

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Applicant

AREVA Resources Canada Inc.

Subject

Environmental Assessment Track Report  
regarding AREVA Resources Canada Inc.'s  
Proposed Midwest Uranium Mine Project

Hearing  
Date

April 12, 2007

## RECORD OF PROCEEDINGS

Proponent: AREVA Resources Canada Inc.

Address/Location: P.O.Box 9204, 817-825 Street West, Saskatoon, Saskatchewan, S7K 3X5

Purpose: Environmental Assessment Track Report regarding AREVA Resources Canada Inc.'s proposed Midwest Uranium Mine Project

Application received: n/a

Date of hearing: April 12, 2007

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

Members present: L.J. Keen, Chair  
C.R. Barnes  
A. Graham

Secretary: K. McGee  
Recording Secretary: S. Dimitrijevic  
General Counsel: S. Maislin Dickson

<b>Applicant Represented By</b>		<b>Document Number</b>
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See appendix A		
<b>Others</b>		
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**Date of Release of Decision:** June 11, 2007

## Table of Contents

<b>Introduction</b> .....	1
<b>Decision</b> .....	3
<b>Issues and Commission Findings</b> .....	4
<b>Application of the CEAA</b> .....	4
<b>Type of Environmental Assessment and Involved Federal Authorities</b> .....	4
<b>Federal Coordination and Consultations on the Draft EA Guidelines</b> .....	5
<b>Scope of the Project</b> .....	6
<b>Scope of the Assessment</b> .....	8
<i>Spatial and Temporal Scope of the Project</i> .....	9
<i>Project Description</i> .....	10
<i>Description of the Existing Environment</i> .....	11
<i>Conclusion on the Scope of the Assessment</i> .....	12
<b>Public Consultation</b> .....	13
<b>Recommendation to the Minister of the Environment</b> .....	15
<i>Public Concerns in Relation to the Project</i> .....	15
<i>Potential of the Project to Cause Adverse Environmental Effects</i> .....	17
<i>Ability of the Comprehensive Study to Address Issues Relating to the Project</i> .....	18
<i>Recommendation to the Federal Minister of the Environment</i> .....	19
<b>Conclusion</b> .....	19

## Introduction

1. AREVA Resources Canada Inc. (AREVA) notified the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) of its proposal to mine a uranium ore deposit as an open pit mine at its Midwest location, to construct a dedicated haul road and pipeline between the Midwest and McClean Lake sites and to expand its McClean Lake mill.
2. The Midwest Project is currently a uranium exploration development located in the Athabasca basin in northern Saskatchewan. The site is in a care and maintenance mode under the Site Preparation Licence UMSL-Excavate-Midwest.06/indf. AREVA is the majority owner and operator.
3. The Midwest Project was considered in 1997 by a Joint Provincial-Federal Panel on uranium mining developments in northern Saskatchewan and both the provincial and federal governments granted environmental assessment approvals for the project in 1998. Due to market conditions, the proponent chose not to pursue the Midwest Project at that time.
4. Favourable market conditions have since led the proponent to pursue the project. The proponent has proposed changes to mining the ore body and milling the ore mining at the McClean Lake mill such as: alteration to the mining method from underground to open-pit method, development of a dedicated haul road from the mining site to the milling site, and further expansion to the earlier Midwest Project.
5. CNSC authorization of AREVA's proposed project would ultimately require the issuance of a licence. Before the Commission can decide on the licensing application pursuant to the *Nuclear Safety and Control Act*<sup>2</sup> (NSCA) in respect of the proposed project, the Commission must, in accordance with the requirements of the *Canadian Environmental Assessment Act*<sup>3</sup> (CEAA), determine the results of an environmental assessment (EA). This determination includes making a decision on the potential for the project to cause adverse environmental effects, and determining a subsequent course of action.
6. As AREVA's project falls within the *Comprehensive Study List Regulations*<sup>4</sup> of the CEAA, the Commission is required to submit an Environmental Assessment Track Report to the federal Minister of Environment which includes a recommendation to the Minister on the proposed track for the EA. These possible tracks are to either continue the EA as a comprehensive study or refer the EA to a review panel or mediator.

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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. 1997, c.9.

<sup>3</sup> S.C. 1992, c.37.

<sup>4</sup> SOR/94-638.

7. In carrying out this responsibility under the CEAA, the Commission must also determine the *scope of the project* and the *scope of the assessment*. To assist the Commission in this regard, CNSC staff prepared a draft *Environmental Assessment Track Report* for the Proposed Midwest Uranium Mine Project which contains a draft Environmental Assessment Guidelines document (EA Guidelines). The draft EA Guidelines (*Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project*) was prepared in consultation with other government departments, the public and other stakeholders, and contains draft statements of scope for the approval of the Commission. The draft EA Guidelines also contain recommendations and instructions for the approach to be used in completing the EA, including for the conduct of further public and stakeholder consultations. The draft EA Guidelines are presented in the CNSC staff document CMD 07-H9.
8. Pursuant to the CEAA, the Commission is the lead responsible authority (RA) for the environmental assessment. Natural Resources Canada, Transport Canada, and Fisheries and Oceans Canada have also been identified as RAs. The proposed project is also subject to the EA requirements of the Province of Saskatchewan.

