

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Application to Issue an Operating Licence for the  
Darlington Waste Management Facility

Hearing  
Dates June 22, 2007 and September 12, 2007

**RECORD OF PROCEEDINGS**

Applicant: Ontario Power Generation Inc.

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

Purpose: Application by OPG for the issuance of an operating licence for the Darlington Waste Management Facility

Application received: January 31, 2006

Dates of hearing: June 22, 2007 and September 10, 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: S. Gingras  
Acting General Counsel: S. Maislin Dickson

<b>Applicant Represented By</b>	<b>Document Number</b>
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<b>Intervenors</b>	<b>Document Number</b>
See appendix A	

**Licence:** Issued  
**Date of Release of Decision:** October 24, 2007

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## **Introduction**

1. Ontario Power Generation Inc. (OPG) has applied to the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) for the issuance of a Class 1B Waste Facility Operating Licence for the Darlington Waste Management Facility (DWMF) located in the Municipality of Clarington, Ontario. OPG has applied for this licence for a period of five years. OPG also applied for the revocation of its existing construction licence.
2. In August 2004, the Commission issued a construction licence to authorize OPG to construct the DWMF on the site of the Darlington Nuclear Generating Station (NGS). OPG has completed the construction of the facility, including one of the three authorized storage buildings designed to provide interim dry storage of used fuel from the Darlington NGS. OPG has requested that the proposed operating licence include the authorization that currently exists under the construction licence to construct the remaining two storage buildings.
3. OPG's application to operate the DWMF does not include approval to operate the modifications made to the irradiated fuel bays that would permit the loading of used fuel into dry storage containers (DSC). Approval to operate the in-station modifications would be authorized separately in accordance with the Power Reactor Operating Licence for the Darlington NGS.

## Issue

4. In considering the application, the Commission was required to decide, pursuant to subsection 24(4) of the *Nuclear Safety and Control Act*<sup>2</sup>:
  - a) if OPG is qualified to carry on the activity that the 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.

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<sup>1</sup> 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. 1997, c. 9.

### Public Hearing

5. The Commission, in making its decision, considered information presented for a public hearing held on June 22 and September 12, 2007 in Ottawa, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*<sup>3</sup>. During the public hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 07-H17) and OPG (CMD 07-H17.1, CMD 07-H17.1A and CMD 07-H17.1B). The Commission also considered oral and written submissions from eleven intervenors (see Appendix A for a detailed list of interventions).

### **Decision**

6. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*, the Commission is of the opinion that OPG is qualified to carry on the activity that the licence will authorize. The Commission is also 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*, issues a Waste Facility Operating Licence to OPG for the Darlington Waste Management Facility located in Clarington, Ontario. The licence, WFOL-W4-355.00/2012, is valid from November 1, 2007 to October 31, 2012.

7. The Commission includes in the licence the conditions as recommended by CNSC staff in CMD 07-H17.
8. The Commission requests a status report following the mid-point of the 5-year term of the licence. The status report shall be presented at a public proceeding of the Commission (in approximately January 2010) and will provide a summary of the performance of OPG at the facility.

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<sup>3</sup> S.O.R./2000-211.

