

Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent Low-Level Radioactive Waste Management
Office

Subject Screening Environmental Assessment for the
Proposed Port Hope Long-Term Low-Level
Radioactive Waste Management Project

Date of
Hearing January 24 , 2007

RECORD OF PROCEEDINGS

Proponent: Low-Level Radioactive Waste Management Office

Address/Location: 5 Mill Street South, Porth Hope, Ontario L1A 2S6

Purpose: Screening Environmental Assessment for the proposed Port Hope Long-Term Low-Level Radioactive Waste Management Project

Application received: N/A

Date(s) of hearing: January 24, 2007

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

Member present: L.J. Keen, Chair
A. Harvey
M.J. McDill

Secretary: K. McGee
Recording Secretary: S. Gingras
General Counsel: J. Lavoie

Proponent Represented By	Document Number
<ul style="list-style-type: none">• R. Zelmer, Director• G. Case, Manager of the Projects and Facilities Development Branch and Project Director for the Port Hope Area Initiative	CMD 07-H103.1
CNSC staff	
<ul style="list-style-type: none">• P. Thompson• H. Jarrett <ul style="list-style-type: none">• R. Barker	CMD 07-H103
Others	
<ul style="list-style-type: none">• Fisheries and Oceans Canada Natural, represented by C.A. Rose, Fish Habitat Biologist,• Natural Resources Canada, represented by D. McCauley	

Date of Decision: January 24, 2007

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Introduction

1. A project description for a long-term low-level waste management facility was submitted to Natural Resources Canada (NRCan) by the Low-Level Radioactive Waste Management Office (LLRWMO) in November 2001. The proposed project (Port Hope Project) includes the remediation of sites containing low-level radioactive wastes located in the former Town of Port Hope and in the former Township of Hope, as well as the management of waste in a long-term low-level radioactive management facility.
2. Before the Canadian Nuclear Safety Commission (CNSC¹) can make a licensing decision pursuant to the *Nuclear Safety and Control Act*² (NSCA) with respect to the proposed project, it must, in accordance with the requirements of the *Canadian Environmental Assessment Act*³ (CEAA), make a decision on the Environmental Assessment (EA) screening of the proposal.
3. NRCan assumed the position of lead Responsible Authority⁴ (RA) for the EA. The Commission, as well as the Department of Fisheries and Oceans Canada (DFO), declared itself to be an RA. Health Canada, Environment Canada, the Canadian Environmental Assessment Agency (the Agency) and Transport Canada identified themselves as federal authorities (FAs) for the purpose of providing expert assistance during the environmental assessment.
4. The guidelines for the EA (EA Guidelines), under sections 15 and 16 of the CEAA, including statements of the scope of the project and scope of the assessment, were presented to the Commission on July 11, 2002, concurrently with presentation at NRCan and DFO. On behalf of the RAs, NRCan issued final EA Guidelines (*Scope of the Environmental Assessment for the Port Hope Long-term Low-Level Radioactive Waste Management Project*) in July 2002. Subsequently, NRCan delegated the conduct of the environmental assessment, including the supporting technical studies and public consultation program, to the LLRWMO, in accordance with subsection 17(1) of the CEAA.
5. The LLRWMO prepared a draft EA Study Report (EASR) with supporting technical studies and submitted documentation to the RAs in January and March of 2006. A final addendum was submitted on July 7, 2006. The EASR was used as the basis for the preparation of the proposed EA Screening Report (Screening Report). The documents were reviewed by a technical review team comprised of staff from the RAs, the FAs and interested Ontario ministries (Culture, Natural Resources, Environment and Ontario Provincial Police).
6. This *Record of Proceedings* describes the Commission's consideration of the Screening Report and its reasons for decisions on the results. The Screening Report is attached as an appendix to CMD 07-H103.

¹ 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.

² S.C. 1997, c. 9.

³ S.C. 1992, c.37.

⁴ Responsible Authority in relation to an EA is determined in accordance with subsection 11(1) of the CEAA.

