission Findings

The Commission addressed the four issues identified in section 1 above under three main headings: (1) the completeness of the Screening Report, (2) the likelihood and significance of the environmental effects, and (3) the nature and level of public concern. The Commission's findings in each of these areas are summarized below.

#### 3.1 Completeness of the Screening Report

In its consideration of the completeness of the Screening Report, the Commission considered whether the assessment had adequately addressed an appropriately defined scope of project and assessment factors.

CNSC staff reported that it established EA Guidelines, including statements of project scope and scope of the assessment factors as required by sections 15 and 16 of the CEAA. CNSC staff stated that, in its opinion, the Screening Report contains information on the full scope of the project and for all of the factors required for a screening EA under section 16 of the CEAA and as set out in the EA Guidelines.

CNSC staff further reported that, pursuant to the CEAA *Federal Coordination Regulations*<sup>8</sup>, the following identified themselves as Federal Authorities for the purpose of providing expert assistance during the EA: Health Canada, Environment Canada (EC) and Natural Resources Canada (NRCan). These federal authorities also participated in the preparation of the EA Guidelines and were provided with the opportunity to comment on the draft EA Screening Report. Those federal authorities have expressed satisfaction with the EA process, including with respect to the proposed follow up activities. The Department of Fisheries and Oceans indicated that it did not have a role as the proposed construction was not in or near fish habitat and will not likely affect fish or fish habitat. The Department of Indian Affairs and Northern Development indicated that it did not have a role in the EA, but suggested that the two First Nations located in the project area be consulted during the process. CNSC staff and OPG confirmed that the local First Nations were consulted as recommended. Refer to section 3.3 below for a further discussion of the public consultation activities carried out.

Based on the information received, the Commission is satisfied that the EA and resulting Screening Report are complete.

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<sup>8</sup> *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*, SOR/97-181.

### **3.2 Likelihood and Significance of Environmental Effects**

This section contains the Commission's findings with respect to whether the project, taking into account the identified mitigation measures, is likely to cause significant adverse environmental effects. In examining this question, the Commission first considered the adequacy of the study methods used to identify and evaluate the potential environmental effects, followed by a consideration of the predicted effects on the relevant components of the environment.

#### **3.2.1 Adequacy of the Assessment Method**

With respect to the assessment methods, CNSC staff reported that the assessment was conducted in accordance with the methods for technical study and stakeholder consultation specified in the EA Guidelines. The EA involved a progressive identification, screening and assessment of significance of potential interactions between the project (under both normal and accident conditions) and the various components of the environment. It also included an examination of the potential effects of the environment on the project, the cumulative effects with other projects in the area and the need for follow-up activities.

Based on its review of the Screening Report and the above information, the Commission concludes that the EA methods were acceptable and appropriate, and that the Screening Report is complete and compliant with the requirements of the CEAA.

#### **3.2.2 Effects of the Project on the Environment**

Based on the screening of issues, CNSC staff reported that the potential residual adverse effects of the proposed Refurbishment Waste Storage Project would be the permanent loss of vegetation and small releases of radioactivity and radiation. CNSC staff concluded, however, that those effects would not be significant, taking into account the identified mitigation measures.

CNSC staff explained that it arrived at this conclusion through a systematic evaluation of all potential interactions between project works and activities comprising the refurbishment waste storage project and the various components of the environment. CNSC staff noted that a total of 281 such interactions were initially identified, the greatest number of which are associated with the site preparation and construction. CNSC staff concluded from an assessment of each of those interactions that no likely significant adverse environmental effects are expected to occur, taking into account the identified mitigation measures. The CNSC staff's assessment of the specific effects is discussed further below.

##### **i) Loss of vegetation**

CNSC staff explained that the site preparation for the project will have a residual effect on vegetation communities and species but is considered to be of minor importance as the areas

combined account for only four hectares and the wooded areas affected are currently degraded and of limited use to local wildlife.

#### ii) Releases of Radiation and Radioactivity

CNSC staff explained that based on the physical design of the refurbishment waste storage and in-ground structures, and with the operational procedures and safety mechanisms in place, any releases of radioactivity and radiation into the surrounding environment would be small. Similarly, small but measurable radiation doses to Nuclear Energy Workers (NEW) and non-NEW workers during operation are expected. These releases and radiation doses are minor and expected to remain within normal variations in the existing levels, and well below regulatory and licensee exposure control limits and potential effects for human and non-human biota, respectively. CNSC staff advised that these residual adverse effects are not likely significant.

During the hearing, the Commission questioned whether the temporary storage of waste materials outside the storage buildings could be a source of radiological releases to the environment. In response, CNSC staff stated that the containers would be closed, welded shut and inspected to ensure that the outside surfaces are free of any loose contamination that could be flushed off by rain, for example.

The Commission also sought further information on the protection of workers during the time the existing facility fence would be breached to permit the construction. In response, OPG assured the Commission that additional monitoring and surveillance would be in place while the fence would be temporarily open to ensure unauthorized access does not occur. OPG also stated, and CNSC staff concurred, that the temporary work on the facility fence would not pose a reduction in security at the facility.

#### iii) Noise

The Commission sought further information on the potential effects due to noise generated by the project. In response, OPG stated that noise effects were specifically considered as part of the EA. OPG stated that the short duration of construction, the relatively long distance of the project from potential receptors of noise and the fact that truck traffic would be indistinguishable from existing conditions, led to the conclusion that the project would not cause significant adverse environment effects. CNSC staff concurred with this finding.

