

Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicants Cameco Corporation and AREVA Resources
Canada Incorporated

Subject Environmental Assessment Screening Report
for the Proposed Rabbit Lake Solution
Processing Project

Hearing Date June 11, 2008

RECORD OF PROCEEDINGS

Applicants: Cameco Corporation and AREVA Resource Canada Incorporated

Address/Location: Cameco Corporation: 2121 - 11th Street West
Saskatoon, SK, S7M 1J3

AREVA Resources Canada Inc.: 817 - 45th Street West,
P.O. Box 9204, Saskatoon, SK, S7K 3X5

Purpose: Environmental Assessment Screening Report for the Proposed
Rabbit Lake Uranium Rich Solution Project

Application received: January 19, 2005

Date(s) of hearing: June 11, 2008

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

Members present: M. Binder, Chair C. Barnes
A. Graham A. Harvey
M. McDill R. Barriault
D. Tolgyesi

Secretary: M.A. Leblanc
Recording Secretary: S. Dimitrijevic
General Counsel: J. Lavoie

Applicant Represented By	Document Number
<ul style="list-style-type: none">• T. Gitzel, Senior Vice President and Chief Operating Officer• J. Jarrell, Vice President, Safety, Health, Environment and Quality• G. White, Program Manager, Environmental Assessment• B. Esford, Senior Hydrogeologist• J. Rowsen, Vice President, Environment, Science and Technology, AREVA• B. Halbert, SENES Consultants	CMD 08-H13.1 CMD 08-H13.1A
CNSC staff	
<ul style="list-style-type: none">• P. Thompson • K. Scissons• M. Rinker • B. Torrie	CMD 08-H13
Intervenor	
<ul style="list-style-type: none">• Northern Saskatchewan Environmental Quality Committee, represented by B. Hutchinson	CMD 08-H13.2

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Introduction

1. Cameco Corporation (Cameco) and AREVA Resources Canada Incorporated (AREVA) have applied to the Canadian Nuclear Safety Commission¹ (CNSC) to seek authorisation to send uranium-rich solution from the McClean Lake Operation to the Rabbit Lake Operation for further processing.
2. Cameco and AREVA proposed to Saskatchewan Environment (now Saskatchewan Ministry of the Environment (SMOE)) and CNSC, on behalf of their Cigar Lake Joint Venture, to send up to 4.6 million kilograms of uranium per year as a uranium-rich solution (URS) from AREVA's McClean Lake operation to Cameco's Rabbit Lake operation for subsequent treatment to produce uranium concentrate. The proposed project includes transfer of URS from the McClean Lake mill to the Rabbit Lake mill in special haul trucks, construction of portions of a dedicated haul road, construction of a clear-span bridge over Collins Creek, and changes required at the Rabbit Lake mill to receive and process the URS, including an expansion of the existing Rabbit Lake tailings management facility (TMF).
3. Pursuant to subsection 24(2) of the *Nuclear Safety and Control Act*² (NSCA), the activities included in the proposed project require the amendment of the operating licences at both sites, UMOL-MINEMILL-RABBIT.01/2008 which expires on October 31, 2008 and UMOL-MINEMILL-McClean.04/2009 which expires on May 31, 2009. Such an amendment is a 'trigger' under the *Law List Regulations*³ of the *Canadian Environmental Assessment Act*⁴ (CEAA). Since the proposal involves undertakings in relation to a physical work, there is a project as defined in section 2 of the CEAA. The project is not of a type identified in the *Comprehensive Study List Regulations*⁵ of the CEAA.
4. Under the CEAA, CNSC is a "Responsible Authority" (RA)⁶. Transport Canada is also a RA for the project, since the bridge construction over Collins Creek will require its approval.
5. Pursuant to the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*⁷ the following federal departments/agencies are considered Federal Authorities (FAs) in relation to the project: Environment Canada (EC); Fisheries and Oceans Canada (DFO), Natural Resources Canada (NRCan); Indian and Northern Affairs Canada (INAC); and Health Canada (HC).
6. The project triggers the *Saskatchewan Environmental Assessment Act*⁸ for the three existing uranium developments: the Cigar Lake mine, the McClean Lake operation and the Rabbit Lake

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 S.C. 1997, c.9

³ S.O.R./94-636

⁴ S.C. 1992, c.37

⁵ S.O.R./94-638

⁶ Responsible Authority in relation to an environmental assessment is determined in accordance with subsection 11(1) of the CEAA.