## **Issues and Commission Findings**

### **Radiation Protection**

9. As part of its assessment of the adequacy of provisions for protecting the health and safety of persons at the DWMF, the Commission considered the past performance and future plans of OPG in the area of radiation protection.
10. OPG reported that no routine emissions were expected from seal-welded DSCs during storage. CNSC staff confirmed that radiological risks to workers were due to external gamma radiation from the loaded DSCs, and that there is little to no release of nuclear substances from a loaded DSC during its transfer, processing or storage. CNSC staff added that radiological doses from radionuclide releases and direct radiation following an accident have been assessed, and that these doses are not expected to exceed annual dose limits for workers.
11. OPG noted that the design of the DWMF included an As Low As Reasonably Acceptable (ALARA) assessment to review the radiological risks associated with all aspects of facility operation. OPG further reported that proposed action levels have been developed and submitted to the CNSC in May 2006. CNSC staff reported that it reviewed the ALARA assessment, is satisfied with the content and detail of the document, and accepted the document. CNSC staff also accepted the proposed action levels. CNSC staff further noted that it accepted OPG's recommendation that a follow-up ALARA assessment be performed after the first year of operation.
12. OPG stated that the DWMF would follow the OPG-wide Nuclear Radiation Protection (RP) Program and Procedures. CNSC staff noted that the RP program for the DWMF is the same as the RP program at OPG's NGS and OPG's other waste management facilities. In consequence, CNSC staff expects the DWMF doses to be similar to the Pickering and Western waste management facilities, which are well below regulatory requirements.
13. OPG declared that operations at the DWMF are not expected to have significant radiological off-site consequences to the public or the environment, and that doses to the public from emissions during processing are predicted to be negligible. OPG further noted that the maximum dose to a member of the public as a result of postulated malfunctions and accidents is predicted to be below 2 microsieverts ( $\mu\text{Sv}$ ). CNSC staff confirmed that radiological hazards to the public are due to external gamma radiation from the loaded DSCs, but that the operation of the DWMF is unlikely to pose unreasonable risks to the public or the environment. CNSC staff also noted that radiological doses to the public from postulated accidents are not expected to exceed annual dose limits for members of the public.

14. In its intervention, Citizens for Renewable Energy expressed the view that the dose rate targets and annual dose limits have been arbitrarily set and that they do not reflect the latest findings of studies done by the National Academy of Sciences and the European Committee on Radiological Risk. This intervenor is also of the view that, even with normal operations, the safety of workers regarding health effects of radiation exposure is not guaranteed. The Commission requested comments on this last statement. OPG responded that worker safety was assessed as part of an evaluation of the whole facility, and that, even in the worst case accident scenario, the dose to a worker has been assessed to be a fraction of the annual dose limits. CNSC staff noted that it has verified OPG's assessment of abnormal events and that it was satisfied that workers at the facility had adequate protection from radiological effects resulting from normal operation and potential abnormal events.
15. In her intervention, J. McCrea expressed concerns on the safety of ionizing radiation, and considers that insufficient data has been presented for public consideration as to the health effects of nuclear operations. In particular, she stated that the 2007 Report entitled "Radiation and Health in Durham Region" by the Durham Region Health Department clearly outlines the risks of ionizing radiation from the unsafe operation of nuclear facilities to human health. She added that recent studies on power workers have demonstrated a positive association between radiation and leukemia. She considers that these health outcomes are unacceptable and have been linked to the operation of nuclear generating and waste storage facilities by OPG in the immediate vicinity of Durham Region. This intervenor is of the view that the licence application should be rejected until adequate research and studies have been conducted to demonstrate there is no immediate danger to the public.
16. In response to the Commission's request for comments on this intervention, CNSC explained that the study referenced above described the distribution of disease within the community and does not do any risk assessment linking radiation exposures to specific disease outcomes. CNSC staff added that the conclusions of the report state that disease rates in the area did not indicate a pattern that would suggest that the surrounding nuclear generating stations caused diseases.
17. The Commission agrees with CNSC staff's view that the current studies do not show a link between the operations of the surrounding nuclear generating stations and an increase of disease in the population in the area. As discussed further in the *Public Information Program* section of this *Record of Proceedings*, the Commission urges OPG to be proactive in providing information to the public on health concerns.

### *Conclusion on Radiation Protection*

18. The Commission is satisfied that the operation of the facility with full implementation of the radiation protection program will not pose an unreasonable radiation risk to the health and safety of persons or the environment.
19. The Commission is of the opinion that OPG will make adequate provisions for the protection of workers against radiation during the operation of the DWMF.