Issues

7. In considering the Screening Report, the Commission was required to decide:
 - a) whether the Screening Report is complete; that is, whether all of the factors and instructions set out in the approved EA Guidelines and subsection 16(1) of the CEEA were adequately addressed;
 - b) whether the project, taking into account the mitigation measures identified in the Screening Report, is likely to cause significant adverse environmental effects;
 - c) whether the project must be referred to the federal Minister of the Environment for referral to a review panel or mediator, pursuant to paragraph 20(1)(c) of the CEEA; and
 - d) whether the Commission may proceed with its consideration of an application for a licence under the *Nuclear Safety and Control Act*, consistent with paragraph 20(1)(a) of the CEEA.

Hearing

8. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to hear this matter.
9. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a hearing held on January 24, 2007 in Ottawa, Ontario. During the hearing, the Commission received written submissions from the LLRWMO (CMD 07-H103.1) and CNSC staff (CMD 06-H103).

Decision

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

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| <ol style="list-style-type: none">a) the Environmental Assessment Screening Report appended to CMD 07-H103 is complete; the scope of the project and assessment were appropriately determined in accordance with sections 15 and 16 of the <i>Canadian Environmental Assessment Act</i>, and all of the required assessment factors were addressed during the assessment;b) the project, taking into account the mitigation measures identified in the Environmental Assessment Screening Report, is not likely to cause significant adverse environmental effects; |
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- c) it will not refer the project to the federal Minister of the Environment for his referral to a federal Environment Assessment review panel or mediator;
- d) it will proceed to consider the application for licence amendment under the provisions of the *Nuclear Safety and Control Act*, consistent with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*.

Issues and Commission Findings

11. The Commission addressed the four issues identified in paragraph 7 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.
12. The findings of the Commission presented below are based on the Commission's consideration of all the information and submission available for reference on the record for the hearing.

Completeness of the Screening Report

13. In its consideration of the completeness of the Screening Report, the Commission considered whether the assessment had adequately addressed and appropriately defined the scope of the project and the assessment factors.
14. CNSC staff noted that the EA Guidelines were approved by a Panel of the Commission on July 11, 2002, concurrently with the approvals of the decision-makers at NRCan and DFO. On behalf of the RAs, NRCan issued final EA Guidelines for the project in July 2002 and subsequently delegated the conduct of the environmental assessment, including the supporting technical studies and public consultation program, to the LLRWMO.
15. The Ontario Ministry of the Environment was also provided with the opportunity to participate in the preparation of the draft EA Guidelines and the draft EA Screening Report. The Ontario Ministry of the Environment determined that there are no provincial environmental assessment requirements under the Ontario *Environmental Assessment Act*⁵ for this project.
16. The LLRWMO indicated that the Municipality of Port Hope hired consultants to conduct independent expert reviews of all EA studies, and that selected studies were also peer reviewed by consultants hired by the LLRWMO.
17. CNSC staff indicated that it was confident that the EA had identified and assessed the likelihood and significance of the impact of the project.

⁵ R.S.O. 1990, c. E.18.

18. In response to questions from the Commission on ownership of the land on which the proposed facility would be built, NRCan noted that the Welcome Waste Facility is currently owned by Cameco. However, NRCan has entered into an options agreement with Cameco such that, should the proposed facility be licensed, NRCan would have the option of taking over the property.
19. The Commission asked for more information on whether the description of the project could be changed, as a result of cost issues or other potential problems. NRCan answered that once the costing studies are completed, the federal government would look at the project as a whole and determine the funding available for its implementation. NRCan and DFO both responded that they do not anticipate any major changes to the project.
20. The Commission further enquired about the management of the project. The LLRWMO explained that, as the project proponent, it would retain responsibility for project management while it would direct the contractors and consultants to implement the program.
21. Based on this information and the Commission's review of the EA Guidelines and Screening Report, the Commission concludes that the scope of the project and the scope of the factors for the assessment were appropriate, and that all of the required factors were addressed during the assessment. The Commission expresses the importance of establishing the ownership of the facility to ensure there is adequate control of the proposed facility and clear accountability.
22. The Commission also concludes that the Screening Report is complete and in accordance with the requirements of the CEAA. The Commission is therefore able to proceed to its consideration of the likelihood and significance of the environmental effects of the project, the adequacy of the proposed mitigation measures, and the public concerns about the project.