#### Issues

9. In considering the EA Track Report and the EA Guidelines, the Commission was required to decide, pursuant to subsections 15(1) and 16(3) of the CEAA respectively:
  - a) the *scope of the project* for which the EA is to be conducted; and
  - b) the *scope of the factors* to be taken into consideration in the conduct of the EA.
10. Pursuant to paragraph 21(2)(a) of the CEAA, the Commission was also required to report to the Minister of the Environment regarding
  - (i) the scope of the project, the factors to be considered in its assessment and the scope of those assessment factors;
  - (ii) public concerns in relation to the project;
  - (iii) the potential of the project to cause adverse environmental effects; and
  - (iv) the ability of the comprehensive study to address issues relating to the project.
11. Pursuant to paragraph 21(2)(b) of the CEAA, the Commission was also required to recommend to the Minister of the Environment that CNSC continue with the EA by means of a comprehensive study, or to refer the project to a mediator or review panel.

### Public Hearing

12. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to hear this matter.
13. The Panel of the Commission (hereafter referred to as the Commission), in making its decision, considered information presented for a hearing held on April 12, 2007 in Ottawa, Ontario. The hearing was conducted in accordance with the Commission's process for determining matters under the CEEA. In establishing the process, the Commission decided to hold a public hearing on the matter. During the hearing, the Commission received written submissions from CNSC staff (CMD 07-H9), AREVA (CMD 07-H9.1 and CMD 07-H9.1A). The Commission also received submissions from seven intervenors (see Appendix A for the list of intervenors). Furthermore, the Commission, in making its decision, also considered letters of concurrence from the responsible authorities and the federal authorities with the proposed *Environmental Assessment Track Report for the Proposed Midwest Uranium Mine Project* and *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project*, as presented in CMD 07-H9.

### **Decision**

14. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Proceedings*,

the Canadian Nuclear Safety Commission

- a) approves, pursuant to sections 15 and 16 of the CEEA, the *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project*, the scope of the project, assessment factors and scope of assessment factors, as presented in the document.
- b) will submit to the Minister of the Environment the EA Track Report set out in CMD 06-H22, pursuant to paragraph 21(2)(a) of the CEEA; and
- c) will recommend to the Minister of the Environment to continue with the environmental assessment of the project as a comprehensive study, pursuant to paragraph 21(2)(b) of the CEEA.

## Issues and Commission Findings

### Application of the CEAA

15. Federal environmental assessment of the proposal is required, pursuant to paragraph 5(1)(d) of the CEAA, if there is both a “project” and a prescribed action by a federal authority (commonly referred to as a “trigger”). The proposal involves the site preparation, construction of the dedicated haul road and pipeline, and expansion of the milling facility. This is an undertaking in relation to a physical work and as such is a “project” for the purposes of the CEAA.
16. The proposed Midwest Project, if approved, would require either a new licence, or amendments to the existing uranium mine operating licence for the McClean Lake operation. The Commission issues and amends licences for activities involved in AREVA’s proposal under the authority of Section 24(2) of the NSCA, which is prescribed in the *Law List Regulations*<sup>5</sup>. Therefore, there is a “trigger” for an EA. The project of this kind is not listed in the *Exclusion List Regulations*<sup>6</sup> of the CEAA.
17. The Commission therefore concludes that an EA of the proposed project is required pursuant to the CEAA.

### Type of Environmental Assessment and Involved Federal Authorities

18. Once it has been determined that an EA was required under the CEAA, the type of EA and responsible authorities had to be determined. The proposed project was identified in Part IV, subsection 19(a) of the *Comprehensive Study List Regulations* of the CEAA. The CNSC was identified as a lead responsible authority (RA) and, as such, was required to ensure that a comprehensive study was initiated.
19. Natural Resources Canada, Transport Canada and Fisheries and Oceans Canada have also been identified as RAs for this assessment. Environment Canada, Health Canada and Indian and Northern Affairs Canada have identified themselves as Federal Authorities and will provide, upon request, their expert advice in relation to this environmental assessment.
20. CNSC, as an RA for the project, has obligations under the CEAA to develop scoping information (the EA Scoping Document), consult the public on specific topics, and make recommendations to the Minister of Environment on the adequacy of a comprehensive study to address the issues. The Commission is thus required to submit to the federal Minister of Environment an Environmental Assessment Track Report which includes a recommendation on the proposed track for the EA.

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<sup>5</sup> SOR/94-636.

<sup>6</sup> SOR/94-639.

21. Following the recommendation of the Commission on the proposed Track Report, the Minister of the Environment will be required to decide whether the project should continue as a comprehensive study or be referred to a review panel or to a mediator.
22. CNSC staff recommended to the Commission that, if the EA were to proceed as a comprehensive study, the conduct of technical support studies and the preparation of an EA study report, could be delegated to AREVA, pursuant to subsection 17(1) of the CEEA.
23. The Commission agrees, if the EA were to proceed as a comprehensive study, to delegate the conduct of technical support studies, certain public consultation activities and the preparation of an EA study report to AREVA. The duty to consult First Nations on this project would be shared between the CNSC, other responsible authorities and the Province of Saskatchewan.