### **Conventional Health and Safety**

20. With respect to the protection of persons from conventional (non-radiological) hazards at the facility, OPG reported that safety hazards at the DWMF were evaluated and addressed during the design phase. CNSC staff explained that the risks from conventional hazards are mainly associated with the control and safe handling of hazardous materials, large and heavy waste packages and the use of conventional x-ray equipment.
21. OPG noted the absence of lost-time accidents and reportable events during construction. CNSC staff added that OPG has designed and made provisions to ensure that workers are not placed at unreasonable risk from conventional hazards. CNSC staff added that the Ontario Ministry of Labour visited the site and that no orders were issued during construction.
22. CNSC staff confirmed that an Environmental Health and Safety Plan has been in place during the construction of the DWMF.
23. In its intervention, Power Workers' Union expressed the view that OPG has safely and responsibly managed used nuclear fuel at the Darlington site for the last 20 years, and that the OPG waste management staff has demonstrated over a period of years that it safely manages the used fuel and waste generated by the nuclear station.
24. Based on this information, the Commission is of the opinion that OPG has made, and will continue to make, adequate provision for the protection of persons from conventional (non-radiological) hazards at the DWMF.

### **Environmental Protection**

25. To determine whether OPG will make adequate provisions to protect the environment while carrying on the proposed activities at its waste management facility at the Darlington site, the Commission considered the potential for the operation to adversely affect the environment.

26. OPG explained that the Darlington Radiological Environmental Monitoring Program is designed to measure environmental radioactivity in the vicinity of the Darlington site, as well as to monitor off-site consequences of the DWMF. CNSC staff confirmed that an Environmental Management Plan has been in place during the construction of the DWMF. CNSC staff noted that the results of environmental monitoring are to be reported to the CNSC on a quarterly basis, in accordance with the proposed licence.
27. CNSC staff indicated that the Environmental Monitoring Program was accepted by CNSC staff prior to the commencement of the construction of the DWMF. In accordance with this program, OPG reported the results of pre-construction program activities. CNSC staff reported that it was satisfied with the information provided in the report.
28. OPG noted that certificates of approval issued by the Ontario Ministry of Environment for airborne and waterborne emissions will be in place before the DWMF becomes operational. OPG added that potential non-radiological emissions from the DWMF have been assessed and determined to be insignificant and within the envelope of the existing certificate of approval.
29. The Commission is satisfied that the operation of the facility with the safety programs in place will not pose an unreasonable risk to the environment. The Commission is also of the opinion that OPG will make adequate provisions for the protection of the environment.

### **Operations**

30. The Commission considered OPG's past operating performance during construction as an indication of its qualifications to operate its facility and, in doing so, to provide adequate protection for the environment, persons, and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.
31. OPG reported that the construction of the DWMF has been carried out in accordance with the DWMF construction licence, and that commissioning of the systems within the facility was nearing completion. OPG added that all of the equipment and systems have proven to be acceptable, and that commissioning has confirmed that the design and construction are consistent with the design requirements. OPG indicated that there remain minor outstanding deficiencies, which have been documented and are being addressed. OPG considers these deficiencies routine for a project of this nature and that they will be resolved prior to the start of the facility. OPG added that the installation and registration of pressure retaining systems at the DWMF is in accordance with the pressure boundary conditions set out in the DWMF construction licence.

