

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent AREVA Resources Canada Incorporated

Subject Screening Environmental Assessment for the  
Proposed Ferric Sulphate Production at the  
McClellan Lake Operation

Date of  
hearing October 25, 2006

## RECORD OF PROCEEDINGS

Proponent: AREVA Resource Canada Incorporated

Address/Location: P.O. Box 9204, 817 – 45<sup>th</sup> Street West, Saskatoon, SK S7K 3X5

Purpose: Screening Environmental Assessment for the proposed ferric sulphate production at McClean Lake

Application received: n/a

Date(s) of hearing: October 25, 2006

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

Members present: L.J. Keen, Chair  
A. Graham  
J.A. Dosman

Secretary: M.A. Leblanc  
Recording Secretary: P. Bourassa  
Legal Counsel: S. Maislin Dickson

<b>Proponent Represented By</b>	<b>Document Number</b>
<ul style="list-style-type: none"><li>• R. Pollock, Vice-President, Environment, Health and Safety</li><li>• V. Laniece, Director of Project Development</li><li>• J. Corman, General Manager, McClean Lake</li></ul>	
CNSC staff	
<ul style="list-style-type: none"><li>• C. Taylor</li><li>• M. Rinker</li></ul> <ul style="list-style-type: none"><li>• A. Ray</li><li>• K. Scissons</li></ul>	CMD 06-H146

**Date of Decision:     October 25, 2006**

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## Introduction

1. AREVA Resources Canada Incorporated (AREVA) has applied to the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) to seek approval for the construction and subsequent operation of a ferric sulphate production circuit at the McClean Lake Operation, located in Northern Saskatchewan.
2. The authorization of this proposed project requires an approval pursuant to licence condition 3.1 of the McClean Lake licence, UMOL-MINEMILL-McCLEAN.04/2009.
3. Before making a decision on the request for approval, the Commission must, in accordance with the requirements of the *Canadian Environmental Assessment Act*<sup>2</sup> (CEAA), make a decision on an environmental assessment (EA) of the proposal. Pursuant to section 15 of the CEAA, the type of EA required for this project is a screening. The Commission is the sole responsible authority<sup>3</sup> (RA) for the EA.
4. The EA Guidelines were prepared by the CNSC and approved by the Commission on March 30, 2006. The EA Guidelines were used in delegating the conduct of technical studies for the screening of this project to AREVA, pursuant to section 17 of the CEAA. AREVA provided the technical studies which underwent a review by experts at the CNSC and the FAs. The resulting EA Study Report was then used by CNSC staff for the preparation of the draft EA Screening Report (Screening Report). Stakeholders, including the federal authorities, were provided an opportunity to review the draft Screening Report prior to its finalization and submission to the Commission for this hearing and decision.
5. 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 AREVA's proposal to construct and operate a ferric sulphate production circuit at the McClean Lake Operation site is attached as an appendix to CMD 06-H146.

## Issues

6. 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 CEAA 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;

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<sup>1</sup> 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.

<sup>2</sup> S.C. 1992, c.37.

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

- 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 for an approval under the *Nuclear Safety and Control Act*<sup>4</sup>, (NSCA) consistent with paragraph 20(1)(a) of the CEAA.

### 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. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a hearing held on October 25, 2006 in Ottawa, Ontario. During the hearing, the Commission received a written submission and an oral presentation from CNSC staff (CMD 06-H146). Representatives from AREVA and CNSC staff were in attendance.

### **Decision**

- 9. 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 06-H146 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 approval under the provisions of the *Nuclear Safety and Control Act*, consistent with paragraph 20(1)(a) of the *Canadian Environmental Assessment Act*.

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<sup>4</sup> S.C. 1997, c.9.

### **Issues and Commission Findings**

10. 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**

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. CNSC staff stated that on March 30, 2006, the EA Guidelines were finalized and approved by the Commission, and formally issued to AREVA, including statements of project scope and scope of the assessment factors as required by sections 15 and 16 of the CEAA. CNSC staff stated that the Screening Report contained information on the full scope of the project and for all of the factors required for a screening EA under section 16 of the CEAA and as set out in the EA Guidelines.
13. CNSC staff further stated that the following expert federal authorities were notified of the project pursuant to the CEAA *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*<sup>5</sup>: Health Canada, Environment Canada and Natural Resources Canada. These federal authorities were provided with the opportunity to participate in the preparation of the draft EA Guidelines and the draft EA Screening Report. Dispositioning of Comments is attached to CMD 06-H146.
14. CNSC staff noted that there were no provincial requirements for an environmental assessment of AREVA's proposal.
15. 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.
16. The Commission also concludes that the Screening Report is complete and compliant with the requirements of the CEAA. The Commission is thus able to proceed to its consideration of the likelihood and significance of the environmental effects of the project, the adequacy of the mitigation measures and the public concern about the project.

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<sup>5</sup> S.O.R./97-181.

### **Likelihood and Significance of Environmental Effects**

17. 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. In examining this question the Commission 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***

18. 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 of likely effects of the project on the environment was carried out in a step-wise manner.
19. The applied screening methodology encompassed the following: identification of potential interactions between the project and the environment, identification of the Valued Ecosystem Components, establishment of study boundaries, identification of constituents of concern and assessment criteria, identification of the potentially adverse effects on the environment, identification of mitigation measures for the adverse effects and determination of residual adverse effects, determination of cumulative effects and assessment of the significance of any residual adverse effects that could not be mitigated.
20. CNSC staff stated that the EA involved a progressive identification, screening and assessment of significance of potential interactions between the project (from activities related to the normal operations and the effects of probable malfunctions and accidents) and the various components of the environment.
21. CNSC staff outlined in its submission the extent of the consultations that were conducted during the EA process. CNSC staff initiated a public comment period on the draft Screening Report, and key stakeholders, including federal authorities, were sent the Screening Report for their review.
22. The Commission inquired as to the extent of communications with the seven existing communities and the aboriginal people living in the area during the screening process. In response, CNSC staff stated that it had established a public registry for the assessment as required by section 55 of the CEEA and that it had solicited comments from the public during the development of EA Guidelines. The proponent met with the Environmental Quality Committee (EQC) on March 16, 2006, presented the proposal and organized the tour of the facilities that would be modified.

