

# Record of Proceedings, Including Reasons for Decision

In the Matter of

Proponent      Zircatec Precision Industries Inc.

Subject        Environmental Assessment Guidelines for the  
Proposed SEU CANDU Fuel Production at  
Zircatec's Port Hope Facility

Public Hearing      June 22, 2007  
Date

**RECORD OF PROCEEDINGS**

Proponent: Zircatec Precision Industries Inc.

Address/Location: 200 Dorset Street East, Port Hope, Ontario L1A 3V4

Purpose: Environmental Assessment Guidelines for the proposed SEU CANDU fuel production at Zircatec's Port Hope facility

Date of hearing: June 22, 2007

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

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

Secretary: K. McGee  
Recording Secretary: M. Young  
General Counsel: S. Maislin Dickson

<b>Proponent Represented By</b>		<b>Document Number</b>
<ul style="list-style-type: none"><li>• A. Oliver, Vice- President</li><li>• M. Longinov, Manager of Occupational Health and Radiation Safety</li></ul>		CMD 07-H15.1
<b>CNSC staff</b>		<b>Document Number</b>
<ul style="list-style-type: none"><li>• P. Thompson</li><li>• K. Francis</li></ul>	<ul style="list-style-type: none"><li>• S. Lei</li><li>• H. Rabski</li></ul>	CMD 07-H15
<b>Intervenors</b>		
See appendix A		

**Date of Release of Decision:** August 3, 2007

## Table of Contents

<b>Introduction</b> .....	1
<b>Decision</b> .....	3
<b>Issues and Commission Findings</b> .....	3
<b>Type of Environmental Assessment Required</b> .....	3
<i>Screening vs. Comprehensive Study, Review Panel or Mediation</i> .....	3
<b>Consultations on the Draft EA Guidelines</b> .....	4
<i>Public Consultation</i> .....	4
<i>Government Consultation</i> .....	5
<i>Conclusion on the EA Guidelines Consultation</i> .....	5
<b>Process for Environmental Assessment Screening Report</b> .....	6
<b>Scope of the Project</b> .....	6
<b>Scope of the Assessment</b> .....	7
<i>Conclusion on the Scope of the Assessment</i> .....	9
<b>EA Structure and Approach</b> .....	9
<b>Public Concern on the Project</b> .....	10

## Introduction

1. Zircatec Precision Industries Inc. (Zircatec) has notified the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC) of its intention to produce a new product, the SEU CANDU CANFLEX fuel bundle, containing approximately 1% Uranium-235 (U-235) slightly enriched uranium oxide (SEU) at its facility in Port Hope, Ontario. The proposal involves the addition of a new production line at the existing facility to meet the changing needs of CANDU fuel customers.
2. The CANFLEX fuel bundle consists of 43 elements of two different diameters and contains SEU and natural uranium blended with dysprosium oxide, which is a non-toxic and non-radioactive material that absorbs neutrons. SEU powder and the blended dysprosium oxide/uranium oxide powder (BDU) will be supplied to Zircatec through Cameco Corporation, and shipped directly from the supplier to Zircatec.
3. Zircatec proposes to build and operate two new lines within the existing facility to produce the two types of nuclear fuel components (SEU and BDU).
4. Before the Commission is able to make licensing decisions 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), make a decision on an environmental assessment (EA) of the proposal. The Commission is the sole Responsible Authority for the EA<sup>4</sup>.
5. In carrying out this responsibility under the CEAA, the Commission must first 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 Guidelines document (EA Guidelines) in consultation with other government departments, the public and other stakeholders. The draft EA Guidelines [*Proposed EA Guidelines (Scope of Project and Assessment), Environmental Assessment of the Proposed SEU (with BDU) CANDU Fuel Production, at Zircatec Precision Industries Inc.'s Port Hope Facility in Port Hope, Ontario*] 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-H15.

---

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

### Issues

6. In considering the EA Guidelines, the Commission was required to decide, pursuant to subsections 15(1) and 16(3) of the CEEA 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.
7. The Commission also considered whether it would, at this time, recommend to the federal Minister of the Environment, pursuant to section 25 of the CEEA, to refer the project to a mediator or a review panel.
8. The Commission considered whether it would, pursuant to subsection 17(1) of the CEEA, delegate the conduct of technical support studies to Zircatec.
9. Furthermore, the Commission undertook to decide whether or not the Commission's consideration of the completed EA Screening Report (Screening Report) would be by way of a public or closed hearing held by the Commission.