Likelihood and Significance of Environmental Effects

23. 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, including the public consultation process, followed by a consideration of the predicted effects on the relevant components of the environment.

Adequacy of the Assessment Methods

24. CNSC staff reported that the assessment of the effects of the project on the environment was carried out following pre-determined steps, including identifying each interaction with the environment and evaluating each interaction to determine any change to the environment and to the Valued Ecosystem Components. CNSC staff further noted that the assessment process also included ways to mitigate the environmental effects and to identify the residual environmental effects. Both radiological and non-radiological effects were assessed.
25. CNSC staff noted that all project activities were examined to identify those that could possibly interact with any of the seven environmental components (atmospheric environment, geology and groundwater, aquatic environment, terrestrial environment, socio-economic environment, aboriginal interests, and human health and safety). For each environmental component, the assessment considered the possible effects related to the excavation and remediation of contaminated sites, the transportation of waste to the facility site, site preparation and construction of the waste management facility, normal operations of the facility and malfunctions and accidents.
26. The Commission asked whether the coordination of waste between the cells, designed to allow the appropriate sequencing of construction activities and segregation of specific waste types, had been assessed. The LLRWMO noted that the multi-cells would be used to remediate the existing Welcome Waste Management Facility site, which is currently in a brownfield state, so that the proposed long-term low-level radioactive waste management facility could be constructed on that same site. The proponent explained that there would be a sequence of delivery of offsite waste to be coordinated with the availability of the cells. CNSC staff noted that these issues were considered during the EA and that the conclusions were presented in the technical studies. CNSC staff further noted that it considers the concept to be acceptable and that the cells design will be examined during the eventual licensing phase of the project.
27. With respect to the adequacy of consultations, CNSC staff reported that an extensive information and consultation program had been implemented, and that public consultation had taken place during the three key stages of the assessment: scoping by the RAs, assessment by the LLRWMO and the screening report stage by the RAs. Consultations with First Nations included presentations to band councils, and community land and resource use surveys.
28. CNSC staff further noted that the draft screening report was made available for a period of 60 days, copies of the report were mailed to interested stakeholders and further notices of its availability were sent to the public. CNSC staff was advised that 75 to 100 copies of the report were picked up at the LLRWMO in Port Hope by members of the public. The proponent noted that its consultations included the distribution of printed material, contacts and dialogue with citizens, surveys and visits to the Project Information Exchange and Property Value Protection Office.

29. CNSC staff concluded that the LLRWMO had consulted extensively with the public and interested stakeholders and, in its opinion, the quantity, variety and quality of the proponent's consultation were of a high standard.
30. The Commission is satisfied that the methods used to consult with the public during the EA, including opportunities to comment and review the Screening Report, were appropriate (see paragraph 56) and provided a suitable basis for the Commission to evaluate the public concerns about the project. The Commission's findings on the public concerns are discussed further in the section below entitled Nature and Level of Public Concern.
31. Based on its review of the Screening Report and the above information, the Commission concludes that the EA methods were acceptable and appropriate.

Effects of the Project on the Environment

32. The environmental assessment considered the following components: atmospheric environment, geology and groundwater, aquatic environment, terrestrial environment, socio-economic environment, aboriginal interests and human health and safety. For each potential adverse effect associated with an identified possible interaction between the project and a component of the environment, possible mitigation measures were identified to eliminate, reduce or control the adverse effect.
33. CNSC staff further explained that after taking into account the implementation of the appropriate mitigation measures, any likely residual adverse environmental effects were identified.
34. CNSC staff pointed out that if the mitigation measures implemented to compensate for the temporary loss of wildlife habitat are insufficient, a mitigation plan would be developed in compliance with the *Migratory Bird Convention Act*⁶.
35. CNSC staff added that it concurred with the other RAs and FAs that, in their view, the project is not likely to cause significant adverse environmental effects, taking into consideration the implementation of the identified mitigation measures.
36. The Commission recognizes the importance of properly implementing mitigation measures to ensure that the effects of the project on the environment are not significant. In this regard, the Commission expects CNSC staff to implement appropriate monitoring activities to verify whether these mitigation measures remain effective.
37. Based on its review of the Screening Report and the above-noted information provided on the record, the Commission concludes that the proposed project, taking into account the mitigation measures, is not likely to cause significant adverse effects to the environment.