#### **Federal Coordination and Consultations on the Draft EA Guidelines**

24. In addition to the list of identified RAs and other Federal Authorities, the Canadian Environmental Assessment Agency is acting as the Federal Environmental Assessment Coordinator (FEAC), responsible for coordinating the involvement of all identified authorities and other parties in the EA. The FEAC facilitates the communication and cooperation with other jurisdictions and stakeholders in accordance with the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*<sup>7</sup> of the CEEA.
25. CNSC staff noted that the proposed project qualifies for a multi-jurisdictional EA since it requires both a federal EA and a provincial EA. Thus, under the terms of the 2005 Canada-Saskatchewan Agreement on Environmental Assessment Cooperation, a cooperative EA between both jurisdictions should be conducted. Under the Agreement, the Province of Saskatchewan is the Lead Party and contact for the Midwest Project, and has established a Project Administration Team to direct the EA process. The members of the team encompass representatives from the Province of Saskatchewan, CEEA and all of the RAs.
26. As a result of this cooperation and consultation procedure, draft EA Guidelines (*Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project*) were prepared as a compilation of the provincial draft Project Specific Guidelines and the federal Comprehensive Study Scoping Document. The preparation was done by the FEAC and by the Environmental Assessment Branch of the Saskatchewan Environment, after consultation with RAs and with input of federal reviewers.

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<sup>7</sup> SOR/97-181.

27. CNSC staff stated that the public consultation procedure was initiated jointly by the Saskatchewan and federal governments by issuing the draft EA Guidelines for public comments. The procedure, comments received and their disposition are presented in the EA Track Report.

### **Scope of the Project**

28. AREVA described the proposed project by presenting the key aspects of the operations and the outlining project components at the Midwest site, McClean Lake site and off-site milling JEB facility. AREVA informed the Commission on its integrated environmental protection framework and presented results of completed iterative environmental assessment of the Midwest Project. These results encompassed evaluation of additional options, application of additional mitigation measures and refinement of preliminary estimates to better evaluate and minimize the interactions of the project with the environment.
29. The basis of the Midwest open pit design consists of the geological model of the deposit pit slope stability analysis and site topography combined with economic factors and government regulations regarding open pit mine design. The pit is designed to a depth of 215 meters and will cover a surface area of about 44 hectares. The mine is estimated to yield about 360 000 tones of ore containing on average about 4% of uranium. Material excavated from the pit will be classified as ore, problematic waste rock or clean waste rock. All the material will be sampled and monitored to ensure proper classification and separation.
30. AREVA informed the Commission of its waste rock mitigation and waste water treatment strategies. These strategies consider rock volume and characteristics, concentrations and leachability of constituents of concern and the hydrological characteristics of the location. Waste water management objectives include minimizing volumes of water that requires treatment, treatment of contaminated water to acceptable levels prior to discharge and minimizing effects of the effluent discharge on the receiving environment. AREVA further informed the Commission that the proposed waste management system is on land currently not under licence.
31. AREVA noted that the components of the existing McClean Lake Operation that will be affected by the proposed project include the JEB mill and associated facilities, water treatment plant, JEB tailings management facility (TMF) and the Sink/Vulture Treated Effluent Management System (S/V TEMS). The JEB mill is composed of a number of circuits that extract uranium from ore and produce yellowcake. The processing of Midwest ore would not require modification of the process, but the processing equipment would require expansion and modification either to allow for increased production or to accommodate specific Midwest ore processing requirements. The mill is currently licensed to process 8 millions pounds per year (8Mlb/y) of uranium oxide ( $U_3O_8$ ) equivalent. Currently ongoing expansion, as well

as expansion proposed by the Midwest Project, would increase the milling capacity to reach a total of 27Mlb/y of U<sub>3</sub>O<sub>8</sub> through the front end of the plant and 16Mlb/y of packed U<sub>3</sub>O<sub>8</sub>.

32. CNSC staff presented to the Commission a draft *Environmental Assessment Track Report* for the Proposed Midwest Uranium Mine Project which contains the draft EA Guidelines – Scoping Document entitled *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project*. The draft EA Guidelines contain information regarding the proposed scope of the project, proposed assessment factors and the scope of these factors, pursuant to sections 15 and 16 of the CEAA.
33. CNSC staff described the proposed scope of the project in the EA Guidelines and the following topics the EA is to consider:
  - the Midwest mine, including all associated facilities and ancillary works;
  - dewatering of Mink Arm, and pumping of Mink Arm water to South McMahan Lake;
  - the Reverse Osmosis (RO) mine water treatment plant at the Midwest site;
  - waste rock management facilities located at the Midwest site;
  - dedicated haul road, and the transport of ore along it by truck;
  - the waste management system that is proposed for transporting waste water from the Midwest site to the water treatment plant located at the JEB Mill on the McClean Lake site;
  - the modifications at the JEB Mill at McClean Lake to accommodate the Midwest ore;
  - any modifications at JEB Tailings Management Facility, located at McClean Lake, necessary to accommodate the Midwest ore; and
  - all physical works and undertakings associated with the fish habitat compensation plan.
34. CNSC staff reported to the Commission that a decommissioning plan required as part of the licensing procedure, in a preliminary form at this stage of the process, would be included in the assessment upon approval of the EA Guidelines.
35. To ensure that the project scope sufficiently covers all the relevant aspects, the Commission sought more information on decommissioning and reclamation activities and stressed the importance of approaching this issue relatively early in the licensing process. AREVA responded that its experience, relevant to this proposed project, encompasses a large amount of substantial information obtained from earlier mining projects and pointed out McClean Lake as providing useful lessons learned in terms of designing for decommissioning from the start of a project.
36. The Commission concludes that the scope of the project has been adequately determined for the purpose of the Scoping Document.