⁷ S.O.R./97-181.

⁸ S.S. 1979-80, c.E-10.1

operation. Because this Environmental Assessment (EA) is being conducted under both federal and provincial jurisdiction, the Canadian Environmental Assessment Agency is the Federal Environmental Assessment Coordinator (FEAC).

7. Before making a decision on the request for authorization, the Commission, in accordance with the requirements of the CEAA, must decide on whether the project is likely to cause significant adverse environmental effects, taking into account the implementation of appropriate mitigation measures, and to determine a subsequent appropriate course of action under the CEAA. In this regard, the Commission considered the Screening Report⁹ submitted by CNSC staff.
8. This *Record of Proceedings* describes the Commission's consideration of the proposed Screening Report and its reasons for decisions on the results.

Issues

9. 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 CEAA 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 CEAA; 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 CEAA;

Hearing

10. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to hear this matter.
11. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a public hearing held on June 11, 2008 in Ottawa, Ontario. During the hearing, the Commission received written submissions and heard oral presentations from CNSC staff (CMD 08-H13) and from the proponents (CMD 08-H13.1 and CMD 08-H13.1A). The Commission also considered an oral intervention and written submission from the Northern Saskatchewan Environmental Quality Committee (CMD 08 - H13.2).

⁹ The proposed *Screening Report for the Environmental Assessment of the Proposed Rabbit Lake Solution Processing Project, McClean Lake Operation/Rabbit Lake Operation* is attached as an appendix to CMD 08-H13.

12. The public hearing was conducted in accordance with the *Canadian Nuclear Safety Commission Rules of Procedure*¹⁰.

Decision

13. 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 08-H13 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

14. The Commission addressed the four issues identified in paragraph 9 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.
15. 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

16. 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.
17. CNSC staff stated that the EA Guidelines were jointly authored by the CNSC and

¹⁰ SOR/2000-211

Saskatchewan Environment. The scope of the assessment and scope of project were determined by Transport Canada and CNSC. The EA Guidelines were issued to Cameco and AREVA to be used as guidance in preparing an Environmental Impact Statement (EIS).

18. CNSC staff further stated that the EIS was reviewed by CNSC staff and Transport Canada, as well as by several other federal and provincial departments, including Environment Canada, Fisheries and Oceans Canada, Natural Resources Canada, Health Canada, and Saskatchewan Environment. Comments were provided to the proponents who responded by submitting a revised EIS that was acceptable to all reviewers. CNSC staff added that the EIS was prepared to address requirements and environmental concerns of both the Government of Saskatchewan and the Government of Canada.
19. CNSC staff noted that the expert technical review of the EIS had been used to support the EA and added that the process that had led to the preparation of the presented EA screening report was conducted in accordance with the *Canada-Saskatchewan Agreement on Environmental Assessment Cooperation* (2005).
20. CNSC staff reported to the Commission that the Screening Report contains information on the need and purpose of the project, as well as consideration of potential alternatives to the project. CNSC staff added that the Screening Report provides the scope of project and scope of assessment, as defined in the EA Guidelines.
21. 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 CEEA.

Adequacy of the Assessment Method

22. In its submission, CNSC staff outlined the methodology used in the assessment of the direct and indirect effects of the project on the environment. CNSC staff noted that the assessment considered activities related to normal operations and the effects of credible malfunctions and accidents.
23. The applied screening methodology has encompassed the following: identification of potential interactions between the project and the environment; identification of each project-environment interaction likely to result in measurable adverse changes in the environment; identification of measures to eliminate, reduce or control the 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.
24. Based on its review of the Screening Report and the above information, the Commission concludes that the EA methods were adequate.

Environmental Assessment Results - Likelihood and Significance of Environmental Effects

25. 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.