32. The Commission enquired on the nature of the minor deficiencies. OPG responded that these were typical deficiencies, for example the installation of equipment that does not match design drawing or paperwork provided with a system that may lack sufficient information. CNSC staff stated that, based on a recent visit to the facility, it was confident that appropriate processes are followed, and that OPG is implementing the corrective action plans.
33. OPG is of the view that the experience gained at the Pickering and Western Waste Management facilities on the dry storage of used fuel provides a high level of confidence that the DWMF can be operated safely. CNSC staff concurred with OPG. CNSC staff also explained that the *National Building Code of Canada*<sup>4</sup> governed the design and construction of all the building elements and set requirements, and that the DSC design has been thoroughly assessed for its integrity and stable performance under various conditions.
34. CNSC staff indicated that similar OPG-owned facilities have functioned properly under the existing programs and controls. The Commission enquired on any lessons learned from these facilities. OPG explained that it implemented a process of continuous improvement at all of its facilities whereby there is constant monitoring for any kind of undesirable activity or event that may have occurred. CNSC staff concurred with OPG, and noted that activities or problems are analyzed to ensure that areas of concern are addressed across the facilities.
35. The Commission enquired on any studies done to verify the ability of the facility to withstand earthquakes. OPG responded that extensive analyses were performed on seismic loading for dry storage containers, and that it was confident that the containers would not be damaged during an earthquake. OPG added that the *National Building Code of Canada* includes seismic requirements. CNSC staff concurred with OPG.
36. In her intervention, J. McCrea expressed concerns regarding how the fuel storage containers will be managed after their expected 50-years life expectancy. The Commission asked for more information on this topic. OPG responded that the containers have been assessed and will preserve their structural integrity for up to 100 years. OPG added that if a permanent waste storage facility is not available at the end of the life of the containers, spent fuel could be transferred to new containers. OPG also noted that information relating to DSCs is available to the public on request.
37. The Commission notes the concerns from this intervenor regarding the DSCs, and recommends that OPG be proactive regarding information provided to the public on DSCs.

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<sup>4</sup> National Building Code of Canada, issued by the Canadian Commission on Building and Fire Codes, National Research Council of Canada, dated 1995, as amended from time to time.

38. The Commission enquired on actions that would be taken regarding wastewater. OPG answered that the content is analyzed for possible contamination and if results are satisfactory, the water is pumped to the domestic sewage system. If the water is contaminated, the content would be transferred to the power plant and disposed of through the active liquid waste system.
39. OPG reported that the construction verification plan was submitted to the CNSC and accepted in February 2004. CNSC staff concurred with OPG, and noted that CNSC staff was able to conclude after verifications that OPG is adequately implementing the accepted construction verification plan.
40. OPG noted that a safety assessment of normal and abnormal operating and accident conditions was carried out. OPG further indicated that the DWMF Operating Policies and Principles (OP&P), defining boundary conditions for safe and reliable operation, were submitted to the CNSC in August 2006. OPG also noted that Waste Acceptance Criteria for used fuel have also been developed. CNSC staff concluded from the safety assessment performed that the risks to persons and the environment are minimal from the operation of the facility.
41. OPG reported that the commissioning plan was submitted to the CNSC in June 2006, and that it will be issuing a final commissioning report to the CNSC by November 2007. CNSC staff indicated that the proposed operating licence will require OPG to submit a commissioning report acceptable to the Commission or a person authorized by the Commission. CNSC staff proposed that the Commission delegate the authority to accept this report to the Director General, Directorate of Nuclear Cycle and Facilities Regulation.
42. OPG indicated that commissioning procedures have been developed for each system, and that operating and maintenance procedures are under development and will be available prior to facility startup. CNSC staff concurred with OPG, and noted that these procedures were tested and validated against the functional equipment and systems.
43. The Commission enquired on whether there would be sufficiently trained workers to operate the facility safely. OPG responded that several actions were taken in order to ensure the proper amount of qualified staff at the facility, including the transfer of workers from the Pickering to the Darlington waste management facility and the involvement of staff very early in the construction activities. CNSC staff expressed its satisfaction with OPG's actions, and indicated that the third stage of commissioning would have employees who received training for all of the procedures.
44. CNSC staff reported that OPG has confirmed that staffing is complete in all essential areas, and that it is satisfied that qualified and trained staff will operate the DWMF.

### *Human Factors*

45. OPG reported that a review was undertaken to determine elements of the facility design requiring enhancements with respect to human factors. OPG added that a Human Factors Engineering Program Plan was written in accordance with CNSC Regulatory Guide G-276, *Human Factors Engineering Program Plans*, and that the Human Factors Verification and Validation Plan and the Human Factors Summary Report were submitted to the CNSC in June 2006.
46. CNSC staff concurred with OPG, and indicated that these two OPG documents have been reviewed and accepted by CNSC staff. CNSC staff also noted that a review of the summary reports and selected commissioning procedures has confirmed that the plans have been properly implemented during construction.

