



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent Denison Mines Inc.

Subject Environmental Assessment Screening
Regarding the Proposed Installation of Berms at
the Outlet of the Halfmoon Wetland near Elliot
Lake, Ontario

Hearing Date September 17, 2010

RECORD OF PROCEEDINGS

Proponent: Denison Mines Inc.

Address/Location: 8 Kilborn Way, Elliot Lake, Ontario P5A 2T1

Purpose: Environmental Assessment Screening regarding the proposed installation of berms at the outlet of the Halfmoon Wetland near Elliot Lake, Ontario

Application received: December 30, 2005

Date of hearing: September 17, 2010

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

Members present: M. Binder, Chair

Secretary: K. McGee

Recording Secretary: M. Young

Table of Contents

Introduction	1
Decision	2
Issues and Commission Findings	3
Completeness of the Screening Report	3
Likelihood and Significance of Environmental Effects	3
<i>Adequacy of the Assessment Methods</i>	3
<i>Effects of the Project on the Environment</i>	4
<i>Effects of the Environment on the Project</i>	5
<i>Effects of Accident and Malfunction Events</i>	5
<i>Cumulative Effects</i>	5
<i>Follow-Up Program</i>	6
<i>Conclusions on the Likelihood and Significance of Adverse Environmental Effects</i>	6
Nature and Level of Public Concern	6
Conclusion	7
Canadian Nuclear Safety Commission	7

Introduction

1. Denison Mines Inc. (Denison) has notified the Canadian Nuclear Safety Commission¹ (CNSC) of its intention to install berms to stabilize and reinforce the existing beaver dams at the outlet of the Halfmoon Wetland, near Elliot Lake, Ontario.
2. The project, as described in Denison's project description, includes the following components:
 - construction of two berms consisting of north and south sections; and
 - use of the berms to contain the treatment sludge present in the marsh area and to raise the level of water in the marsh area.
3. The total duration of construction is expected to be approximately 30 days. The installation of the berms proposed by Denison would provide more stable containment for the treatment sludge located within the Wetland and, by virtue of a more reliable water cover, would attenuate gamma radiation fields.
4. The authorization of this activity requires an amendment to Denison's Decommissioning Licence, UMDL-MINEMILL-STANROCK.01/indf, pursuant to subsection 24(2) of the *Nuclear Safety and Control Act*² (NSCA).
5. Before the Commission can amend the licence, 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 is the sole responsible authority⁴ (RA) for the EA. Health Canada, Fisheries and Oceans Canada, and Environment Canada identified themselves as federal authorities (FAs) for the purpose of providing expert assistance to CNSC staff during the EA.
6. The EA Guidelines were presented to the Commission for approval on December 11, 2009. The Commission issued a decision on December 11, 2009, approving the EA Guidelines⁵. The Commission indicated that an EA Screening would be considered in a closed session of the Commission. The Commission did not delegate the completion of technical studies for the screening of this project to Denison, pursuant to section 17 of the CEAA, because Denison provided a detailed project description that included a majority of the information required for CNSC staff to complete the EA Screening Report (Screening Report). Stakeholders, including the FAs, were provided an opportunity to review the draft 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 Record of Proceedings on *Environmental Assessment Guidelines for the Proposed Installation of Berms at the Outlet of the Halfmoon Wetland near Elliot Lake, Ontario*, hearing date December 11, 2009.

7. This *Record of Proceedings* describes the Commission's consideration of the Screening Report and its reasons for decisions on the results. The Screening Report of Denison's proposed installation of berms at the outlet of the Halfmoon Wetland near Elliot Lake, Ontario, is attached as an appendix to CMD 10-H112.

Issue

8. 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
 - ³ d) whether the Commission can proceed with its consideration of an application for a licence amendment under the NSCA, consistent with paragraph 20(1)(a) of the CEEA.

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 September 17, 2010 in Ottawa, Ontario. During the hearing, the Commission considered written submissions from CNSC staff (CMD 10-H112) and Denison (CMD 10-H112.1).

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 10-H112 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 Screening Report

12. In its consideration of the completeness of the Screening Report, the Commission considered whether the assessment had adequately addressed an appropriately defined scope of project and assessment factors.
13. CNSC staff presented information regarding the completeness of the Screening Report and included the Screening Report as part of their submission to the Commission. CNSC staff stated that the Screening Report is complete and meets all requirements under subsection 16(1) of the CEEA.
14. Based on 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 are appropriate and that all of the required factors were addressed during the assessment.
15. The Commission also concludes that the Screening Report is complete and compliant with the requirements of the CEEA.

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 the project include the following:
 - construction of two berms – a north section and a south section; and
 - use of the berms to contain the treatment sludges present in the marsh area and to raise the level of water in the marsh area.

Adequacy of the Assessment Methods

18. The Screening Report contains information regarding the potential interactions between the project activities and existing environment during site preparation, construction, and operation and during relevant malfunctions and accidents. CNSC staff stated that the assessment of likely effects on the project was carried out in a step-wise manner as follows:

1. identifying possible interactions between the proposed project and the environment;
 2. identifying potential project-environment interactions that could result in adverse effects on the environment;
 3. identifying ways to avoid or minimize adverse effects (mitigation measures);
 4. identifying what adverse effects could remain following the application of mitigation measures (residual effects);
 5. determining the significance of residual effects;
 6. following up to verify the accuracy of predictions and effectiveness of mitigation measures (if required).
19. CNSC staff also provided information regarding the evaluation criteria used to assess the significance of residual effects. CNSC staff explained that, for each residual effect identified, the factors of magnitude, geographic extent, duration, frequency and reversibility were rated as low, medium or high, using specific criteria.
20. Based on its review of the Screening Report and the above information, the Commission concludes that the EA methods are acceptable and appropriate.