Effects of the Project on the Environment

26. CNSC staff stated that twelve potential interactions were identified. Nine of the potential interactions were determined to have the potential for likely measurable effects on the environment with five of them having potential to cause residual effects. Mitigation measures to control, reduce or eliminate the effect were also considered.
27. The identified interactions would result from both construction and operational activities. The project activities predicted to result in potential adverse environmental effects include: the construction and use of the haul route that would link the Rabbit Lake site to the McClean Lake site, the release of effluent from the Rabbit Lake mill for a prolonged period of time and the long-term performance of the Rabbit Lake In-pit Tailings Management Facility (RLITMF).
28. CNSC staff informed the Commission that Cameco has been implementing a program to reduce uranium concentrations in mill effluent and that the Screening Report includes the environmental effects predicted on the basis of the implemented improvements. The results of the assessment indicate that the effluent loadings would decrease over time to values lower than effluent loadings from current operations. CNSC staff also informed the Commission that Cameco intends to implement modifications to the effluent treatment process to further reduce molybdenum and selenium concentrations.
29. With respect to decommissioning plans, the proponents stated that the implementation of the project would require a minor update to the McClean Lake operation's preliminary decommissioning plan and was expected to have little impact on the overall decommissioning plan for the Rabbit Lake operation. The Rabbit Lake mill operation life would be extended and consequently the decommissioning of some facilities would be delayed.
30. In its intervention, the Northern Saskatchewan Environmental Quality Committee (NSEQC) stressed the importance of carefully locating the bridge on Collins Creek to minimize any impact it might have on the creek and on the traditional way of life of neighbouring communities. NSEQC added that it opposes the construction of off-site infrastructure until it is needed and that it encourages the practice of continual decommissioning of the site.
31. The Commission asked about the proponents' opinion on the intervenor's support for continuous decommissioning activities on the site. The proponents responded that, in general, they support the concept of progressive reclamation during operation and noted that there is a number of projects where such an approach is an advantage, and that the concept would be applied wherever applicable.

32. The Commission inquired about the timeline related to the project development and building of necessary infrastructure. The proponents responded that the dynamics of this project depend on the progress of other projects at the mentioned sites, particularly on further advancement of the Cigar Lake project.
33. The Commission also inquired about potential contamination of the surroundings of the tailing pit by a lateral flow of contaminated waters. The proponents explained that during the operating phase the contamination is prevented by controlling the difference between the level of the groundwater surrounding the tailing management facility and water level in the pit. During the decommissioning phase the contamination is prevented by the pervious layer that entirely surrounds the tailings mass and allows the groundwater to bypass the tailings through that more permeable layer.
34. The Commission sought more information on animal species at risk. Cameco provided detailed information on risk estimation for different species, including muskrats, geese, Mallards and other duck species. The risk level had been estimated depending on the species' eating, reproducing and migrating habits. The general risk level has been estimated to be acceptable.
35. Based on its review of the Screening Report and the presented 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

36. CNSC staff reported that the influence of both physical and biophysical environments on the proposed project have been considered within the EA. Forest fires, seismic events, and climate events such as the effects of climate change were assessed for their potential impact on project activities. The estimated probabilities of occurrence of such events were low. CNSC staff has concluded that the effects of the environment on the project are not likely to result in significant adverse environmental effects.
37. Based on the above information, the Commission concludes that the environment is not likely to cause adverse effects on the project.

Effects of the Project on Sustainability of Resources

38. CNSC staff informed the Commission that the potential effects of the project on the sustainability of both renewable and non-renewable resources were considered in the assessment. CNSC staff stated that the predicted effects on renewable resources were expected to be minor, localized and temporary and that the project was not expected to cause significant adverse effects on the sustainability of resources.

Effects of Accident and Malfunction Events

39. CNSC staff informed the Commission about the identification of accidents and malfunctions, described their potential effects and explained prevention and contingency measures considered in the EA Screening Report.
40. CNSC staff noted that the assessment criteria included the probability of occurrence, potential for effects on workers' health and safety, potential for releases to the environment and potential for effects on public health and the environment.
41. CNSC staff expressed the opinion that, taking into consideration design, preventive measures and contingency plans, the considered accidents and malfunctions were not likely to cause significant environmental effects.
42. Based on the above information and considerations, the Commission concludes that accident and malfunction events are not likely to cause adverse effects on the project.