### Public 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 Commission permits interventions in regard to EA Guidelines in exceptional circumstances. Given the public interest in the matter of the SEU production in the Port Hope area, written interventions were permitted.
12. In making its decision, the Commission considered information presented for a public hearing held on June 22, 2007 in Ottawa, Ontario. The hearing was conducted in accordance with the Commission's process for determining matters under the CEEA. During the hearing, the Commission received written submissions from CNSC staff (CMD 07-H15) and Zircatec (CMD 07-H15.1). The Commission also considered written submissions from three intervenors (see Appendix A for a detailed list of interventions).

## Decision

13. 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, pursuant to sections 15 and 16 of the CEAA, approves the *Proposed EA Guidelines (Scope of Project and Assessment), Environmental Assessment of the Proposed SEU (with BDU) CANDU Fuel Production, at Zircatec Precision Industries Inc.'s Port Hope Facility in Port Hope, Ontario*.

14. The Commission decides that it will not, at this time, refer the project, pursuant to section 25 of the CEAA, to the federal Minister of the Environment for his referral to a mediator or review panel. The Commission notes that it may make such a referral at any time during the course of the EA process if warranted.
15. Pursuant to subsection 17(1) of the CEAA, the Commission decides that it will delegate the conduct of technical support studies to the proponent, Zircatec.
16. The Commission also decides that it will consider the completed EA Screening Report in the context of a public hearing of the Commission.

## Issues and Commission Findings

### Type of Environmental Assessment Required

#### *Screening vs. Comprehensive Study, Review Panel or Mediation*

17. The proposed project is not of a type identified in the *Comprehensive Study List Regulations*<sup>5</sup>. Therefore, pursuant to subsection 18(1) of the CEAA, the CNSC is required to ensure that a screening EA of the project is performed and a Screening Report is prepared before the Commission can make a licensing decision under the NSCA to allow the project to proceed in whole or in part.
18. Other available types of assessment under the CEAA are a review panel or mediation appointed by the federal Minister of the Environment. To initiate either of these alternative assessment processes, the Commission would need to refer the project to the Minister pursuant to section 25 of the CEAA. In this regard, CNSC staff stated in its submissions that it is not aware at this time of any potentially significant environmental effects or public concern associated with this project which, in its opinion, would warrant having the project referred to a mediator or review panel.

---

<sup>5</sup> S.O.R./94-638.

19. Based on the information received, the Commission concludes that a screening EA of the project is required pursuant to the CEAA.
20. The Commission further decides that, at this time, it will not request that the Minister of the Environment refer the project to a mediator or a review panel. However, because the Commission may make such a referral at any time under section 25 of the CEAA, the Commission requests that CNSC staff inform the Commission in a timely manner of any significant issues or public concerns that arise during the conduct of the EA and which may warrant further consideration of the need for a review panel or mediator.

### **Consultations on the Draft EA Guidelines**

21. As part of its review of the adequacy of the draft EA Guidelines and, in particular, to assess the level of public concern about the project for the purpose of considering the aforementioned options for mediation or review panel, the Commission took account of the views of the public and other stakeholders. In this regard, the Commission considered whether the consultations carried out thus far by CNSC staff and the proponent provided the public and other stakeholders with adequate opportunity to become informed and express their views about the EA. The Commission also considered the written interventions submitted for this hearing.

#### *Public Consultation*

22. With respect to public consultation on the draft EA Guidelines, CNSC staff reported that it had established a public registry for the assessment as required by section 55 of the CEAA, including the identification of the EA in the Canadian Environmental Assessment Registry.
23. CNSC staff reported that it provided the public with an opportunity to comment on the draft EA Guidelines from February 1, 2007 to March 9, 2007. CNSC staff stated that an open house was held in Port Hope on February 12, 2007, where presentations were made by Zircatec and CNSC staff to outline the proposed project and EA process, provide an overview of the draft EA Guidelines and answer questions. In addition, CNSC staff stated that copies of the project description and the draft EA Guidelines were mailed to stakeholders.
24. Zircatec noted that it regularly holds public forums to describe different aspects of its operations and related information, and it encourages questions and participation from the public. Zircatec added that it also provides tours of the facility in order to provide information to the public.