### *Conclusion on Operations*

47. Based on the information received, the Commission concludes that OPG's performance at the DWMF during construction activities provides a positive indication of OPG's ability to adequately carry on the activities under the proposed licence period, and that OPG has in place the necessary programs to assure continued acceptable performance at the facility.
48. The Commission delegates to the Director General, Directorate of Nuclear Cycle and Facilities Regulation, the authority to accept the Commissioning Report, in accordance with licence condition 2.2. With this decision, the Commission requests CNSC staff to inform the Commission at a public proceeding once the Report has been accepted.

### **Emergency Preparedness and Fire Protection**

49. With regards to emergency preparedness, OPG noted that response to radiological emergencies is covered by OPG's emergency plans and procedures. CNSC staff concurred with OPG, and indicated that the Darlington NGS emergency response organization and emergency response team is committed to support the DWMF if needed.
50. In its intervention, Citizens for Renewable Energy requested the CNSC to recognize that the coverage offered by the *Nuclear Liability Act*<sup>5</sup> is insufficient and to substantially increase the level of coverage in the event of a nuclear incident.

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<sup>5</sup> R.S.C. 1985, c. N-28.

51. The Commission notes that, while it is the CNSC's responsibility to determine whether a facility is covered by this *Act*, it does not determine the maximum amount of coverage. However, the Commission notes that the *Nuclear Liability Act* is under review by the Government of Canada.
52. With regards to fire protection at the DWMF, CNSC staff reported that drawings and specifications were compliant with specified codes and standards, and that several areas that were identified for further attention have been followed up and resolved by OPG and its contractor during construction.
53. OPG reported that the results of the third party review of the DWMF fire protection and detection design were submitted to the CNSC in August 2006, in accordance with the construction licence. This review concluded that the drawings and specifications met the 2005 *National Building Code of Canada* and the 1995 *National Fire Code of Canada*, with some minor exceptions that will be addressed during the construction and installation of the systems. OPG added that a fire safety plan and a pre-fire plan have also been developed for the facility. CNSC staff concurred with OPG, and indicated that OPG is compliant with the fire protection requirements in the construction licence.
54. The Commission sought assurances that the fire safety plan for the DWMF is integrated with the comprehensive site plan. OPG confirmed that the fire safety plan for the DWMF was prepared by the emergency response personnel from the Darlington NGS. CNSC staff indicated that it looked at the interconnections between the DWMF and the NGS, and that it considers that a comprehensive plan agreed to by both parties (DWMF and NGS) is in place for a seamless integration across the whole site in the event of emergencies.
55. The Commission enquired whether the buildings were planned to be constructed according to the most up-to-date fire code standards. OPG responded that, while the design of the buildings has been completed following the 1995 version of the *National Fire Code*, when comes the time for the construction of new buildings, it intends to review the design in order to comply with the most recent versions of fire and building codes. The Commission further enquired on whether a licence condition should be added to require compliance with the most recent codes. CNSC staff explained that it did not intend to add a specific licence condition on this topic, but that the proposed licence included a condition which requires OPG to submit its design requirements before construction, which will give CNSC staff the opportunity to verify compliance with the most recent codes.
56. The Commission expects CNSC staff to ensure that the design and construction of future buildings at the DWMF are compliant with the most recent applicable fire and building codes.

