

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant Ontario Power Generation Inc.

Subject Environmental Assessment Guidelines (Scope
of Project and Assessment) for the Proposed
Pickering Waste Management Facility Phase II

Date May 8, 2003

1. Introduction

Ontario Power Generation (OPG) has, in a letter to the Canadian Nuclear Safety Commission (CNSC), stated its intent to apply for authorization to construct and operate Phase II of the Pickering Waste Management Facility within the general site of the Pickering Nuclear Generating Station (NGS), Pickering, Ontario. The project (PWMF II) involves the construction, operation and maintenance of storage buildings for the dry storage of used fuel from the Pickering NGS, and the transfer of dry storage containers containing spent fuel from the existing Phase I facilities (PWMF I) to the new PWMF II storage buildings. The Pickering Waste Management Facility is a Class 1B Nuclear Facility licensed under the Canadian *Nuclear Safety and Control Act* (NSCA). For the project to proceed, the current Waste Facility Operating Licence for the facility (WFOL-W4-350.00) would require amendment by the Commission.

In accordance with the *Canadian Environmental Assessment Act* (CEAA), the CNSC must prepare and make a decision on an environmental assessment of the proposed project before the Commission can make a decision on the licence amendment application. For this environmental assessment under the CEAA, the CNSC is the sole responsible authority.

In carrying out its responsibility under the CEAA, the CNSC must first determine the *scope of the project* and the *scope of the assessment*.

To assist the Commission in this regard, CNSC staff, after consulting with other government departments, the public and other stakeholders, prepared a draft *Environmental Assessment Guidelines* document (EA Guidelines), including draft statements of scope for the approval of the Commission. The EA Guidelines also contain recommendations and instructions for the structure and methods to be used in completing the environmental assessment, including for the conduct of further public and stakeholder consultations. The EA Guidelines are attached as Appendix A to CMD 03-H10. At the start of the public hearing, CNSC staff introduced one modification to section 10.0 (Environmental Assessment Process) of the above-referenced EA Guidelines. The change clarifies that the environmental assessment Screening Report will be presented to the Commission for a decision prior to, and separately from, any licensing hearing on the application pursuant to the *Nuclear Safety and Control Act*.

Issues:

In considering the EA Guidelines, the Canadian Nuclear Safety Commission (the Commission) was required to decide, pursuant to subsections 15(1) and 16(3) of the CEAA:

- a) the *scope of the project* in relation to which the environmental assessment is to be conducted; and
- b) the *scope of the factors* to be taken into consideration in the conduct of the environmental assessment.

The Commission also considered whether, at this time, it would request the federal Minister of the Environment, pursuant to section 25 of the CEAA, to refer the project to a mediator or a review panel.

Public Hearing:

The Commission, in making its decision, considered information presented for a public hearing held on April 10, 2003 in Ottawa, Ontario. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*. During the public hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 03-H10) and one intervenor (Ontario Power Generation Inc. (CMD 03-H10.1)).

2. Decision

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

the Canadian Nuclear Safety Commission, pursuant to sections 15 and 16 of the CEAA, approves the *Environmental Assessment (EA) Guidelines (Scope of Project & Assessment): Environmental Assessment of the Proposed Pickering Waste Management Facility Phase II, Pickering, Ontario* as set out in Appendix A of CMD 03-H10, and as amended by CNSC staff during the hearing.

The Commission also decides that, at this time, the project does not warrant a referral, pursuant to section 25 of the CEAA, to the federal Minister of Environment for his referral to a mediator or a review panel.

3. Issues and Commission Findings

3.1 Application of the CEAA

CNSC staff explained that the CEAA requires that an environmental assessment be completed if there is both a prescribed “trigger” and a “project”. In this case the “trigger” prescribed in the CEAA *Law List Regulations* is the need to amend a licence that would allow the undertaking to proceed. The “project” is the proposed construction and operation of a physical work; in this case, the PWF II. Furthermore, CNSC staff noted that the project is not of a type that is listed in the CEAA *Exclusion List Regulations* and hence an environmental assessment is required.