Cumulative Effects

43. CNSC staff informed the Commission that the assessment had been conducted by summing the maximum loading from all possible emissions from the Rabbit Lake, McClean Lake and the proposed URS project. CNSC staff stated that the cumulative effects encompassed the effects on environment, transportation and traffic safety, and public health and safety.
44. CNSC staff stated that the effects from the proposed project, in combination with other projects or activities that have been or may be carried out, were not likely to cause significant adverse environmental effects, with the implementation of mitigation measures identified in the EA Screening Report.
45. The Commission inquired on the potential influence of cumulative affects and contamination of coastal areas on communities surrounding Wollaston Lake. CNSC staff stated that the presented report includes the assessment of the cumulative effects of many different projects having different release points to Wollaston Lake. The results have shown that there is no accumulation along the shoreline.
46. Based on the information received, the Commission concludes that significant adverse cumulative effects are not expected to occur as a result of the project.

Conclusions on the Likelihood and Significance of Adverse Environmental Effects

47. 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.
48. The Commission is satisfied that the likelihood and significance of adverse environmental effects have been identified with reasonable certainty.

Follow-up Program

49. In order to ensure verification of the accuracy of the EA and the effectiveness of measures taken to mitigate the adverse environmental effects of the project, the Commission considered a follow-up program recommended by CNSC staff.
50. CNSC staff stated that a follow-up program should be required in addition to the ongoing compliance monitoring. The follow-up program should include a measure of socio-economic benefits, monitoring of effluent discharge quality from the Rabbit Lake effluent treatment system, research and monitoring of the long-term behaviour of arsenic in the Rabbit Lake In-pit Tailings Management Facility and monitoring to collect site-specific data in the study area to verify assumptions and reduce the reliance on estimated parameters.
51. CNSC staff recommended that the CNSC licensing and compliance program be used as the mechanism for ensuring the final design and implementation of follow-up activities and for the reporting of results.
52. Based on the received information, the Commission accepts the recommendations of CNSC staff with respect to the follow-up program for this project.

Nature and Level of Public Concern

53. With respect to public concern, the Commission examined whether the public and stakeholders had had sufficient information about the project and the EA, and whether they had an opportunity to express their views on it.
54. The proponents informed the Commission about their consultation activities and stated that these activities had been intended to provide information to a broad array of individuals and organizations in northern and, to a limited degree, southern Saskatchewan. Primary focus had been on the people residing in communities of the Athabasca Region that are closest to the project. The proponent-led public consultation events included community and advisory committee workshops, presentations during annual meetings, and use of radio and print media.
55. CNSC staff reported that a public registry for the assessment (the Canadian Environmental

Assessment Registry (CEAR)) had been established and that public notices of commencement of an EA screening for this project have been posted on both the CNSC web site and the CEAR web site.

56. CNSC staff further reported that, together with Saskatchewan Environment, it had solicited public comments on the Draft EA Guidelines, the EIS, the Addendum to the EIS and the Draft EA Screening Report. Complete documentation had been made available for viewing at four public libraries in the project area and the documents had been given to several hamlets, First Nations, and Environmental Interest Groups.
57. CNSC staff stated that it was not aware of public concerns associated with this project that would warrant referral to a mediator or review panel pursuant to section 25 of the CEEA.
58. The Commission is satisfied that proponents and CNSC staff consulted appropriately with the public and other interested stakeholders. 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 CEEA)

Conclusion

59. The Commission concludes that the environmental assessment Screening Report attached to CMD 08-H13 is complete and meets all of the applicable requirements of the CEEA.
60. 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.
61. The Commission also concludes that 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.
62. The Commission accepts the conclusions of the Environmental Assessment Screening Report and decides that it can proceed with its consideration of the application for licence amendment under the provisions of the *Nuclear Safety and Control Act*, consistent with paragraph 20(1)(a) of the CEEA.



Michael Binder
President,
Canadian Nuclear Safety Commission

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