

Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent Cameco Corporation

Subject Environmental Assessment Screening Report
for the Proposed Increase of the Annual
Production Capacity at the Blind River Refinery

Hearing Date October 14, 2008

RECORD OF PROCEEDINGS

Proponent: Cameco Corporation

Address/Location: 2121, 11th Street West, Saskatoon, Saskatchewan, S7M 1J3

Purpose: Environmental Assessment screening Report for Increasing the Annual Production Capacity of Uranium as Uranium Trioxide at the Blind River Refinery

Application received: May 31, 2005
September 17, 2007

Date of hearing: October 14, 2008

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

Members present: M. Binder, Chair

Secretary: K. McGee
Recording Secretary: P. Reinhardt

Table of Contents

Introduction	1
Decision	2
Issues and Commission Findings	3
Completeness of the Screening Report	3
Adequacy of the Assessment Method	4
Environmental Assessment Results	4
<i>Effects of the Project on the Environment</i>	4
<i>Effects of the Project on Sustainability of Resources</i>	5
<i>Effects of Accidents and Malfunction Events</i>	5
<i>Cumulative Effects</i>	6
Follow-up Program	6
Public and First Nation Consultation	6
Conclusion	7

Introduction

1. Cameco Corporation (Cameco) is proposing to increase the annual production capacity of the Blind River Refinery from 18,000 tonnes uranium as uranium trioxide (UO₃) to 24,000 tonnes uranium as UO₃.
2. The proposal includes construction activities to increase refinery production rate and operation. The production increase project will not involve new processes or processing of new chemicals. The only physical changes proposed are the addition of equipment similar to equipment already in place at the refinery like stainless steel re-extraction columns and denitration pots. There will also be an increment in the amount of material received. Increased production will also result in a proportional increase in the amount of waste and effluent currently generated. However the new production will not result in the modification of nuclear substances and hazardous materials storage method.
3. Before the Commission is able to make licensing decisions in respect of the proposed project, pursuant to the *Nuclear Safety and Control Act*¹ (NSCA), it must, in accordance with the requirements of the *Canadian Environmental Assessment Act*² (CEAA), make a decision on an environmental assessment (EA) of the proposal. The Commission is the sole Responsible Authority for the EA³.
4. The Environmental Assessment Guidelines (EA Guidelines) were considered by the Commission at a hearing in January 2006 and were issued to Cameco to conduct the technical studies required for the EA Screening Report.
5. This *Record of Proceedings* describes the Commission's consideration of the Screening Report prepared by CNSC staff, Cameco's submission and the Commission's reasons for decision on the results. The Screening Report of Cameco's proposed project is attached as an appendix to CMD 08-H130.

¹ S.C. 1997, c. 9.

² S.C. 1992, c.37.

³ Responsible Authority in relation to an EA is determined in accordance with subsection 11(1) of the CEAA.

Issues

6. In considering the Screening Report, the Commission was required to decide:
 - a) whether the Screening Report is complete; that is, whether the scope of the project, all of the assessment factors and instructions set out in the approved EA Guidelines and subsection 16(1) of the CEEA have been 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 will proceed with its consideration of an application for a licence under the NSCA, consistent with paragraph 20(1)(a) of the CEEA;

Hearing

7. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to hear this matter.
8. In making its decision, the Commission considered information presented for a hearing held on October 14, 2008 in Ottawa, Ontario. The hearing was conducted in accordance with the Commission's process for determining matters under the CEEA. During the hearing, the Commission received written submissions from CNSC staff (CMD 08-H130) and Cameco (CMD 08-H130.1).

Decision

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

- a) the Environmental Assessment Screening Report appended to CMD 08-H130 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

9. The Commission addressed the four issues identified in paragraph 6 under five main headings:

(1) the completeness of the Screening Report, (2) the adequacy of the assessment method, (3) the environmental assessment results, (4) the follow-up program and (5) public consultation. The Commission's findings in each of these areas are summarized below.
10. The findings of the Commission are based on the Commission's consideration of all the information and submissions available for reference on the record for the hearing.

Completeness of the Screening Report

11. 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.
12. Project works and activities were assessed to identify those project-environment interactions that would result in a measurable change to the environment.
13. Then potential areas of interaction with the environment were identified for each activity: atmospheric environment, radiation and radioactivity, geology and hydrogeology, hydrology and surface water quality, aquatic and terrestrial environment, land use and transportation, physical and cultural heritage, socio-economic conditions and aboriginal interests.
14. CNSC staff reported that the assessment of the direct and indirect effects of the project on the environment described in section 8 of the proposed EA Screening Report was carried out in a step-wise and complete manner.
15. Based on the 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. The Commission also concludes that the Screening Report is complete and compliant with the requirements of the CEAA.

Adequacy of the Assessment Method

16. CNSC staff noted in its submission that the assessment considered activities related to normal operations and the effects of potential malfunctions and accidents. It also considered effects of the project on the sustainability of resources, effects of the environment on the proposed project and cumulative environmental effects.
17. The screening methodology included the following: identification of potential interactions between the project and the environment; identification of measurable adverse changes in the environment due to these potential interactions; identification of measures to eliminate or mitigate adverse environmental effects of the project; and determination of residual effects and assessment of the significance of these effects, based on regulatory standards and guidelines, existing conditions, scientific literature and the experience of technical specialists.
18. Based on its review of the Screening Report and the above information, the Commission concludes that the EA assessment method was adequate.

