



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent Atomic Energy of Canada Limited

Subject Environmental Assessment Screening
Regarding the Proposal to Decommission the
Plutonium Tower at Chalk River Laboratories in
Chalk River, Ontario

Hearing Date December 16, 2011

RECORD OF PROCEEDINGS

Proponent: Atomic Energy of Canada Limited

Address/Location: 2251 Speakman Drive, Mississauga, Ontario, L5K 1B2

Purpose: Environmental Assessment Screening Regarding the Proposal to Decommission the Plutonium Tower at Chalk River Laboratories in Chalk River, Ontario

Application received: January 6, 2004 and March 9, 2010

Date of hearing: December 16, 2011

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

Members present: M. Binder, Chair

Secretary: M.A. Leblanc
Recording Secretary: D. Carrière

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Introduction

1. Atomic Energy of Canada Limited (AECL) has notified the Canadian Nuclear Safety Commission¹ (CNSC) of its intention to decommission the Plutonium Tower at Chalk River Laboratories, located in Chalk River, Ontario.
2. AECL is requesting approval from the Commission to decommission the Plutonium Tower, which consists of a six story concrete tower and five wooden and brick annexes attached to the tower, and to restore the site for reuse as determined by AECL's business needs. The Plutonium Tower is currently in a safe shutdown state and in storage with surveillance.
3. The project, as described by AECL, will be undertaken in two parts and involves the dismantling of annexes (Part 1) and the dismantling of concrete tower and site restoration (Part 2).
4. The authorization of this activity will require a licensing decision to approve the decommissioning of the proposed dismantling of the Plutonium Tower and associated annexes pursuant to subsection 24(2) of the *Nuclear Safety and Control Act*² (NSCA).
5. Before the Commission is able to make a licensing decision in respect to the proposed project, the Commission must, in accordance with the requirements of the *Canadian Environmental Assessment Act*³ (CEAA), make a decision on an Environmental Assessment (EA) screening of the proposed project. The Commission and Natural Resources Canada (NRCan) are the responsible authorities⁴ (RA) for the EA. Environment Canada (EC) identified itself as a federal authority (FA) for the purpose of providing expert assistance to CNSC staff during the EA.
6. The EA Guidelines⁵ were approved by a Designated Officer of the Commission on July 26, 2005. The EA Guidelines were used in delegating the conduct of technical studies for the screening of this project to AECL, pursuant to section 17 of the CEAA. AECL provided the technical studies which underwent a review by experts at the CNSC and other relevant government departments. The resulting EA Study Report was then used by CNSC staff for the preparation of the proposed EA Screening Report (herein after "Screening Report"). Stakeholders, including the FA, were provided an opportunity to review the proposed Screening Report prior to its finalization and submission to the Commission for this hearing and decision.

¹ The *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² Statutes of Canada (S.C.) 1997, chapter (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.

⁵ Letter: H. Davis (CNSC) to M. Klukas (AECL) *Designated Officer's Approval of the EA Guidelines for the Decommissioning of the Plutonium Recovery Laboratory (Building 220), the Plutonium Tower (Building 223) and the Waste Water Evaporator Building (Building 228) by Atomic Energy of Canada Limited, Chalk River Laboratories, August 4, 2005.*

7. This *Record of Proceedings* describes the Commission's consideration of the proposed Screening Report and its reasons for decisions on the results. The proposed Screening Report for AECL's proposal to decommission the Plutonium Tower is attached as an appendix to CMD 11-H115.

Issue

8. In considering the proposed Screening Report, the Commission was required to decide:
 - a) whether the proposed Screening Report is complete; that is, whether all of the factors and instructions set out in the Designated Officer approved EA Guidelines and subsection 16(1) of the CEAA were adequately addressed;
 - b) whether the project, taking into account the mitigation measures identified in the proposed 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 CEAA; and
 - d) whether the Commission can proceed with its consideration of a request for a licensing decision under the *Nuclear Safety and Control Act*, consistent with paragraph 20(1)(a) of the CEAA.

Hearing

9. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to review the application. The Commission, in making its decision, considered information presented for a hearing held on December 16, 2011 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 11-H115) and AECL (CMD 11-H115.1).