57. The Commission enquired on any additional training provided to the local fire departments to respond to emergencies at the DWMF. OPG responded that no additional training was provided since the potential fires at the DWMF were within the firefighters' current knowledge, the fire chief had been involved in the review of the facility and the firefighters recently visited the facility.
58. In its intervention, Citizens for Renewable Energy considered odd the fact that OPG is relying on municipal organizations as first responders and sought more information on the training provided.
59. In response to comments requested by the Commission, OPG explained that the Clarington fire department is the first responder for the DWMF since the first priority of OPG's emergency response team at the Darlington NGS is to respond to emergencies related to the nuclear reactors. However, the OPG response team is ready to provide support to the DWMF if necessary.
60. Based on the above information, the Commission considers the measures set out as constituting adequate provision to protect the health and safety of persons, national security or the environment. The Commission is also satisfied that facility operations with the fire protection measures in place will not pose an unreasonable risk to the health and safety of persons or the environment.

### **Quality Management**

61. With regards to quality management at the DWMF, OPG declared that the Darlington Waste Management Division is ISO 14001 certified and audited. CNSC staff indicated that OPG has confirmed their application of the existing Environment, Safety and Health Management System to the proposed operation of the DWMF. This system includes the management of conventional hazards based on the requirements of the Det Norske Veritas (DNV)'s International Safety Rating System (ISRS) and ISO 14001 Emergency Management System. CNSC staff added that OPG has confirmed that the most recent audits conducted by DNV for the ISRS and ISO have verified OPG's rating and certification with these organizations.
62. Based on the above information, the Commission considers the measures set out by OPG as constituting adequate provisions regarding quality management at the DWMF.

### **Public Information Program**

63. With respect to public information activities, OPG reported on its program to provide an effective method of external communication. The purpose of the program is to maintain and improve community relations and to build community awareness, understanding and support for OPG. CNSC staff concurred with OPG, and indicated that this program includes a twice-yearly newsletter, as well as providing the public with information at local events. CNSC staff is satisfied with OPG's public information program for the activities at the Darlington NGS site, which includes the DWMF.
64. The Commission asked for more information on the consultation process. OPG responded that several open houses were held during the Environmental Assessment (EA) process, as well as during the construction period. OPG found public interest to be relatively low. CNSC staff noted that it regularly attends open houses during EAs and public outreach programs to ensure that correct information is provided, and stated that it is satisfied with OPG's public information activities.
65. In her intervention, J. McCrea stated that she first became aware of this public hearing in July 2007 through a brochure received from OPG, which she considers gave her insufficient time to prepare for the hearing. She also expressed concerns that other citizens, organizations and municipal councils have not been provided with sufficient notice for the hearing. She is of the opinion that the operating licence should be refused until citizens and groups have been provided with sufficient time to effectively participate in the hearing. She suggested that each municipality in the areas surrounding all of OPG's facilities should be provided with the resources to consult the public.
66. In response to this intervenor's concerns, OPG detailed its public information activities, including open houses in the area, stakeholder workshops during the EA process, project newsletters, updates to organizations in the community such as the Durham Nuclear Health Committee and the Community Advisory Committee. CNSC staff noted that consultation activities for the Darlington used fuel dry storage project have followed the CNSC's general consultation requirements for both the EA and the licensing processes. CNSC staff also indicated that the public had opportunities to comment on the EA Guidelines and the draft Screening Report. In addition, it was confirmed that notice of the hearing was published well in advance in regional newspapers.
67. Based on the information presented above, the Commission is satisfied that OPG's public information program is acceptable. However, the Commission emphasizes that OPG should continue to provide information to the public on its on-going activities and consult the public on future planned activities. The Commission also expresses the view that OPG should provide information to the public on health issues and respond to health concerns that may be raised by the communities.