⁶ S.C. 1994, c. 22.

Effects of the Environment on the Project

38. Concerning the effects of the environment on the project, CNSC staff stated that increased precipitation could cause an increase in surface infiltration into the long-term waste management facility. However, because of the low permeability design of the facility, the magnitude of the associated increase in volume of leachate to be handled would be small and would not result in adverse effects.
39. CNSC staff submitted that there are no predicted effects of the environment on the project that would cause likely effects on the atmospheric, terrestrial and socio-economic or human health and safety environments.
40. Based on the above information, the Commission concludes that the environment is not likely to cause adverse effects on the project.

Effects on Renewable Resources

41. CNSC staff submitted that the capacity of renewable resources to meet the needs of the present or the future would not be adversely affected by the Project.
42. Based on the above information, the Commission concludes that the project would have no significant adverse effects on the capacity of renewable resources to meet the needs of the present or the future.

Effects of Accident and Malfunction Events

43. CNSC staff indicated that, with the exception of two bounding scenarios, no significant adverse environmental effects were predicted for any of the accidents or malfunctions that were considered. The two bounding scenarios are: the loss of institutional control followed by progressive natural degradation of the engineered barrier features resulting of complete loss of containment, and the loss of institutional control followed by human intrusion into the facility. The two bounding scenarios are considered to be of low probability and not credible during the lifetime of the facility. CNSC staff further noted that the extreme nature of the scenarios and the relatively modest increased risks added confidence that the risks associated with the realistic conditions and events are considered manageable, with a low likelihood of significant adverse effects to humans and the environment.
44. CNSC staff also noted that if the integrity of the dyke system used during the harbour clean-up were to be threatened by heavy rains and flooding, dredging operations would be halted to prevent the migration of contaminated sediment. This scenario was evaluated as a possible accident or malfunction with the conclusion that no significant adverse effects would result.

45. Based on the above information and considerations, the Commission concludes that accidents and malfunctions are not likely to cause adverse effects to humans or the environment.

Cumulative Effects

46. CNSC staff reported that, as a residual cumulative effect, there could be increased stress and adverse effects to the health and general well-being of nearby residents resulting from negative changes to people's feelings of personal security and satisfaction of living in the community. This effect may diminish over time with the implementation of good communication materials and public involvement opportunities, and if a good environmental safety record is maintained for the Port Hope Project.
47. Based on the information received, the Commission concludes that, taking into account proper mitigation measures, significant adverse cumulative effects are not expected to occur as a result of the project.

Follow-Up Monitoring Program

48. CNSC staff indicated that the joint RAs consider that a follow-up program, as defined by the CEAA, would be warranted for the Port Hope Project. If the project proceeded to licensing, CNSC staff would recommend that the follow-up activities be developed into a comprehensive follow-up monitoring program.
49. CNSC staff noted that the other RAs would also play a role in ensuring the implementation of the follow-up and monitoring program, with NRCan assuming the lead regarding activities related to the socio-economic components of the environment, and DFO ensuring implementation of follow-up activities related to fish and fish habitat as required by the *Fisheries Act*⁷. CNSC would be the lead for the majority of the follow-up activities related to the biophysical environment and radiological health and safety. CNSC staff recommends that these activities be developed into a comprehensive follow-up program, and be a condition of the licence if the project proceeds to licensing.
50. Considering the complexity of the proposed project and number of associated variables, the Commission sought assurances that implementation of mitigation measures would be carried out appropriately. The LLRWMO answered that there would be quality assurance officials within the Low-Level Office as well as requirements for quality assurance plans to be provided by the contractors. The LLRWMO added that the coordination for the implementation of mitigation measures would ultimately be the responsibility of the LLRWMO project director, in cooperation with the contractors. The LLRWMO further noted that there would be an appropriate structure of reporting and project progress meetings. The LLRWMO was of the opinion that mitigation measures would be properly implemented under a good reporting system and by the application of project management tools.