*Government Consultation*

25. CNSC staff reported that, in accordance with the *CEAA Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements*<sup>6</sup>, CNSC staff has consulted on the draft EA Guidelines, and will continue to consult during the course of the EA, with the relevant Federal Authorities (Health Canada, Environment Canada and Natural Resources Canada). CNSC staff noted that no other federal departments identified themselves as Responsible Authorities for the EA, or as expert Federal Authorities for the purpose of providing technical assistance.
26. CNSC staff stated that it has also consulted the Ontario Ministry of the Environment (OMOE), which has confirmed that the Ontario *Environmental Assessment Act*<sup>7</sup> does not apply to the proposed project. The OMOE provided comments on the EA Guidelines, however, and CNSC staff stated that it will consult with OMOE, as necessary, throughout the EA process.
27. Intervenors expressed concern because Health Canada stated that it did not review the EA Guidelines. The Commission sought further information in this regard. CNSC staff responded that although Health Canada did not review the EA Guidelines, Health Canada stated that as long as all aspects of human health are included in the guidelines, including air quality, noise, drinking water quality, radiation exposure, socio-economic and First Nation health, then it has no comments. CNSC staff stated that it responded to Health Canada confirming that those items were included in the EA guidelines. CNSC staff confirmed that Health Canada would review the draft Screening Report when it becomes available, as requested by Health Canada.
28. The Commission asked if the Ontario Ministry of Health and Long-Term Care had been contacted or received information concerning the proposed project. CNSC staff responded that the Ontario Ministry of Health and Long-Term Care did not receive the draft EA Guidelines.

*Conclusion on the EA Guidelines Consultation*

29. CNSC staff noted that all comments received during the above consultations were taken into consideration in the preparation of the draft EA Guidelines. Information on the disposition of each comment was attached to CMD 07-H15 as Attachment 2 (Federal Authorities) and Attachment 4 (Public).

---

<sup>6</sup> S.O.R./97-181.

<sup>7</sup> R.S.O. 1990, c.E18.

30. The Commission is satisfied that the public and other stakeholders have been adequately consulted during the preparation of the draft EA Guidelines. The Commission is satisfied that CNSC staff has taken an active role in consulting the public. The Commission is satisfied that, for the purpose of considering whether to refer the project to the Minister for a review panel or mediation, it has sufficient information to assess the current level and nature of public concern about the project.
31. The Commission recommends that the Ontario Ministry of Health and Long-Term Care have an opportunity to be involved in the EA process for this project.

### **Process for Environmental Assessment Screening Report**

32. The Commission determines the process to be followed with respect to the EA Screening Report, including whether the EA Screening Report would be reviewed in the context of a public hearing of the Commission.
33. CNSC staff recommended that the EA Screening Report be considered by the Commission in the context of a public hearing.
34. Based on CNSC staff's recommendation and considering the level of public interest for this project, the Commission decides that the EA Screening Report for this project will be reviewed in the context of a public hearing.

### **Scope of the Project**

35. "Scope" under the CEAA is expressed in two parts: the *scope of the project* (i.e., the physical works and activities proposed) and the *scope of assessment* (i.e., the scope of the factors to be considered in assessing the effects of the project). This section addresses only the issues relating to the *scope of the project*. The issues related to the *scope of assessment* are discussed below in the section entitled Scope of the Assessment.
36. CNSC staff explained that in establishing the scope of a project for a screening EA under the CEAA, the physical works (i.e., facilities) that are involved in the proposal and any specific undertaking that will be carried out in relation to those physical works must be determined. CNSC staff stated that the physical works involved in this project are the storage arrangements for the feed material and the final products, the SEU and BDU processing lines, and the waste recovery facilities. CNSC staff further stated that the undertakings in relation to the physical works are all facilities, systems and activities required for the construction and operation of the physical works.