### **Scope of the Assessment**

37. The draft EA Guidelines prepared by CNSC staff identifies all the assessment factors to be considered pursuant to subsection 16(1) of the CEAA. The mandatory factors comprise the environmental effects of the project, including those that may be caused by malfunctions or accidents and any cumulative environmental effects with other projects; the significance of the effects identified above; comments from the public that are received in accordance with the CEAA and its regulations and measures that are technically and economically feasible that would mitigate any significant adverse environmental effects of the project.
38. Since the proposed project falls within the *Comprehensive Study List Regulations* of the CEAA, subsection 16(2) of the CEAA requires that the following factors are also included for consideration: the purpose of the project; alternative means of carrying out the project that are technically and economically feasible and the environmental effects of any such alternative means; the need for, and the requirements of, any follow-up program with respect to the project; and the capacity of renewable resources that are likely to be significantly affected by the project to meet present and future needs.
39. CNSC staff has identified the environmental components that should be considered in the comprehensive study, which are most likely to be affected by the proposed project, and enumerated them in the draft EA Guidelines.
40. CNSC staff has also identified valued ecosystem components and stated that they had been chosen through consultation with northern residents and incorporating traditional and local knowledge. Northern Saskatchewan Environmental Quality Committee has actively contributed to the completion of the list of valued ecosystem components (VECs) through the public consultation process and by submitting an additional intervention.
41. The Commission is satisfied that the proposed factors are appropriate and meet the requirements of the CEAA.
42. The Commission considered the scope of the factors to be assessed as proposed by CNSC staff in the Scoping Document. The Commission notes that, should the EA continue as a comprehensive study, the proponent will be required to prepare an Environmental Impact Statement (EIS) following the approved EA Guidelines to be developed with input from both provincial and federal expert advisors. The EIS should contain a detailed description of activities and issues with respect to the scope of factors described in the following paragraphs.

*Spatial and Temporal Scope of the Project*

43. CNSC staff identified the impacts with respect to spatial and temporal boundaries that should be considered within this assessment. The list includes timing/scheduling of project activities; natural variations of a component on the population of an environmental component; the time necessary for an effect to become evident, taking into account the frequency of the effect as well as the time required for recovery from an impact including the estimated degree of recovery; cumulative effects; comments from the public; and traditional knowledge and land use.
44. CNSC staff noted that the proponent is required to clearly define the spatial boundaries and rationale for their definition. These boundaries should be defined for each valued ecosystem component. The geographic scope of the investigations shall include those local areas directly impacted by the undertakings associated with the project and zones within which there may be environmental effects that are regional or global in their nature.
45. CNSC staff indicated that the temporal scale of the assessment should encompass the entire lifespan of the project, and will include construction, operation (including maintenance and/or modifications) and decommissioning, reclamation and abandonment and completion of the fish habitat compensation plan.
46. The Commission sought more details on the anticipated life-span of the project. AREVA responded that a two-phased approach to the mining has been adopted. Mining activities are anticipated to last four years and milling would start in the second year of mining and last for five years. With decommissioning activities, the total life-span of the project is estimated to be eight to nine years.
47. Making a note on the large footprint of the open mine and excavation of the ore that is entirely under water, the Commission inquired into the broader impact of dewatering a large portion of the lake. The Commission also inquired about the status of the lake at the time of decommissioning and whether its original contour will be restored. AREVA responded that the final choice between the proposed Midwest site general layout options had not yet been made. The dewatered part of the lake would be used for restocking piles of the waste rock accumulated during the period of mining and milling. The pit would be allowed to flood, but would remain isolated from South McMahan Lake. The habitat loss would fall under the habitat protection policy of the Department of Fisheries and Oceans and the licensee would be compensating for the loss of habitat through that policy.
48. In order to get a better insight into the spatial aspect of the project, the Commission sought more information on the dedicated haul road and pipeline routes between the Midwest and McClean Lake sites. AREVA responded that the choice was narrowed from the originally considered four routes to two alternatives, one of which passes through a claimed Treaty Land Entitlement area. The final choice was postponed until the licensing stage, and both alternatives will be considered through the environmental assessment process.