The Commission concurs with this interpretation of the application of the CEAA to the proposed undertaking and concludes that an environmental assessment is required.

3.2 Type of Environmental Assessment Required

CNSC staff explained that because the project is not of a type described in the CEAA *Comprehensive Study List Regulations*, a “screening” environmental assessment must be conducted, and a *Screening Report* prepared in accordance with subsection 18(1) of the CEAA. CNSC staff explained that it would prepare the Screening Report using the results of environmental assessment studies delegated to the proponent pursuant to subsection 17(1) of the CEAA.

CNSC staff indicated that, at this time, it is not aware of any potential significant environmental effects or public concerns associated with the project which would warrant having the project referred to a mediator or review panel pursuant to section 25 of the CEAA.

Based on the requirements of the CEAA and the regulations made under that Act, the Commission concurs with CNSC staff’s determination that a “screening” environmental assessment of the project is required pursuant to the CEAA.

The Commission also concludes that, at this stage in the environmental assessment, there is not enough information about the likely environmental effects of the project to determine whether a panel review or mediator is warranted. Similarly, the Commission does not consider that the public concerns expressed to date warrant the appointment of a review panel or mediator by the Minister (see also section 3.3 below – *Pre-Hearing Consultations on the Draft EA Guidelines*).

The Commission decides therefore that, at this time, it will not refer the project to the Minister of the Environment for referral to a panel review or mediator. The Commission may consider the need for such a referral at any time during the assessment and therefore requests that staff inform the Commission of any significant issues arising during the conduct of the environmental assessment which may justify such a referral. In that regard, CNSC staff may inform and make recommendations to the Commission by way of a Significant Development Report at any regularly scheduled Commission meeting, or directly through the Secretary of the Commission.

3.3 Pre-Hearing Consultations on the Draft EA Guidelines

This section addresses the consultations that were conducted on the proposed draft EA guidelines. The EA Guidelines provide for ongoing future consultations (i.e., during the conduct of the environmental assessment).

3.3.1 Federal Government

CNSC staff explained that, in accordance with the CEAA *Federal Coordination Regulations*, CNSC staff has consulted with other federal authorities on the draft EA Guidelines. Environment Canada and Health Canada were identified for this purpose. CNSC staff indicated that these departments will continue to be consulted during the environmental assessment.

Noting the close proximity of the proposed project site to Lake Ontario, the Commission sought clarification from CNSC staff on the role that Fisheries and Oceans Canada (DFO) will play in the assessment. CNSC staff stated that, while DFO is not a Responsible Authority for the assessment, it will continue to be consulted as an expert Federal Authority through the remainder of the environmental assessment process. DFO did not provide comments on the draft EA Guidelines.

3.3.2 Provincial Government

CNSC staff stated that it has confirmed with the Ontario Ministry of Environment that the requirements of the Ontario *Environmental Assessment Act* do not apply to the proposal. Nevertheless, CNSC staff will continue to consult with Ontario Ministry of Environment and the Ontario Ministry of Public Safety and Security throughout the environmental assessment.

3.3.3 Public

To provide for public input to the draft EA Guidelines, CNSC staff reported that it established a “public registry” for the assessment in accordance with the requirements of the CEAA. The registry provides information on the project and access to all related documents.

In addition, CNSC staff reported that information about the project was placed on the CNSC web site and that copies of the draft EA Guidelines were made available for viewing by the public at a number of public locations in the project area. The period for public review and comment on the draft EA Guidelines was between October 18, 2002 and December 18, 2002 (including a 30-day extension which was granted in response to a request by the City of Pickering). CNSC staff reported that comments were received from the City of Pickering and that each comment was considered and incorporated, as appropriate, into the revised draft EA Guidelines. The disposition of all public and government department comments is included in the CNSC staff report CMD 03-H10, Appendix B.