#### iv) Design

The Commission sought further information relating to the design of the storage containers and whether the degradation of the containers over time could pose an environmental problem. In response, OPG stated that the storage containers had a fifty (50) year design life and that the condition and performance of the facility would be continually monitored and that any necessary repairs or replacements of containers would be carried out to ensure continued acceptable performance for as long as the waste is stored there.



Based on its review of the Screening Report and the above-noted information and considerations, the Commission concludes that the proposed project, taking into account the identified mitigation measures, is not likely to cause significant adverse environmental effects.

### **3.2.3 Effects of the Environment on the Project**

In addition to a consideration of how the project could adversely impact on the environment (as described in the previous section), the CEAA requires that the assessment include an examination of how the environment itself could adversely impact on the project.

In this regard, CNSC staff reported that the EA examined how severe weather, flooding and seismic events could adversely affect the project. Severe weather and seismic events were determined to have possible interactions with the project. The Refurbishment Waste Storage Project has planned design features that would adequately address the potential adverse effects of the environment. The EA process also considered the guidelines provided on incorporating climate change considerations in the EA and found the project is not sensitive to potential changes in climate. CNSC staff concluded that there would be no likely significant adverse effects of the environment on the project.

The Commission sought further information on the potential effects of a severe storm (e.g., the 100-year storm event). In response, OPG stated that this was considered in the EA and it was addressed in the design of the facility and site drainage ditches. OPG also noted that the local topography of the site does not lend itself to flooding.

Based on information received, the Commission concludes that the environment is not likely to cause significant adverse effects on the project.

### **3.2.4 Effects on Renewable and Non-Renewable Resources**

With respect to the adverse effects of the Refurbishment Waste Storage Project on the sustainability of renewable resources, CNSC staff reported in the EA that it is unlikely there would be any significant adverse effects on the sustainability of non-renewable resources.

Based on the information received, the Commission concludes that the project is not likely to cause significant adverse effects on the sustainability of renewable resources.

### **3.2.5 Cumulative Effects of the Project**

With respect to the requirement to also examine cumulative effects, CNSC staff stated that radioactivity/radiation effects and conventional effects of construction were identified as having the potential to be adverse and overlap in time and space. CNSC staff further stated that, with the identified mitigation, no significant adverse cumulative effects would result.

Based on the information received, the Commission concludes that significant adverse cumulative effects are not expected to occur as a result of the project.

### **3.2.6 Conclusions on the Likelihood and Significance of Adverse Environmental Effects**

Based on the considerations and reasons noted above, the Commission agrees with CNSC staff's conclusion in the Screening Report that the proposed expansion of the Western Waste Management Facility is not likely to cause significant adverse environmental effects, taking into account the identified mitigation measures.

The Commission is also satisfied that the likelihood and significance of the effects have been identified with reasonable certainty.

Furthermore, the Commission is satisfied that the CNSC licensing and compliance program responsible for ensuring the final design and implementation of the follow-up and monitoring program and reporting the program results will be adequate for verifying and, if necessary, identifying where additional mitigation measures may be required during the project implementation.

### **3.3 Public Concern**

With respect to public concern as a factor in its consideration of whether to refer the project to the federal Minister of the Environment for a review panel or mediator, the Commission first examined whether the public had sufficient opportunity to become informed about the project and the Environmental Assessment, and express their views on it.

CNSC staff submitted that OPG used a consultation program accepted by the CNSC to inform stakeholders and the public about the project throughout the EA process. In addition to OPG's consultations activities, First Nations were invited to participate in all public activities. CNSC staff further stated that they initiated a 30-day public comment period on the draft Screening Report with various stakeholders and the local the First Nations.

The Commission questioned staff with respect to the approach taken to consult with the local First Nations during the consultation process. In response, CNSC staff explained that both OPG and CNSC took a direct and proactive approach to involve the First Nations in the consultation process.

The Commission is satisfied that OPG and CNSC staff consulted appropriately with the public, other interested stakeholders and First Nations in accordance with the direction set out in the EA Guidelines. The Commission is therefore satisfied that there was adequate opportunity to become informed about the project and express any concerns.

Based on the information received, the Commission is satisfied there is no significant uncertainty associated with the assessment of the effects, taking into account the identified mitigation

measures. The Commission is also satisfied that public concern does not warrant referral of the project to the Minister of the Environment for his referral to a review panel or mediation. The Commission is satisfied that the remaining issues can be addressed in the follow-up program and future consideration of the licence amendment application.

The Commission therefore decides not to refer the project to the Minister of the Environment for referral to a review panel or mediator (i.e., pursuant to paragraph 20(1)(c) of the CEAA).

#### **4. Conclusion**

The Commission has considered the information and submissions of the proponent and the Canadian Nuclear Safety Commission staff as presented in the material available for reference on the record for the hearing.

The Commission concludes that the Environmental Assessment Screening Report appended to CMD 06-H103 is complete and meets all of the applicable requirements of the *Canadian Environmental Assessment Act*.

The Commission decides not to refer the project to the Minister of the Environment for referral to a federal Environmental Assessment review panel or mediator. Furthermore, the Commission concludes the project, taking into account the mitigation measures identified in the Screening Report, is not likely to cause significant adverse environmental effects.

Therefore, the Commission, pursuant to paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*, decides to proceed with the consideration of a licence amendment application under the *Nuclear Safety and Control Act* which, if approved, would allow the project to proceed.

Marc A. Leblanc  
Secretary,  
Canadian Nuclear Safety Commission

Date of decision: February 15, 2006  
Date of release of Reasons for Decision: March 2, 2006