### **Non-Proliferation and Safeguards**

68. The CNSC's regulatory mandate includes ensuring conformity with measures required to implement Canada's international obligations under the Treaty on the Non-Proliferation of Nuclear Weapons. Pursuant to the Treaty, Canada has entered into safeguards agreements with the IAEA. The objective of these agreements is for the IAEA to provide credible assurance on an annual basis to Canada and to the international community that all declared nuclear material is in peaceful, non-explosive uses and that there are no undeclared nuclear material or activities in this country.
69. OPG reported that Canada's obligations under the IAEA Nuclear Non-Proliferation Treaty will be met through the implementation of safeguards measures consistent with the Integrated Safeguards Approach agreed to by the CNSC and the IAEA. OPG added that specialized equipment has been installed and commissioned according to the IAEA specifications. CNSC staff concurred with OPG, and noted that it is satisfied with OPG's nuclear safeguards program. CNSC staff also stated that the proposed licence does not authorize the import or export of controlled nuclear substances, equipment or information.
70. CNSC staff noted that the DWMF would be subject to the state-level Integrated Safeguards Approach under the proposed licence. The Commission expressed the need to closely monitor this new approach to verify it meets its intent and purpose regarding increased efficiency in inspection activities.
71. Based on the above information, the Commission is of the opinion that OPG has made and will continue to make adequate provision for the maintenance of national security and the measures required to implement international obligations to which Canada has agreed.

### **Decommissioning Plans and Financial Guarantee**

72. OPG reported that in September 2006, it prepared and filed with the CNSC a Preliminary Decommissioning Plan (PDP) for the DWMF, in accordance with Regulatory Guide G-219, *Decommissioning Planning for Licensed Activities*<sup>6</sup>. OPG added that it has since submitted in April 2007 a revised version of this document containing corrections requested by CNSC staff. OPG also noted that the CNSC approved in 2003 OPG's Decommissioning Financial Guarantee for all Class 1 facilities owned by OPG, including the DWMF. This financial guarantee remains valid until December 31, 2007. CNSC staff concurred with OPG, and noted that it considers that the proposed PDP met requirements in Regulatory Guide G-219. CNSC staff also stated that it was currently reviewing the cost estimates for the DWMF and OPG's other waste facilities. CNSC staff expects to present the Commission with proposed changes to the conditions addressing decommissioning plans and the financial guarantee for all of OPG's class I licences in November 2007.

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<sup>6</sup> Published in June 2000.

73. In its intervention, Citizens for Renewable Energy expressed its concerns regarding the finalizing of decommissioning plans and financial guarantees more than three months after the possible issuance of the requested operating licence. In response to comments requested from the Commission on this topic, CNSC staff explained that there are financial guarantees for all OPG owned Class 1 facilities already in place, and that a revision is planned to be presented at a Commission hearing in November 2007 as part of a five-year revision cycle for all OPG licences.
74. Based on the information provided during this hearing, the Commission concludes that the existing decommissioning financial guarantee for the DWMF is acceptable for the purpose of the proposed licence.

### **Application of the *Canadian Environmental Assessment Act***

75. Before making a licensing decision, the Commission must be satisfied that all applicable requirements of the *Canadian Environmental Assessment Act*<sup>7</sup> (CEAA) have been fulfilled.
76. CNSC staff reported that results of an Environmental Screening Report for the Darlington Used Fuel Dry Storage Project were presented to the Commission at a public hearing on September 25, 2003. As noted in the *Record of Proceedings*<sup>8</sup>, the Commission concluded that the project, taking into account the appropriate mitigation measures, is not likely to cause significant adverse environmental effects, and that public concerns about the project did not warrant a reference to the Minister of the Environment for referral to a mediator or a review panel.
77. OPG reported that the environmental assessment (EA) follow-up monitoring program was submitted to the CNSC in July 2004, and that a report documenting the results of the EA follow-up activities was undertaken in 2005 and submitted to the CNSC in March 2006. OPG also indicated that the results of a follow-up survey conducted in 2006 among the users of sport fields and the waterfront trail on the Darlington property showed that the public attitude has not changed since the first survey conducted in 2001, and that the construction of the DWMF has had no effect on the vast majority of people's use and enjoyment of the recreational features near the site.
78. CNSC staff concurred with OPG. CNSC staff also concluded that OPG is adequately implementing the accepted follow-up program, and is therefore compliant with condition 8.2 of the construction licence. CNSC staff is of the opinion that no further action is required.