Noting the importance of maintaining a reasonably predictable process schedule, the Commission sought further information on the reason for, and impact of, the 30-day extension to the public review period. In response, CNSC staff stated that the City of Pickering requested the extension so that the results of the City staff’s review could be brought before the City Council for resolution. CNSC staff noted that, prior to agreeing to the extension, the potential impact on the project schedule was discussed with OPG. OPG and CNSC staff agreed that it was important and reasonable in the circumstances to grant the extension.

CNSC Staff also appended to its report (Appendix D of CMD 03-H10) information on the broader public consultation program currently being conducted by OPG. That program covers the environmental assessment, as well as the proposed project in general.

With reference to the broad distribution of mail-back cards in the surrounding community that formed part of that larger consultation program, the Commission inquired about the types of responses received by OPG. OPG stated that, while several hundred cards were mailed back, the

large majority of the responders were seeking further information about the project; very few contained expressions of major concern about the project.

Based on this information, the Commission is satisfied that the public and other stakeholders have had sufficient opportunity to provide input to the draft EA Guidelines. The Commission is also satisfied that the public concerns expressed to date from this process do not warrant a referral of the project to the Minister of the Environment for referral to a review panel or mediator.

The Commission notes that the public will continue to be consulted during the conduct of the environmental assessment studies, and will have another opportunity to provide comments on the results of the screening environmental assessment when the matter comes before the Commission for a decision at a future public hearing.

3.4 The Scope of the Project

3.4.1 General

“Scope” under the CEAA is expressed in two parts: the *scope of the project* (i.e., the physical works and activities proposed), and the *scope of the assessment* (i.e., the scope of the factors to be considered in assessing the effects of the project). This section addresses only the issues relating to the *scope of the project*. The issues related to the *scope of the assessment* are considered in section 3.5 of this *Record of Proceedings*.

CNSC staff explained how the CEAA requires the responsible authority, pursuant to section 15 of the CEAA, to systematically identify the *scope of the project*. This begins with the identification of the *principal project* that is the subject of the prescribed trigger (see section 3.1 above); in this case, the proposed construction and operation of the PWMF II facility. CNSC staff then explained how the CEAA requires that other physical activities directly related to the principal project are to be considered for inclusion in the *scope of the project*.

In summary, CNSC staff recommended that the Commission identify the *physical works* that make up the project as including: the storage buildings to be built for the dry storage containers; all facilities, systems and activities required for the construction and operation of the PWMF II; and the facilities, systems and activities involved in the transfer of loaded, welded Dry Storage Containers (DSCs) from PWMF I to the storage buildings in PWMF II.

As for the related *physical activities* to be included in the scope of the project, CNSC staff recommended that the Commission include: the preparation of the site and construction of the storage buildings; the preparation of systems and facilities involved in the transfer of loaded welded DSCs; the installation of a perimeter fence and security system; and the operation and maintenance of the PWMF II.

3.4.2 Security

The Commission sought further details from CNSC staff and OPG on how physical security will be addressed in the environmental assessment. However, due to the sensitive and prescribed nature of this information¹, the Commission moved the hearing temporarily in-camera (i.e., into a non-public, closed session) to obtain this information.

While the Commission is satisfied that security has been adequately included in the EA Guidelines as drafted, the Commission requests that the matter of security be explicitly and thoroughly addressed in the screening report, to the extent permissible in the regulations. The Commission considers that physical security measures may themselves be the cause of some environmental effects (e.g., barriers, fencing, lighting, etc.). More importantly, security, including where the storage buildings are ultimately located on the site, could play an important role in preventing or mitigating environmental effects associated with deliberate attempts to damage or sabotage the facility.

3.4.3 Accidents and Malfunctions

With respect to the other types of accident and malfunction conditions that will be considered in the scope of the project, the Commission sought further clarification on the specific types of events that will be considered. In response, CNSC staff stated that the assessment will draw largely on the types of events considered in the licensing Safety Analyses prepared for the existing Phase I facility, and other OPG fuel waste storage facilities of similar design. This includes such events as: dropping a container in transit; failures of a container component, such as a lid weld; or events that may arise from seismic and severe weather conditions.