Decision

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

- a) the Environmental Assessment Screening Report appended to CMD 11-H115 is complete; that is, the scope of the project and assessment were appropriately determined in accordance with section 15 and 16 of the *Canadian Environmental Assessment Act*, 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;
- 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 findings of the Commission 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 proposed Screening Report

12. In its consideration of the completeness of the proposed Screening Report, the Commission considered whether the assessment had adequately addressed an appropriately defined scope of project and assessment factors.
13. CNSC staff noted that the proposed Screening Report included the assessment of the direct and indirect effects of the project on the environment, as well as describing the project works and activities to identify those project-environment interactions that would result in a measurable change to the existing environment. CNSC staff added that the assessment considered activities related to the normal operations and the effects of probable malfunctions and accidents. It also considered effects of the environment on the proposed project.

14. Based on the Commission's review of the EA Guidelines and proposed Screening Report, the Commission concludes that the scope of the project and the scope of the factors for the assessment are appropriate and that all of the required factors were addressed during the assessment.
15. The Commission also concludes that the proposed Screening Report is complete and compliant with the requirements of the CEAA.

Likelihood and Significance of Environmental Effects

16. This section contains the Commission's findings with respect to whether the project is likely to cause significant adverse environmental effects, taking into account the identified mitigation measures.
17. The activities associated with this project that have a potential interaction with the environment are:

Part 1: Dismantling of Annexes

- confirmatory radiological surveys
- removal of service lines
- dismantling the annexes
- segregation of waste from annexes
- transport waste to storage/disposal

Part 2: Dismantling of Concrete Tower and Site Restoration

- storage with surveillance
- confirmatory radiological surveys
- dismantling tower, footings/foundation
- removal of process and sump lines
- segregation of solid wastes
- soil remediation/site restoration
- transport waste to storage/disposal

Adequacy of the Assessment Methods

18. The proposed Screening Report contains information regarding the potential interactions between project activities and the existing environment related to normal operations and the effects of probable malfunctions and accidents. In its submission, CNSC staff noted that the methodology used in the assessment of the direct and indirect effects of the proposed project on the environment was carried out in a step-wise manner as follows:
 1. identification of potential interactions between the proposed project and the environment;

2. identification of each project-environment interaction likely to result in measurable adverse changes in the environment;
 3. identification of measures to mitigate environmental effects of the project;
 4. determination of adverse effects that could remain following the application of mitigation measures (residual effects); and
 5. determination of the significance of the residual effects.
19. Based on its review of the proposed Screening Report and the above information, the Commission concludes that the EA methods are acceptable and appropriate.

Effects of the Project on the Environment

20. CNSC staff reported that 35 potential interactions were identified for Part 1 of the project – removal of the annexes – and 47 potential interactions were identified for Part 2 of the project – removal of the concrete tower and soil remediation. CNSC staff stated that most of the interactions are not expected to result in measurable effects, thus no further assessment was required. CNSC staff also stated that interactions expected to result in measurable effects were further analysed.
21. CNSC staff noted that mitigation measures are proposed for interactions expected to result in measurable environmental effects, and no residual effects are predicted following the application of these mitigation measures.
22. Based on its review of the proposed Screening Report and the above-noted information and considerations, the Commission concludes that the proposed project, taking into account the identified mitigation measures, is not likely to cause significant adverse environmental effects.

Effects of the Environment on the Project

23. CNSC staff reported that the influence of naturally occurring events that can produce extreme conditions affecting the performance of project activities have been considered within the proposed EA Screening Report. CNSC staff provided information regarding extreme weather conditions and discussed the mitigation measures that are in place in order to reduce the potential effects of the environment on the project.
24. Based on the above information, the Commission concludes that the environment is not likely to cause significant adverse effects on the project.

Effects of Accident and Malfunction Events

25. CNSC staff informed the Commission about the identification of accidents and malfunctions. CNSC staff explained that a range of credible accident and malfunction scenarios was considered in the proposed Screening Report. CNSC staff stated that the postulated credible malfunction and accident scenarios are not likely to cause significant adverse environmental effects, taking into consideration the prevention measures and the contingency plans to prevent, eliminate or minimize the occurrence or effects arising from these accidents and malfunctions.
26. Based on the above information and considerations, the Commission concludes that accident and malfunction events are not likely to cause significant adverse effects on the environment.