*Project Description*

49. CNSC staff indicated that the EIS should contain description and characterization of those specific components and activities of the project that have the potential to interact with the surrounding environment under both normal operations and malfunctions and accidents. CNSC staff provided the Commission with the details of what the description and characterization of the components should encompass, including information on the mining development, the transportation corridor, waste management and the mining dispositions. CNSC staff stated that other issues or interests that could affect the acquisition of a disposition for the road alignment, including those of First Nations, should be discussed.
50. CNSC staff informed the Commission that Transport Canada – Navigable Waters Protection Program had indicated that it has an interest in the existing works concerning access roads, dam across Mink Arm and steel structures at the outlet of John’s Pond, as well as in the proposed work concerning dewatering a part of McMahon Lake, a new dam and new haul road and pipelines. A timely application to Transport Canada – Navigable Waters Protection Program with summary of details relevant to aforementioned areas of interest is required under the federal *Navigable Waters Protection Act*<sup>8</sup>.
51. The Commission inquired on the adequacy of the available information regarding geometry of the ore body and hydrogeology to fully understand the likely ingress of water and other important issues for dewatering a part of the lake and extracting the ore from the open pit. AREVA responded that it has collected sufficient information, accumulated during the long exploration period, which will enable it to understand and predict a realistic value for the expected water inflow. CNSC staff added that the results of the environmental assessment would be used to look at some of these issues as well.
52. The Commission further inquired about the estimation of the total amount of water that would be extracted and managed with special attention paid to the extreme situations such as one-in-100-year flood and to the uncertainty of such an estimate. AREVA responded that, taking into account the uncertainty associated with this kind of calculations, the whole range of values for estimated values had been established and that the design of the water treatment plant was based on the top end of that range. CNSC staff noted that the environmental assessment would require AREVA to provide information on mitigation measures and contingency plans to address accidents and malfunctions that would include unexpected water inflow.
53. The Commission stressed the safety aspects of the previously considered issues of dewatering, water ingress and potentially extreme effects of flooding, and placed them in the context of workers’ safety. The Commission encourages emergency management and emergency preparedness plans that would properly acknowledge risks to the employees.

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<sup>8</sup> R.S. 1985, c. N-22.

54. The Commission sought more information on the expansion of the JEB mill, its ability to accommodate all planned production in the area and its maximum capacity. AREVA responded that the planned maximum capacity of 27 million pounds per year is not yet in place at the site but could be reached through licensing. It was noted that this capacity represent an increase of less than 15 % to the capacity previously considered for the environmental assessment of project approved by the Joint Panel a decade ago. The capacity was planned for processing the ore from anticipated mining sites across the gravitating area. AREVA stated that the modifications to the Midwest Project were not essentially for the production increase, but rather required due to the different nature of the ore which has different constituents and leech differently from material coming from other mining sites.
55. In order to obtain a broader view of the project and to anticipate potential subsequent steps and operations, the Commission asked about the project's realistic scope and whether it takes into consideration potentially necessary modification activities. AREVA stated that it shares similar concerns regarding the efficiency of considering one project at a time versus a more comprehensive approach, especially for projects that require licence amendments and trigger an environmental assessment. AREVA informed the Commission that it has had a preliminary discussion with CNSC staff regarding planned and anticipated actions for the next decade, particularly on the anticipated conversion of the McClean Lake into a regional mill. However, AREVA noted the importance, in the short term, for the Midwest Project to move forward and the viability of this project in its own right.
56. The Commission expressed its concerns with potential cumulative effects of numerous projects taking place in northern Saskatchewan. The Commission also expressed its concerns whether a broader picture of cumulative effects could be captured by the individual project application approach, where environmental effects of each project is considered separately, but not as a whole, during a specific approval procedure. Such an approach, given the multitude of prospective projects, should be avoided by proponents and replaced by a more comprehensive approach that considers the impacts of proposed activities as a whole and the interdependence of individual projects. The Commission concluded that longer term and comprehensive planning would be preferable from both effectiveness and efficiency points of view. AREVA agreed that a more comprehensive approach is preferable when possible.

#### *Description of the Existing Environment*

57. CNSC staff defined the criteria for the contents and scope of the EIS regarding the description of the existing environment which may be reasonably affected by the project and allow an evaluation and prediction of the potential environmental effects of the project. The existing environment should describe the state of the receiving environment as affected by previously conducted and approved activities at each site. This description should contain an extensive environmental database that should

provide a sound basis for not only the environmental impact assessment of the project, but also the operational environmental monitoring and post-operational decommissioning, reclamation and abandonment.

58. CNSC staff further stated that according to the presented criteria, the description should include, besides the environmental database, climate, meteorology and air quality, a consideration of geology and hydrogeology, fish and fish habitat and terrestrial ecology. It should also include socio-economic environment, description of land and resource use with employment and training components and heritage resources.
59. CNSC staff noted that the EIS documentation should also include calculations of annual radiation exposures of employees, potential non-radionuclide hazards, details on programs to control worker radiation doses, an assessment of the impact of noise on workers, as well as additional information regarding gamma-radiation shielding, reassessment of the radiation exposures of workers related to the increased utilization of the grinding circuits and an overall reassessment of anticipated radiation exposures of workers given the various changes in the mill and the increased production.
60. The Commission inquired into potential influence of climate change on this project and on the availability of larger scale predictions for the purpose of the comprehensive study. AREVA stated that it was looking for the available updates relative to information already prepared by Environment Canada (EC) and that it will adjust its assessment of the effects of the environment on the project accordingly. CNSC staff informed the Commission on two models developed by EC that are being used for these types of assessment and noted that improvements are still needed regarding the modelling of long-term consequences. CNSC staff also noted that EC, as a federal authority for this project, will provide expertise as required, and referred to the Memorandum of Understanding between the CNSC and EC that comprises provision of technical support by EC's meteorology group.
61. The Commission inquired into the existence of the data on fish population and other biota in the lake. CNSC staff responded that it expects AREVA to develop an appropriate baseline to support the assessment and include the existing inventory of wildlife in the area. AREVA stated that the history of the baseline data collection for the Midwest Project dates back to the late 1970s and has been updated throughout the years in support of the original Joint Panel assessment of the project. Several updates have been done since, including data on water quality, fisheries, aquatic resources and terrestrial environment.