In response to a question from the Commission on the assessment of potential transport accidents, OPG stated that the potential for other site traffic to interfere with the transport of containers will be considered as part of the assessment of alternative transport routes on the site.

With reference to the specific wording of the draft EA Guidelines on accidents and malfunctions, the Commission questioned how “*reasonable probability of occurrence*” will be interpreted or calculated when selecting the events that will be included in the scope. In response, OPG and CNSC staff noted that while some quantification of probability of accidents is possible, experienced judgement will be largely relied upon in this case. The Commission finds this approach acceptable in this instance. The Commission acknowledges the importance of designing the assessment method in accordance with the risk factors applicable to the type of facility being assessed.

3.4.4 Transportation

Further with respect to the transportation component of the project, the Commission questioned OPG on whether the project scope should also include post-transfer inspections of the dry storage containers; that is to check for any damage sustained enroute. OPG stated that while significant damage to containers during transport is extremely unlikely given their robust design,

¹ “Prescribed Information” is defined in section 21 of the *General Nuclear Safety and Control Regulations*.

the container paint and IAEA seals, for example, will be inspected immediately following a transfer. This will be followed by the planned routine operational inspections of the containers while in storage. In response to a follow-up question from the Commission on the regular monitoring of container integrity in storage, OPG stated that the plan currently in development for the systematic inspection of the underside of containers will also be implemented at the Phase II storage buildings as part of the project. The Commission notes that if this revised container inspection process (the need for which was identified during the earlier relicensing hearing for Phase I of the facility) results in any change in the design, layout or operation of the Phase II facility, those changes will need to be reflected in the scope and description of the project as appropriate.

Also on the subject of the scope of the transportation component of the project, the Commission questioned to what extent the possible future transportation of the dry storage containers from the Pickering site would be considered in this environmental assessment (e.g., transport to an off-site fuel waste disposal site, if and when developed). In response, CNSC staff stated that, while off-site transportation of the containers was not envisioned within the scope of the current project, some information on the suitability of the PWMF dry storage containers for this purpose could be provided in the Screening Report. The Commission agreed that this type of information could be included, but only for the purpose of indicating how the container design at the PWMF may or may not constrain any future options for off-site transport and disposal of nuclear fuel waste.

3.4.5 Conclusions on the Scope of the Project

Based on the above summarized information and clarifications, the Commission accepts the CNSC staff recommendation concerning the definition of the *scope of the project* and approves the definition of the project scope as set out in section 7.0 of the draft EA Guidelines without change.

3.5 Scope of the Assessment

3.5.1 General

The second part of “scope” under the CEAA (the *scope of the project* being the first part) is the *scope of the assessment* -- otherwise described in the CEAA as the scope of the factors that will be considered in assessing the environmental effects of the project.

CNSC staff explained that the scope of a screening assessment under the CEAA must be determined by the Commission pursuant to subsection 16(3) of the CEAA, and include the factors set out in paragraphs 16(1) (a) to (d) of the CEAA. Other factors may be included at the discretion of the Commission under paragraph 16(1)(e) of the CEAA.

CNSC staff stated that the mandatory factors in subsection 16(1) of the CEAA are: the environmental effects of the project (including as may be caused by malfunctions and accidents); the cumulative effects of the project in combination with other projects or activities; the

significance of the effects; the comments from the public; and the feasible measures to mitigate effects.

In addition to these factors, CNSC staff recommended that the Commission include, pursuant to paragraph 16(1)(e), the following factors: the purpose of the project; alternative sites within the PWMF II siting area; alternative waste transfer routes between PWMF I and PWMF II; the need for, and requirements of a follow-up program in respect of the project; and the capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future. CNSC staff noted that other relevant factors may be identified during the course of the assessment and that these would need to be considered for inclusion at that time.

In response to a series of questions from the Commission on the general scope of the assessment factors, CNSC staff confirmed that the scope of the factors described in the EA Guidelines will encompass (but will not be limited to) the consideration of effects on air and groundwater quality, non-human biota, adjacent wetland function, and the radiological and non-radiological effects on workers.