Cumulative Effects

27. CNSC staff presented an assessment of cumulative environmental effects. CNSC staff explained that the effects of a proposed project must be considered together with the effects of other projects and activities that are being carried out, or will be carried out, and are expected to overlap with those of the proposed project. CNSC staff stated that, for the proposed project, there are no anticipated cumulative effects on the environment as the project is not expected to produce any effects.
28. Based on the information received, the Commission concludes that, taking into account the identified mitigation measures, significant adverse cumulative effects are not expected to occur as a result of the project.

Follow-Up Program

29. CNSC staff stated that a follow-up program was not considered appropriate for the project as the project will occur on a currently licensed facility and existing monitoring programs are in place.
30. Based on its review of the proposed Screening Report and the above-noted information, the Commission is satisfied that existing monitoring programs are in place and will be adequate for verifying, and if necessary, identifying where additional mitigation measures may be required during the project implementation.

Conclusions on the Likelihood and Significance of Adverse Environmental Effects

31. Based on the considerations and reasons noted above, the Commission concludes that the proposed project is not likely to cause significant adverse environmental effects, taking into account the identified mitigation measures.
32. The Commission is satisfied that the likelihood and significance of the effects have been identified with reasonable certainty.

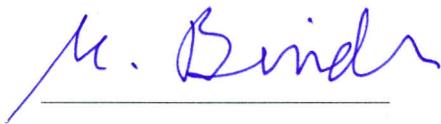
Nature and Level of Public Concern

33. 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. The Commission examined the nature and level of concern expressed by the public.
34. CNSC staff stated that EA documents, including the proposed Screening Report, were made accessible to the public via notices posted on the Canadian Environmental Assessment Registry (CEAR) and the CNSC Web sites. CNSC staff stated that seven requests were made for copies of the proposed Screening Report, and that comments were received from one member of the public and four non-governmental organizations. CNSC staff explained that existing information and additional information provided by AECL and NRCAN was used to provide clarity to the comments and questions, and that none of the comments resulted in changes to the conclusions and recommendations of the proposed Screening Report.
35. CNSC staff provided information regarding the Aboriginal Consultation activities undertaken with respect to the project. CNSC staff indicated that the Ottawa Métis Council, Algonquins of Pikwàkanagàn, Algonquins of Ontario Consultation Office and the Métis Nation of Ontario were all informed of the project and were provided copies of the proposed Screening Report. CNSC staff stated that the Métis Nation of Ontario provided comments on the proposed Screening Report, and that existing information and additional information provided by AECL was used to clarify information already in the proposed Screening Report.
36. CNSC staff further added having followed up with both the Algonquins of Ontario and the Métis Nation of Ontario via telephone to confirm there were no outstanding issues with the proposed Screening Report or the EA process. CNSC staff reported that the Aboriginal groups contacted did not express any concerns regarding adverse impacts of the project on their potential or established Aboriginal or Treaty rights.

37. Based on the information provided in the proposed Screening Report and during the hearing, the Commission is of the view that there was sufficient opportunity for the public to be informed and express its views on the project. The Commission also acknowledges the efforts made in relation to the CNSC's obligations regarding Aboriginal consultation and the Legal Duty to Consult. The Commission therefore decides not to refer the project to the Minister of the Environment for referral to a review panel or mediator under paragraph 20(1)(c) of the CEAA.

Conclusion

38. The Commission concludes that the Environmental Assessment Screening Report attached to CMD 11-H115 is complete and meets all of the applicable requirements of the *Canadian Environmental Assessment Act*.
39. 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.
40. Furthermore, the Commission also concludes that, at this time, it will not request the federal Minister of the Environment to refer the project to a review panel or mediator in accordance with the provisions of the CEAA.
41. Therefore, the Commission, pursuant to paragraph 20(1)(a) of the CEAA, can proceed with the consideration of a licence application under the *Nuclear Safety and Control Act* which, if approved, would allow the project to proceed.



DEC 16 2011

Michael Binder
President,
Canadian Nuclear Safety Commission

Date