#### *Conclusion on the Scope of the Assessment*

62. Taking into consideration the information presented above, the Commission is satisfied that the assessment factors defined for this project and the scope of those factors have been adequately described in the EA Guidelines appended to the EA Track Report included in CMD 07-H9.

63. The Commission expects that the EA study will include more information on decommissioning and reclamation activities, particularly since this project has a relatively short life-span.
64. The Commission also expects that a more detailed information will be provided in the EA study about waste water management, taking into account hydrogeology and potential effects on the wider area, about topography of the bottom of the Mink Arm, and about dewatering of the Mink Arm and related activities, including additional reinforcement of the dam separating Mink Arm from the rest of the South McMahon Lake to provide a longer and more reliable separation of the flooded waste rock material from the rest of the lake. This will ensure an adequate assessment of the effects of the project on the environment.
65. The Commission is also required to report to the Minister of the Environment regarding the scope of the project, the factors to be considered in its assessment and the scope of those assessment factors. In this regard, the Commission is satisfied that all these components of the environmental assessment study have been adequately described in the *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project* appended to the EA Track Report included in CMD 07-H9.

### **Public Consultation**

66. Pursuant to subsection 21(1) of the CEAA, the Commission is required to ensure public consultation with respect to the proposed scope of the project for the purposes of the environmental assessment, the factors proposed to be considered in its assessment, the proposed scope of those factors and the ability of the comprehensive study to address issues relating to the project.
67. CNSC staff informed the Commission that it has established a public registry for the assessment as required by section 55 of the CEAA and that the information about the EA has been posted on the *Canadian Environmental Assessment Registry*.
68. Jointly with other RAs and the Province of Saskatchewan, CNSC staff has solicited and received comments during the development of the EA Guidelines document. The process of public participation, including consultations with First Nations and Métis, is reported in the EA Track Report. Appendix 1 of that document lists all the received comments, reviews how these comments have been addressed by staff from the joint RAs, and describes the revisions made to the EA Guidelines as a result of this consultation.
69. CNSC staff reported on the general approach taken for stakeholder consultations during the EA process to date. CNSC staff stated that a 33-day public comment period on the EA Guidelines was organized by the Environment and Assessment Branch of Saskatchewan Environment. Concurrently, an invitation for public

comment was posted on the CNSC Web site and the CEAR Web site, and advertisements were placed in newspapers. CNSC staff noted that the RAs have been aware that there has been ongoing consultation by the proponent with aboriginal communities in northern Saskatchewan. CNSC staff noted that the EA track report describes the consultation activities undertaken by the proponent and by CNSC staff during the past year.

70. The Commission sought more information on the process of consultation with the First Nations. AREVA responded that two meetings have been held with the Peter Ballantyne Cree Nation. The discussion included potential environmental interactions of the project with Peter Ballantyne Cree Nation comprising AREVA's intention to construct the road across land selected for Treaty Land Entitlement.
71. The Commission asked for more details on the relationships and schedule for the sale of the land through the Treaty Land Entitlement process. Legal Counsel for the Province of Saskatchewan informed the Commission that the timetable of the land selection depends on the First Nation, which needs to satisfy a number of conditions before the selected land could go to reserved status. It was noted, however, that one of the terms on which the province had made the land available for selection was that the province can grant access across this property for the purpose of accessing mineral deposits. The Commission concluded this query by noting that the main responsibility and authorities with regard to mineral rights rest with the province.
72. After consideration of the information and submissions of AREVA, CNSC staff and intervenors as presented in the material available for reference on the record, the Commission is satisfied that AREVA and CNSC staff consulted adequately with the public, First Nations and other interested stakeholders.
73. Taking into consideration the public consultations carried out by the proponent and CNSC staff in addition to the opportunity to participate in this public hearing, the Commission is therefore satisfied that the public, First Nations, Métis and other interested stakeholders have had adequate opportunity to become informed about the project and express any concerns on the scope of the assessment and the ability of the comprehensive study to address issues in relation to the project.
74. The Commission notes that the public consultations should be continued during the conduct of the federal comprehensive study and the public should have the opportunity to review and comment on the comprehensive study report, once it has been prepared. The Commission also expresses its opinion that broader public consultations with local communities, First Nations and Métis should be undertaken throughout the EA process.