Environmental Assessment Results

Effects of the Project on the Environment

19. CNSC staff identified 34 potential interactions of the project with the environment. Most interactions were not expected to result in measurable effects. Interactions that were expected to result in measurable effects were analysed to consider application of mitigation measures and assessment of the residual effects.
20. CNSC staff identified that the project could have effects on the atmospheric environment and on radiation and radioactivity components.
21. CNSC staff noted that if production is increased, nitrogen dioxide concentrations are predicted to increase above existing levels along the property fence line with a maximum predicted one-hour average concentration. However beyond the fence line, where humans are present, the concentrations are predicted to be below applicable criteria.
22. CNSC staff reported that small quantities of radioactivity and radiation would be released during construction activities and during operation of the Refinery at the increased proposed rate. These doses remain small and below the CNSC regulatory limit.
23. CNSC staff added that mitigation measures to reduce or eliminate the expected adverse effects include the construction best practices and the adherence to Cameco's Radiation Protection Program.

24. The Commission concludes that, under normal operating conditions, the proposed project is not likely to cause significant adverse environmental effects, taking into account the implementation of mitigation measures identified in the proposed EA Screening Report.

Effects of the Environment on the Project

25. Occasional environmental events that can occur naturally can produce extreme conditions affecting the performance of project activities. CNSC staff reported that, for this project, these events include seismic activity, tornados and severe weather conditions. The potential effect of climate change was also considered for this project. The probability of occurrence of such events is very low. As reported in section 8.4 of the EA Screening Report, design features and operational measures to reduce potential effects have been implemented and will continue to be developed.
26. The Commission concludes that the environment is not likely to cause significant adverse effects on the project, taking into consideration design and operational measures to prevent or reduce potential effects.

Effects of the Project on Sustainability of Resources

27. CNSC staff reported that the proposed project is not expected to cause any reduction in the availability of renewable resources at present or in the future. The quantities of fuel, lubricants and steel used for the activities of the proposed project would be relatively small and not substantive in the context of resource availability. It is the same for the amount of uranium given the amount presently available.
28. The Commission concludes that the proposed project is not expected to have effects on sustainability of resources.

Effects of Accidents and Malfunction Events

29. CNSC staff identified credible accident scenarios for the proposed project. These included release of chemical or hazardous material through spills, damage to equipment or equipment failure and traffic accidents. Probability of occurrence, potential effects on worker health and safety and potential effects on public health and environment were the criteria used to judge these events.
30. The Commission concludes that accidents and malfunctions are not likely to cause significant adverse environmental effects, taking into consideration the limited type of chemical and hazardous material involved and the prevention measures and contingency plans in place to prevent, eliminate or reduce their occurrence.

Cumulative Effects

31. CNSC presented the cumulative effects assessment in Section 9.0 of the proposed EA Screening Report.
32. CNSC staff reported that activities in the proposed project (increasing refinery production rate) in combination with other projects or activities that have been or will be carried out, are not likely to cause significant adverse environmental effects.
33. The Commission concludes that there would be no significant residual cumulative effects associated with the proposed project.

Follow-up Program

34. CNSC staff reported that the production increase did not introduce any new chemicals or processes, and no adverse residual environmental effects were identified during the assessment. Therefore, the objective of a follow-up program can be met through regular monitoring activities under the existing Blind River's environmental monitoring programs. These programs should confirm that the emissions predicted and radiation doses to workers are maintained below regulatory limits.
35. The Commission is satisfied that there are sufficient other monitoring requirements in place for the purpose of a follow-up program.

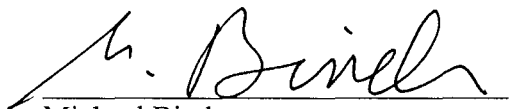
Public and First Nation Consultation

36. CNSC staff reported that public notices of commencement of the screening environmental assessment for this project were posted on both CNSC and Canadian Environmental Assessment Registry (CEAR) on July 6, 2005. The CEAR project number is: 05-01-12540.
37. CNSC staff also reported that the EA guidelines document was released, for review and comment, to the Mississauga First Nation, the public, Natural Resources Canada, Environment Canada, Health Canada and the Ontario Ministry of the Environment (OMOE) and that no comments or suggestions for changes were received.
38. CNSC staff noted that the Federal Authorities and the OMOE were also invited to participate in the review of the draft EA Study Report in 2006. All comments were addressed and submitted by Cameco in the draft EA Study Report in September 2007.

39. CNSC staff reported that the draft EA Screening Report was made available for review and comment from April 18, 2008 to May 16, 2008. The draft Report was also sent to the Town of Blind River, the Mississauga First Nation, the local organization Northwatch, the Federal Authorities and the OMOE. A copy of the draft was made available at the Blind River Public Library and the CNSC Library and notice of its availability were posted on CNSC Web Site and CEAR. Only Northwatch provided comments on the EA Screening Report and they are available in Appendix B of the proposed Report.
40. Cameco also used its consultation program to inform and address questions and concerns from stakeholders on the proposed project in the regional area of Blind River.
41. The Commission is satisfied with the extent of the public consultation for the proposed project.
42. The Commission therefore decides not to refer the project to the Minister of the Environment for referral to a review panel or mediator, pursuant to paragraph 20(1)(c) of the CEAA.

Conclusion

43. The Commission concludes that the EA Screening Report attached to CMD 08-H130 is complete and meets all the applicable requirements of the CEAA.
44. The Commission concludes that, based on the findings in the EA Screening Report, the proposed construction activities to modify the facility to achieve the increase production rate and the operation of the Blind River Refinery under the proposed increased annual production capacity is not likely to cause significant adverse environmental effects; and
45. Furthermore, the Commission will not request the Minister of the Environment to refer the project to a review panel or mediator in accordance with the provisions of the CEAA.
46. In accordance with paragraph 20(1)(a) of the CEAA, the Commission will proceed with the consideration of the licence application under the NSCA which, if approved, would allow the project to proceed.


Michael Binder,
President
Canadian Nuclear Safety Commission

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Date