37. CNSC staff noted that while a decommissioning plan will be included in the assessment, it will be preliminary in nature and decommissioning plans are not within the scope of the EA.
38. CNSC staff included in the draft EA Guidelines a list of associated operations and activities that are within the scope of the proposed project, including preparation and construction activities and operation of the SEU and BDU nuclear fuel processing lines.
39. Zircatec stated that the new project will not require any expansion of the existing facility; will be completed within the requirements of currently licensed activities, operation, limits and protective programs; will not require significant changes to currently existing radiological and chemical protection as the manufacturing process is the same for natural fuel bundles and enriched fuel bundles; will not require increases in total fuel bundles from uranium oxide production rates; will not increase environmental emission rates; and will work with current Action Levels as detailed in current licensing documentation.
40. The Commission asked if CNSC staff concurred with Zircatec's project description and the effect that the changes would have. CNSC staff stated that it did.
41. The Commission inquired about the details of the operation of the SEU and BDU processing lines and whether the items listed in the EA Guidelines comprised the entire process. CNSC staff responded that the processes listed outline the various key unit operations that will be part of the new fuel line. CNSC staff explained that the processes listed outline the steps essential for producing the natural fuel that is presently licensed and produced by the Zircatec facility.
42. Based on the information received, the Commission accepts CNSC staff's recommendations concerning the *scope of the project* and approves the definition of the project scope as set out in Section 7.0 of the draft EA Guidelines without change.

### **Scope of the Assessment**

43. The other part of "scope" under the CEAA is the *scope of the assessment* – otherwise described in the CEAA as the scope of the factors that will be considered in assessing the environmental effects of the project.
44. The scope of a screening EA under the CEAA must include the factors set out in paragraphs 16(1)(a) to (d) of the CEAA. Other factors may be included at the discretion of the Commission under paragraph 16(1)(e) of the CEAA.
45. The mandatory factors in subsection 16(1) of the CEAA are: the environmental effects of the project, including the environmental effects of malfunctions or

accidents that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out; the significance of these effects; the comments from the public that are received in accordance with the CEAA and its regulations; and measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project.

46. As allowed by paragraph 16(1)(e) of the CEAA, CNSC staff recommended that the CNSC would also require consideration of the purpose of the project and the need for the project, and the need for, and requirements of, a follow-up program in respect of the project.
47. CNSC staff noted that additional or more specific factors or issues to address in the EA may be identified following consultation with the expert Federal Authorities and other stakeholders during the conduct of the EA.
48. The Commission asked if aspects of climate change and floodplain studies had been taken into consideration for the scope of the assessment. CNSC staff responded that the effects of climate change will be considered, using guidance from Environment Canada. CNSC staff further added that the local floodplain information will be available for the EA.
49. The Commission asked if there are any First Nations land claims in the vicinity of the facility in Port Hope. Zircatec responded that it is not aware of any land claims but it has been in touch with the five First Nations bands that have expressed some interest in the region. Zircatec stated that it will keep the First Nations bands informed throughout the EA process.
50. The Commission inquired about non-radioactive gases that are generated by the facility and how they would be incorporated into the assessment. CNSC staff replied that Zircatec has produced a risk assessment document that identifies all of the hazardous substances, as well as the radioactive substances, that are released into the environment. CNSC staff stated that Zircatec developed an inventory of these sources that will be used as a basis for the Screening Report for this assessment.
51. The Commission asked if there have been any changes in the information available for the assessment of public health. CNSC staff responded that the scientific basis and understanding of the effects of radiation exposure on people's health has not changed. CNSC staff stated that the available information concerning the exposure of workers and members of the public, as well as potential health effects, has not changed. CNSC staff stated that the available information is sufficient to undertake the EA.

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

52. Based on the above information and considerations, the Commission concludes that the *scope of the assessment*, as described in section 9 of the draft EA Guidelines, is appropriate for the purpose of the environmental assessment of the proposed project.

### **EA Structure and Approach**

53. CNSC staff included in the EA Guidelines an extensive structure for the Screening Report. CNSC staff stated that the Screening Report would serve as a framework for explaining how the assessment factors are to be systematically considered in the screening EA. CNSC staff noted that the Screening Report would include the following sections:
- Project Description,
  - Construction and Normal Operations,
  - Malfunctions and Accidents,
  - Preliminary Decommissioning Plan,
  - Description of the Existing Environment,
  - Spatial and Temporal Boundaries,
  - Assessment and Mitigation of Environmental Effects,
  - Assessment of Effects Caused by the Project,
  - Assessment of the Effects of the Environment on the Project,
  - Assessment of Cumulative Effects,
  - Assessment of the Effects on the Capacity of Renewable and Non-renewable Resources,
  - Significance of the Residual Effects,
  - Stakeholder Consultation, and
  - Follow-up Program.
54. CNSC staff summarized the methodology of the assessment of the effects caused by the project. CNSC staff stated that this methodology is performed by following these four steps: identify interactions between the project and the environment, describe the resulting changes that might occur, describe potential mitigation measures and describe residual environmental effects that will likely occur.
55. The Commission inquired about the extent to which these four steps are necessary for the EA. CNSC staff responded that the four items describe the process for all screening EAs. CNSC staff noted that a table of likely interactions between the project and environmental components was included with the proposed EA guidelines as Appendix B.