## **Recommendation to the Minister of the Environment**

75. To make its recommendation to the Minister of the Environment on the continuation of the EA process going forward, the Commission considered public concerns in relation to the project, the potential adverse environmental effects of the project and the ability of the comprehensive study to address issues related to the project. These considerations are described in the following paragraphs.

### *Public Concerns in Relation to the Project*

76. As described in the *Public Consultation* section above, the Commission is satisfied that AREVA and CNSC staff consulted appropriately with the public, First Nations, Métis 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 related to the project. The Commission thus considered the public concerns received during the consultations held by AREVA and CNSC staff, as well as those submitted by the intervenors for this hearing.
77. CNSC staff reported several public concerns in relation to the proposed project, including the following:
- A request to include Barren Ground caribou, as well as Woodland caribou, in the VECs, because the dedicated haul road would be located on the fringes of migration routes for both species;
  - A concern with the application of ALARA to a proposal where high grade uranium ore is involved;
  - A concern with the difficulty in predicting the impact of natural events and climate change;
  - A request that risks posed by RA-226 and the loading capacity in aquatic receiving systems be considered in the near field, as well as the far field environment;
  - A request that the EIS address the influence of contaminants, especially radionuclides, on the benthic invertebrate community assemblage in the S/V TEMS, and on human health of workers and residents; and,
  - A request that safety measures for the use of the haul road be considered.
78. M. Shiell and E. Knight in their interventions requested that the comprehensive study should include a study of long-term effects of radium isotope Ra<sup>226</sup> and genetic damages in near and far fields potentially caused by this agent. CNSC staff responded that the EA Guidelines already include requirements for assessment of both chemicals and radionuclides. The use of updated methodology is anticipated and the assessment of radiation effects on biota, including radium, is specifically included.

79. CNSC staff submitted that many of the other issues raised by the public are also addressed in the EA Guidelines. The Commission agrees with CNSC staff and notes that these issues are also being addressed within the sections *Scope of the Project* and *Scope of the Assessment* of this *Record of Proceedings*.
80. E. Knight, M. Penna and J. Penna expressed concerns over the adequacy of the CNSC resources to conduct a comprehensive study and proposed a review panel instead. The intervenors were informed that the CNSC had significantly increased its resources in environmental assessment and protection.
81. Peter Ballantyne Cree Nation (PBCN) in its intervention discussed several aspects of the impact of the Midwest Project on their community. PBCN stated that the project would have a large influence on traditional use of resources and traditional lifestyle, and that mining is one of the modern developments with intense, widespread and long-lasting impacts. PBCN expressed its desire to share the benefits created by the exploitation of this non-renewable resource. Discussing the issues regarding interference with treaty land claims, PBCN stated that its experience had been that once development has been established in an area, the process to have the land claim settled becomes stalled and the market price of the land increases.
82. The Commission sought more information on whether the issues discussed by the PBCN had been brought to the attention of AREVA during public meetings organized with First Nations and whether AREVA has working committees dealing with First Nations on these issues. AREVA responded that issues, especially those with respect to employment, had been brought to its attention and explained how it continues to work toward resolving some of the issues. The Commission noted that a number of issues discussed in the intervention by PBCN were already included in the EA Track Report. The Commission expressed its expectations that through careful planning and cooperation with the Midwest and other anticipated projects, PBCN can find the way to share the benefits with other project participants.
83. M. Penna and J. Penna in their interventions expressed their concerns regarding safeguards and potential misuse of the exported Canadian uranium. The Commission stated that Canada, in close collaboration with the International Atomic Energy Agency, monitors potential diversion of uranium and any of its products to uses unauthorised by international obligations to which Canada has agreed.
84. J. Penna further expressed its concerns with global impact of uranium mining in Saskatchewan through contamination by release of radioactive particulates from open mines in the atmosphere, and questioned Canada's ability to monitor these releases. CNSC staff responded that the maps showing naturally occurring radiation and changes in radiation over Canada were developed by Natural Resources Canada by monitoring from air.

85. In its intervention, Northern Lights School Division No. 113 requested collaboration with the proponent of the Midwest Project in developing different pre-apprenticeship programs, on-going and progressive on-the-job training programs for residents of northern Saskatchewan and for participation in broader programs for development of the region. The Commission queried AREVA about general aspects of its involvement with the local communities and its role in local development. AREVA informed the Commission on its employment policy and intention to engage the local communities, and stated that it plans to follow up directly with the suggested activities.
86. The Commission is satisfied that the public concerns have been adequately described in the *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project* appended to the EA Track Report included in CMD 07-H9.