⁷ R.S.C. 1985, c. F-14.

51. The Commission is satisfied that the CNSC licensing and compliance program responsible for ensuring the final design and implementation of the follow-up monitoring program should be adequate to verify and identify where additional mitigation measures may be required.

Conclusions on the Likelihood and Significance of Adverse Environmental Effects

52. Based on the considerations and reasons noted above, the Commission agrees with CNSC staff's conclusion in the Screening Report that the proposed project is not likely to cause significant adverse environmental effects, taking into account the identified mitigation measures.
53. The Commission is also satisfied that the likelihood and significance of the effects have been identified with reasonable certainty.

Public Consultation

54. 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 examined whether the public had sufficient opportunity to become informed about the project and the Environmental Assessment, and express their views on it.
55. As noted in paragraph 30 of this Record of Proceedings, the Commission is satisfied that the methods used by the proponent, the other RAs and CNSC staff to consult with the public, other interested stakeholders, and First Nations (Curve Lake, Hiawatha and Alderville Councils) were appropriate. The Commission is therefore satisfied that the public had adequate opportunity to become informed about the project and express any concerns.
56. CNSC staff stated that comments on the draft screening report were received from 23 sources representing members of the public, government departments, municipalities, and non-governmental organizations. CNSC staff submitted that the issues raised and the changes made as a result do not affect the conclusion that the proposed project would not result in any significant adverse environmental effects. The dispositioned comments are included in CMD 07-H103.
57. In response to the Commission's question whether uncertainties related to the project such as funding and ownership of the land had made the consultations more difficult, the LLRWMO expressed the view that the remediation of the urban area had long been anticipated by the community and that people living in the area generally approved of the project. As an example, the LLRWMO pointed out that the municipal council voted several resolutions in favour of parts of the project accomplished to date. The proponent expressed its view that the public is very well informed of the project and that, in general, the project has created a great opportunity for synergy in the community.

58. The Commission asked for more details on the operation of the facility over the next 20 to 30 years. The LLRWMO explained that the actual annual funding process by submission of a business plan to NRCan would continue until NRCan requests a different approach to funding. NRCan added that it requests the federal Cabinet to re-establish the mandate of the LLRWMO every five years. CNSC staff further noted that the legal agreement states that the responsible authority for ongoing maintenance and care of the facility is the Government of Canada through NRCan.
59. The Commission further enquired about complaints regarding access to information. The LLRWMO answered that it considered itself to be very transparent and that information on the project is available to the public. The LLRWMO added that it was considering establishing a project monitoring advisory committee, as well as the creation of smaller groups within certain designated areas, to keep the community apprised in terms of progress of the project and on activities. CNSC staff added that it considered the access to information by the population to be adequate.
60. The Commission also asked about interaction with the population during the implementation phase of the project. The LLRWMO explained that there are communication mechanisms already in place that could be used during the implementation phase, as well as the follow-up monitoring program.
61. The Commission is of the opinion that public concerns have been adequately addressed throughout the EA and appropriately documented in the Screening Report. Based on the nature and level of public concern, the Commission 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).
62. The Commission expresses its view that public consultations and public access to information remain important factors to be addressed throughout the various phases of this proposed project.

Conclusion

63. The Commission concludes that the environmental assessment Screening Report attached to CMD 07-H103 is complete and meets all of the applicable requirements of the CEAA.
64. The Commission concludes that the project, taking into account the appropriate mitigation measures identified in the Screening Report, is not likely to cause significant adverse environmental effects.
65. Furthermore, the Commission also concludes that, at this time, it will not refer the project to the federal Minister of the Environment for a referral to a review panel or mediator in accordance with the provisions of the CEAA.

66. The Commission expresses its understanding that each RA identified for this EA, that is the CNSC, NRCan and DFO, will independently reach its conclusion on the EA screening results.

Linda J. Keen,
President
Canadian Nuclear Safety Commission

Date of decision: January 24, 2007

Date of release of Reasons for Decision: March 15, 2007