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<sup>7</sup> S.C. 1992, c. 37.

<sup>8</sup> *Record of Proceedings, including Reasons for Decision* on the matter of the Environmental Assessment Screening Report for the Proposed Darlington Used Fuel Dry Storage Project, dated November 7, 2003.

79. Based upon the above assessment, the Commission is satisfied that all requirements of the CEAA have been fulfilled for OPG's application for an operating licence.

### **Licence Length and Interim Reporting**

80. OPG requested a five-year licence. CNSC staff, after assessing the request using criteria described in CMD 02-M12, *New Staff Approach to Recommended Licensing Periods*, agreed with the request.
81. CNSC staff also proposed an interim report on the performance of the facility at mid-point of the proposed five-year licence.
82. Citizens for Renewable Energy recommended that, based on the concerns it raised in its interventions, the Commission consider a licence term of no more than two years, with a half-term monitoring and maintenance report made by CNSC staff and available to intervenors. The intervenor was also of the view that it was premature to issue an operating licence since the commissioning process was not yet completed.
83. In response to the intervenor's concern, the Commission notes that the proposed licence includes a condition requiring OPG to submit an acceptable Commissioning Report before it can carry out the activities related to the operating licence.
84. Based on the information presented during the course of this hearing, the Commission is satisfied that a five-year licence with a mid-term report on the performance of the facility is appropriate.
85. The Commission notes that it will also be provided with relevant information and updates regarding this facility should there be a significant event regarding the DWMF or a licence amendment request from OPG.

### **Conclusion**

86. The Commission has considered the information and submissions of Commission staff, the applicant and all participants as set out in the material available for reference on the record, as well as the oral and written submissions provided or made by the participants at the hearing.
87. The Commission concludes that all requirements relating to *Canadian Environmental Assessment Act* have been fulfilled.

88. The Commission is of the opinion that the applicant is qualified to carry on the activity that the proposed licence will authorize and that the applicant 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.
89. Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, issues Waste Facility Operating Licence WFOL-W4-355.00/2012 to OPG for the Darlington Waste Management Facility located in Clarington, Ontario. The licence will be valid from November 1, 2007 to October 31, 2012, unless suspended, amended, revoked or replaced.
90. The Commission includes in the licence the licence conditions recommended by CNSC staff in CMD 07-H17. The Commission also delegates to the Director General of the CNSC Directorate of Nuclear Cycle and Facilities Regulation the authority to accept the Commissioning Report, in accordance with licence condition 2.2. With this decision, the Commission requests CNSC staff to inform the Commission once the Report has been accepted.
91. The Commission also revokes the existing construction licence WFCL-W4-355.00/2008 as of November 1, 2007. With the issuance of the operating licence WFOL-W4-355.00/2012, this construction licence is no longer required under the *Nuclear Safety and Control Act*.
92. The Commission requests that a status report on the performance of the facility be presented at a public proceeding of the Commission at the mid-point of the five-year term (in approximately January 2010).
93. The Commission expects CNSC staff to provide an update to the Commission, should any significant development occurs during the period of the licence.

Linda J. Keen,  
President  
Canadian Nuclear Safety Commission

Date of release of Decision: October 24, 2007

## Appendix A – Intervenors

Intervenors	Document Number
Julia McCrea	CMD 07-H17.2 CMD 07-H17.2A
Wilfried J. Schwartz	CMD 07-H17.3
Municipality of Clarington	CMD 07-H17.5
Pat Pingle	CMD 07-H17.6
Power Workers' Union	CMD 07-H17.7
Durham Nuclear Planning Committee	CMD 07-H17.8
Darlington Nuclear Site Planning Committee	CMD 07-H17.9
Canadian Nuclear Workers' Council	CMD 07-H17.10
North American Young Generation in Nuclear, Durham Chapter	CMD 07-H17.11
Clarington Board of Trade	CMD 07-H17.12
Citizens For Renewable Energy, represented by G. Wright	CMD 07-H17.13