3.5.2 Alternative Sites

With respect to the assessment of alternative sites for the PWMF Phase II, the Commission sought clarification on how the candidate area within the Pickering NGS site was selected. The Commission notes that it is proposed to identify and examine alternative sites only within this relatively small candidate area east of the NGS. In response, OPG explained how exclusionary and evaluation criteria have already been applied within the overall Pickering site in an effort to narrow the search area to locations that provide a reasonable suitability for this type of facility. Areas that are occupied by other facilities and critical infrastructure, or which are severely constrained by size or other physical and environmental attributes, will not be carried forward to the assessment of alternative sites. The Commission accepts this explanation; however, as noted in section 3.4.2 above, the Commission requests that criteria relating to the physical security of the facility be considered in finalizing the candidate area and during the comparison of siting alternatives within that area (to the extent permissible in the regulations). The Commission also requested that the potential effects on the small wetland area located adjacent to the east boundary of the candidate area be explicitly considered. The scope of the factors, as described in the EA Guidelines, do not require modification as a result of these requests.

3.5.3 Conclusions on the Scope of the Assessment

Based on the above information, the Commission concludes that the scope of the assessment, as described in section 8.0 of the draft EA Guidelines, is appropriate for the purpose of the environmental assessment of the proposed PWMF II project.

3.6 Environmental Assessment Structure and Method

The draft EA Guidelines, in addition to containing statements describing the scope of the project and scope of the assessment (as addressed in the foregoing sections 3.4 and 3.5 of this *Record of Proceedings*), contains instructions relating to the structured approach and method to be used in conducting the environmental assessment. Therefore, in its consideration of the acceptability of the draft EA Guidelines document, the Commission also considered and made decisions on the recommended structure and methods for the assessment described therein.

Referring to the draft EA Guidelines, CNSC staff outlined the proposed structure and methods for completing the environmental assessment studies and Screening Report. This includes instructions for describing: the project (construction, normal operations, malfunctions and accidents, and decommissioning); the spatial and temporal boundaries of the assessment; the existing environment; the assessment and mitigation of environment effects; the assessment of cumulative effects; the assessment of effects on the capacity of renewable resources; the significance of the residual effects (post mitigation); the conduct of stakeholder consultations throughout the assessment; and the design and implementation of a follow-up program.

In response to questions from the Commission, CNSC staff clarified the location of the initial boundaries of the local and regional study areas for the environmental assessment. CNSC staff noted that the boundaries are only approximate at this stage in the assessment. The study areas will be flexible to ensure the full physical extent of any identified environmental effect is understood.

Based on the information presented, the Commission is satisfied that the general structure, methods, and other instructions for conducting the environmental assessment, as described in the draft EA Guidelines attached to CMD 03-H10, are adequate. The Commission requests that CNSC staff closely monitor the conduct of the studies to ensure that the studies are being carried out in accordance with the EA Guidelines.

4. Conclusion

The Commission has considered the information and submissions of the CNSC staff and OPG as presented in the material available for reference on the record, as well as the oral and written submissions made at the hearing.

The Commission, in making its decisions pursuant to sections 15 and 16 of the CEAA, approves the *Environmental Assessment Guidelines (Scope of Project and Assessment) – Environmental Assessment of the Proposed Pickering Waste Management Facility Phase II, Pickering, Ontario*, presented as Appendix A to CMD 03-H10, and as modified by CNSC staff during the hearing.

The Commission also concludes that, at this time, it will not request the federal Minister of the Environment to refer the project to a mediator or review panel in accordance with the provisions of the CEAA.

The Commission requests CNSC staff to closely monitor the conduct of the technical assessment studies and stakeholder consultation activities and report to the Commission on any issues that could justify the Commission giving further consideration to a referral of the project to the Minister of the Environment, or for amending the scope of the project or assessment.

Marc A. Leblanc
Secretary,
Canadian Nuclear Safety Commission

Date of decision: April 10, 2003

Date of release of Reasons for Decision: May 8, 2003