23. 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 acceptable and provided a suitable basis for the Commission to evaluate the public concerns about the project.
24. Based on its review of the Screening Report and the above information, the Commission concludes that the EA methods were acceptable and appropriate and that all of the required factors were addressed during the assessment.

### *Effects of the Project on the Environment*

25. During the first screening, eleven potential interactions were identified, including those that could occur during malfunctions and accidents. Each of the potential interactions was then assessed using criteria such as regulatory standards and guidelines, existing conditions, scientific literature and the experience of the technical specialists to determine which of the potential interactions may result in a likely measurable effect on the environment.
26. Of the eleven potential interactions identified, three were determined to have the potential for likely measurable effects on the environment. For each of these interactions the residual effects, which would be measurable or observable on the selected Valued Ecosystem Components after mitigation, were considered. Mitigation measures to control, reduce or eliminate the effect were also considered.
27. Potential residual effects after mitigation were predicted to result from air emissions from the acid plant. It was estimated that the total contribution of the McClean Lake acid plant would contribute no more than 0.2% of the critical load for highly sensitive soils.
28. Based on the screening of the issues, CNSC staff concluded that the effects of the proposed project are not likely to be significantly adverse to the environment.
29. The Commission inquired about dispersion of sulphur dioxide, consequential acidic deposition and about AREVA's capacity to have an ongoing monitoring of the potential deposition in the environment. AREVA responded that the detailed modelling of the dispersion of sulphur dioxide and its conversion to sulphate ions, as precursors for acidic deposition, was done and the obtained results were included into estimation of residual effects. AREVA also noted that its monitoring includes stack monitor and ground continuous monitor and that periodical environmental assessments are also carried out at the sites.
30. The Commission asked about potential impact of transportation and storage of iron ore on the environment. AREVA responded that with the production of ferric sulphate at McClean Lake, trucking of the liquid ferric sulphate solution will be replaced by safer and less frequent transportation of solid iron ore.

31. The Commission also asked about the potential impact of the operation on three endangered species present in the area. AREVA responded that all activity concerning the production of ferric sulphate will be organized within an already developed area and that there will be no effect on vegetation at and around the mill area as a result of this particular activity.
32. 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***

33. CNSC staff reported that the influence of both physical and biophysical environments on the proposed project has been considered within the EA. Short term climatic events, storms, forest fires and consequences such as power outages were recognized as major participating events. It was determined that the planned design features of the project would adequately address the potentially adverse effects of the environment on the project. The conclusion of the CNSC staff was that no adverse effects of the environment on the project should be considered likely.
34. Based on the above information, the Commission concludes that the environment is not likely to cause adverse effects on the project.

### ***Effects of Accident and Malfunction Events***

35. CNSC staff stated that the events associated directly with the ferric sulphate project and events that might be precipitated by external factors were included in the assessment. The EA focused on those events that are considered credible in the context of the proposed project. The malfunction or accident events identified to have potential adverse effects were advanced for subsequent evaluation within the frame of the environmental assessment.
36. The Commission inquired about the health and safety effects of the possible violent boil over if acid was added while the reactor tank was not agitated, due, for example, to a power failure. AREVA responded that the system would be protected against violent boil over by adding a switch to ensure that the acid flow is maintained only if the agitator is turning. AREVA further noted that the reactor tank would be made of stainless steel, capable of sustaining pressure of seven atmospheres and vented-back to the water tank, which should be sufficient in terms of safety and health protection.
37. 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*

38. CNSC staff stated that the effects from this project would interact with the current operation and future projects at McClean Lake. No other projects in the Athabasca region would cause an effect that would interact with the effects predicted from the operation of the acid plant. It was determined that the air quality would remain below Provincial and Federal standard limits and the deposition of acid products in the local area would remain well below the critical load for sensitive terrestrial systems. Cumulative effects are predicted to result in negligible changes to the residual effects. It was thus determined that no significant adverse cumulative effects would result from the development of the ferric sulphate production.
39. 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*

40. 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.
41. The Commission is also satisfied that the likelihood and significance of the effects have been identified with reasonable certainty.

### **Nature and Level of Public Concern**

42. 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 in accordance with section 29 of the CEAA, the Commission first examined whether the public had sufficient opportunity to become informed about the project and the Environmental Assessment, and express their views on it.
43. As noted in paragraph 25 above, the Commission is satisfied that AREVA and CNSC staff consulted appropriately with the public and other interested stakeholders. The Commission is therefore satisfied that the public had adequate opportunity to become informed about the project and express any concerns.
44. CNSC staff reported that no concerns were raised that would justify the consideration to refer the project to the federal Minister of the Environment.

45. 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**

46. The Commission concludes that the environmental assessment Screening Report attached to CMD 06-H146 is complete and meets all of the applicable requirements of the *Canadian Environmental Assessment Act*.
47. 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.
48. 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.
49. Therefore, the Commission, pursuant to paragraph 20(1)(a) of the CEAA, decides to proceed with the consideration of the approval of the project under the *Nuclear Safety and Control Act*.

Linda J. Keen,  
President,  
Canadian Nuclear Safety Commission

Date of decision: October 25, 2006

Date of release of Reasons for Decision: April 5, 2007