*Potential of the Project to Cause Adverse Environmental Effects*

87. In order to assess the potential of the project to cause adverse environmental effects, a preliminary assessment of the proposed project was completed by CNSC staff, Natural Resources Canada (NRCan), Transport Canada (TC), and Fisheries and Oceans Canada (DFO), as Responsible Authorities, with input from Environment Canada (EC) and Health Canada (HC), as Federal Authorities. The assessment was based on staff experience with the site, experience with assessments of similar projects (i.e., projects that dealt with uranium mine construction and operation), international experience, and knowledge of the project description.
88. CNSC staff has presented information with respect to the preliminary assessment, wherein it identified the potential adverse effects during each phase of the project (Site Preparation, Construction, Operations at Midwest site, Operations at McClean Lake site and Long Term Effects). The information also contained a preliminary assessment of health and safety impacts to workers and members of the public, for all phases of the project. CNSC staff noted that a detailed assessment of effects was not conducted due to it being at a very early stage in the EA.
89. CNSC staff stated that the results of this preliminary assessment were summarized by identifying potential environmental effects for the following assessed environmental components:
- Atmospheric environment;
  - Aquatic environment (including fish, fish habitat, aquatic invertebrates, aquatic vegetation, aquatic mammals and waterfowl);
  - Terrestrial environment (including birds, plants and mammals);
  - Geology, hydrology, hydrogeology and groundwater;
  - Human environment – health and safety (workers and members of the public); and

- Human environment – land and water use, cultural and aboriginal environment and economic conditions.

90. CNSC staff has also presented proposed mitigation measures for the identified potentially adverse environmental effects described for every phase of the project.
91. After consideration of the information presented in the material available for reference on the record, the Commission is satisfied that the potential of the project to cause adverse environmental effects has been properly addressed and adequately described in the EA Track Report included in CMD 07-H9.

*Ability of the Comprehensive Study to Address Issues Relating to the Project*

92. The Commission considered the information presented in the material available for reference on the record to determine the ability of the comprehensive study to address issues relating to the proposed project.
93. CNSC staff informed the Commission that the public was consulted on the ability of a comprehensive study to address issues relating to the project. The Northern Saskatchewan Environmental Quality Committee (NSEQC) indicated in its submission that it agreed with the comprehensive study process.
94. However, as reported in paragraph 79 of this *Record of Proceedings*, some intervenors requested for a referral to a panel review on the basis of the inadequacy of the CNSC resources to conduct a comprehensive study. The Commission notes that CNSC has significantly increased its resources in environmental assessment and protection and has the capacity and capability to ensure that a comprehensive study is adequately carried out.
95. Furthermore, the responsible authorities together with the federal authorities have stated during the preliminary assessment that they possess the experience and expertise in the environmental effects that would result from the open-pit mining of the Midwest ore deposit, the management of the wastewater, the milling of the ore, and the management of the tailings to competently manage the comprehensive study process for the proposed Midwest Project. It is their opinion that the issues raised in the environmental assessment can be addressed adequately in a comprehensive study process.
96. The Commission is satisfied that the information in the EA Track Report included in CMD 07-H9 adequately describes the ability of the comprehensive study to address issues relating to the project.

*Recommendation to the Federal Minister of the Environment*

97. Pursuant to paragraph 21(2)(b) of the CEAA, the Canadian Nuclear Safety Commission recommends to the Minister of the Environment that the environmental assessment of the project continues as a comprehensive study, on the basis of the determinations made above.

**Conclusion**

98. The Commission has considered the submissions of CNSC staff, AREVA and the intervenors as presented for reference on the record for the public hearing.
99. The Commission, pursuant to sections 15 and 16 of the CEAA, approves the *Project-Specific Guidelines and Comprehensive Study Scoping Document, Environmental Impact of the Midwest Project* appended to the EA Track Report included in CMD 07-H9.
100. Pursuant to subsection 21(1) of the CEAA, the Commission is satisfied that the public has had adequate opportunity to consider the proposed scope of the project for the purposes of the environmental assessment, the factors proposed to be considered in its assessment, the proposed scope of those factors and the ability of the comprehensive study to address issues relating to the project.
101. The Commission is also satisfied that there is sufficient information available to be able report to the federal Minister on the scope of project and the scope of the assessment; the public concerns in relation to the project; the potential of the project to cause adverse environmental effects; and the ability of the comprehensive study to address issues relating to the project, and to make a recommendation to the Minister on the EA track.
102. Thus, to fulfil its requirement to report to the Minister of the Environment pursuant to paragraph 21(2)(a) of the CEAA, the Commission will submit the EA Track Report *Proposed Midwest Uranium Mine Project* to the Minister of the Environment as set out in CMD 07-H9.

103. The Commission is of the opinion that the issues raised in the environmental assessment can be addressed adequately in a comprehensive study process and do not warrant a recommendation to the Minister of the Environment for his referral to a review panel.
104. Thus, to fulfil its requirement to make a recommendation to the Minister pursuant to paragraph 21(2)(b) of the CEAA, the Commission recommends to the Minister of the Environment that the environmental assessment of the project continue as a comprehensive study.

Linda J. Keen,  
President  
Canadian Nuclear Safety Commission

Date of decision: April 13, 2007  
Date of Signature: June 13, 2007

## Appendix A – Intervenors

Intervenors	Document Number
Northern Saskatchewan Environmental Quality Committee	CMD 07-H9.2 CMD 07-H9.2A
Maisie Shiell	CMD 07-H9.3
Eleanor Knight	CMD 07-H9.4
Marion Penna	CMD 07-H9.5
James Penna	CMD 07-H9.6
Peter Ballantyne Cree Nation, represented by R. Ray	CMD 07-H9.7
Northern Lights School Division No. 113, represented by R. Laliberté	CMD 07-H9.8