Effects of the Project on the Environment

21. CNSC staff presented information regarding the effects of the project on the environment. CNSC staff described the project activities with the potential to impact several environmental components, including the atmospheric environment, the aquatic environment, the terrestrial environment, the socio-economic environment, and valued ecosystem components, including the watershed, the natural ecosystem, fish, wildlife and flora. CNSC staff identified several potential environmental effects, including those associated with lowered water level in the Halfmoon Wetland prior to construction, silt flowing in the aquatic environment, and radiation hazards. CNSC staff noted that, once complete, the project is expected to enhance the conditions for improved fish habitat in the Halfmoon Wetland and may result in the return of other wildlife to the area when the high water level is maintained at a more consistent level.
22. For each potential environmental impact, CNSC staff also presented mitigation measures to ensure that any environmental effects are minimized. Mitigation measures include a short work timeframe, silt control measures and construction during a low flow period. CNSC staff stated that, for each environmental component, no significant residual effects are expected.
23. Based on its review of the Screening Report and the above-noted information and considerations, the Commission concludes that the proposed project, taking into account the identified mitigation measures, is not likely to cause significant adverse environmental effects.

Effects of the Environment on the Project

24. CNSC staff discussed naturally occurring events that have the potential to affect the project activities. CNSC staff provided information regarding extreme weather conditions (precipitation) and flooding. CNSC staff also discussed the mitigation measures that are in place in order to address the effects of the environment on the project, including the design of the project. CNSC staff explained that the proposed berm is designed to accommodate the probable maximum precipitation flood. CNSC staff noted that the berm configuration was chosen to minimize construction and to use the existing beaver dam as a cofferdam.
25. Based on its review of the Screening Report and the above-noted information, the Commission concludes that the environment is not likely to cause significant adverse effects on the project.

Effects of Accident and Malfunction Events

26. CNSC staff presented information regarding the potential interactions between the project activities and the existing environment during malfunction and accident scenarios. CNSC staff discussed berm failure during construction and operation. CNSC staff noted that mitigation measures and contingency plans are in place to address this accident and reduce the impact on the environment. CNSC staff noted that construction would take place during dry periods.
27. Based on its review of the Screening Report and the above-noted information, the Commission concludes that accident and malfunction events are not likely to cause significant adverse effects on the environment.

Cumulative Effects

28. 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 (i.e. overlap in the same geographic area and at the same time). CNSC staff stated that, for the proposed project, there are no anticipated cumulative effects as the project is not expected to produce any effects.
29. 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

30. 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.
31. Based on its review of the 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

32. 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.
33. The Commission is satisfied that the likelihood and significance of the effects have been identified with reasonable certainty.

Nature and Level of Public Concern

34. 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.
35. CNSC staff stated that EA documents, including the draft Screening Report, were made accessible to the public via notices on the Canadian Environmental Assessment Agency's public registry and on the CNSC Web site. CNSC staff stated that no comments were received.
36. CNSC staff provided information regarding the Aboriginal Consultation activities undertaken with respect to the project. CNSC staff explained that the Halfmoon Wetland is located in the geographic area covered by the Robinson Huron Treaty of 1850. CNSC staff sent notification letters to the Aboriginal groups that are signatories to the Robinson Huron Treaty and the only group that expressed interest in the project was the Serpent River First Nation (SRFN). CNSC staff stated that they attended a Mining Impacts Protection Symposium held in Serpent River on November 5, 2009, and discussed CNSC processes and provided information. CNSC staff stated that they also met with the SRFN on February 22, 2010, to determine if there were any issues or potential impacts to rights.

37. CNSC staff stated that they responded to the SRFN's questions and recommended that the SRFN submit comments during the comment period. CNSC staff stated that the SRFN submitted comments and CNSC staff responded to these comments. A copy of the responses was sent to the SRFN and, following further clarification from the SRFN, the Screening Report was modified. CNSC staff noted that the Screening Report includes the local use of fish and flora (blueberries) by the SRFN. CNSC staff stated that the Screening Report sufficiently addresses any potential impacts and there will not be significant adverse impacts to the rights holders.
38. Based on the information provided in the 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 is satisfied that the public concerns raised during the EA process have been adequately addressed. The Commission is satisfied that the remaining issues can be addressed in the follow-up program and future consideration of the licence amendment application. The Commission therefore decides not to refer the project to the Minister of the Environment for referral to a review panel or mediator under paragraph 20(1)(c) of the CEEA.

Conclusion

39. The Commission concludes that the environmental assessment Screening Report attached to CMD 10-H112 is complete and meets all of the applicable requirements of the *Canadian Environmental Assessment Act*.
40. 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.
41. 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 CEEA.
42. Therefore, the Commission, pursuant to paragraph 20(1)(a) of the CEEA, can proceed with the consideration of a licence amendment under the *Nuclear Safety and Control Act* which, if approved, would allow the project to proceed.



Michael Binder
President,
Canadian Nuclear Safety Commission

SEP 17 2010

Date