56. Based on the above information and considerations, the Commission is satisfied that the structure, approach, and other instructions for conducting the EA, as described in the EA Guidelines attached to CMD 07-H15, are acceptable.

### **Public Concern on the Project**

57. CNSC staff reported that comments were received from stakeholder groups and members of the public. CNSC staff stated that the key issues raised included the following:
- a screening EA is not adequate for the project and a comprehensive study or review panel would be more appropriate;
  - concerns about accidents and malfunctions and emergency response capabilities;
  - requests that the EA include new health studies for workers and the public;
  - concerns about the floodplain, including groundwater issues;
  - requests that fugitive emissions at the facility be included in the EA; and
  - concerns surrounding the transportation of the powder and the final product.
58. CNSC staff included in its submission a list of all comments received and the manner in which they are addressed in the EA Guidelines, including the changes to the draft EA Guidelines, as necessary.
59. Some intervenors expressed concerns whether the public comments were appropriately addressed by CNSC staff.
60. The Commission requested further comment on the changes that were made to the EA Guidelines as a result of comments from stakeholders. CNSC staff noted that changes were made in response to comments about storms and flooding, as well as comments about the delegation of technical studies and the wording concerning predicted doses to workers and the members of the public. CNSC staff stated that the changes included specifying tornadoes and flooding in the section Assessment of the Effects of the Environment on the Project; indicating that an Environmental Assessment Study report will not be requested from Zircatec, but delegation under section 17(1) of the CEAA will be exercised for the purpose of any required technical study in the section Delegation of Assessment Studies to Zircatec; and including predicted doses to members of the public in the list of information considered in the section Construction and Normal Operations.
61. The Commission asked Zircatec if it was under the impression that the public understands the technical nature of the project and SEU. Zircatec responded that the project has been explained in detail to those who have attended the information sessions and Zircatec is of the opinion that the project is understood by the public. Zircatec stated that it is aware of the public's concerns and is of the view that it is addressing them adequately.

62. The Commission notes that the issue of health is a provincial jurisdiction, and the CNSC would consider participating in studies initiated by others on a case-by-case basis. For the purpose of the EA, the Commission is satisfied that health aspects are included in the EA Guidelines.
63. Based on the above information and considerations, the Commission is of the opinion that the concerns regarding the project, as expressed by the intervenors and summarized in this section, have been properly responded to by CNSC staff in the EA Guidelines.

### **Conclusion**

64. The Commission has considered the submissions of CNSC staff as presented for reference on the record for the hearing.
65. The Commission, pursuant to sections 15 and 16 of the CEAA, approves the *Proposed EA Guidelines (Scope of Project and Assessment), Environmental Assessment of the Proposed SEU (with BDU) CANDU Fuel Production, at Zircatec Precision Industries Inc.'s Port Hope Facility in Port Hope, Ontario*, presented in CMD 07-H15.
66. The Commission also concludes that, at this time, it will not refer the project to the federal Minister of the Environment for referral to a mediator or review panel in accordance with the provisions of the CEAA.
67. The Commission decides that, pursuant to subsection 17(1) of the CEAA, the conduct of technical support studies will be delegated to Zircatec.
68. Furthermore, the Commission decides that the completed EA Screening Report will come before the Commission for approval at a public hearing.
69. The Commission also recommends that the Ontario Ministry of Health and Long-Term Care have an opportunity to be involved in the EA process for this project.

Linda J. Keen,  
President  
Canadian Nuclear Safety Commission

Date of release of Reasons for Decision: August 3, 2007

## Appendix A – Intervenors

Intervenors	Document Number
Sanford Haskill	CMD 07-H15.2
Port Hope Community Health Concerns Committee	CMD 07-H15.3
Families Against Radiation Exposure	CMD 07-H15.4