



Canadian Nuclear  
Safety Commission

Commission canadienne  
de sûreté nucléaire

## Record of Decision

In the Matter of

**Applicant** Canadian Nuclear Laboratories

**Subject** Decision on the Scope of Environmental Assessments for Three Proposed Projects at Existing Canadian Nuclear Laboratories' Facilities

**Date of Decision** March 8, 2017

## **RECORD OF DECISION**

Applicant: Canadian Nuclear Laboratories

Address/Location: Chalk River Laboratories, 286 Plant Road, Chalk River,  
Ontario, K0J 1J0

Purpose: Commission Decision on the Scope of Environmental  
Assessments for three proposed projects at existing  
Canadian Nuclear Laboratories' facilities

Project descriptions  
received: July 5, 2016

Date of decision: March 8, 2017

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

Members present: M. Binder, Chair

**Decision: EA Scope Determination**

## Table of Contents

<b>1.0 INTRODUCTION</b> .....	1
<b>2.0 DECISION</b> .....	1
<b>3.0 ISSUES AND COMMISSION FINDINGS</b> .....	2
3.1 Type of Environmental Assessment Required.....	2
3.2 Consultations on the Scope of the EAs.....	3
<i>Public and Aboriginal Consultation</i> .....	3
<i>Federal Authorities and Provincial Interest</i> .....	3
<i>Public Participation and Participant Funding</i> .....	4
3.3 Scope of the Environmental Assessment.....	4
<i>Project Scope</i> .....	4
<i>Scope of the Factors to be Considered</i> .....	6
3.4 Preparation of the Environmental Impact Statement.....	7
<b>4.0 CONCLUSION</b> .....	7

## 1.0 INTRODUCTION

1. Canadian Nuclear Laboratories (CNL) has submitted three project descriptions to the Canadian Nuclear Safety Commission<sup>1</sup> (CNSC). For each of the three projects, Environmental Assessments (EAs) are required and this decision reflects the Commission's decision on the scope of these three EAs.
  - Nuclear Power Demonstration closure project (NPD project) at the NPD waste facility near Rolphton, ON
  - Near Surface Disposal Facility (NSDF project) at Chalk River Laboratories (CRL), ON
  - *In situ* decommissioning of the Whiteshell Reactor #1 (WR-1 Decommissioning project) at Whiteshell Laboratories, MB
2. Before the Commission can consider authorizing the licensing of the proposed projects pursuant to the *Nuclear Safety and Control Act*<sup>2</sup> (NSCA), the Commission must, in accordance with the requirements of the *Canadian Environmental Assessment Act, 2012*<sup>3</sup> (CEAA 2012), make decisions on the EA of each proposal.
3. CEAA 2012 applies to all three projects as they are considered “designated projects” in accordance with paragraph 37(b) of the *Regulations Designating Physical Activities*.
4. Under section 15 of CEAA 2012, the CNSC is considered to be the Responsible Authority (RA) for these proposed projects, and is first required to make a decision on the scope of the factors to be assessed in the EA for each individual project.

### Issue

5. In considering the EA Guidelines, the Commission was required to decide, pursuant to paragraphs 19(1)(a) to (h) of CEAA 2012:
  - a) the *scope of the factors* to be taken into consideration in the conduct of the EA of each project
6. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission to make this decision. The Commission, in making its decision, considered the written submission from CNSC staff (CMD 17-H100).

## 2.0 DECISION

7. Based on its consideration of the matter, as described in more detail in the following

---

<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> Statutes of Canada (S.C.) 1997, chapter (c.) 9.

<sup>3</sup> S.C. 2012, c. 19, s. 52.

sections of this *Record of Decision*,

the Commission, pursuant to section 19 of CEAA 2012, determines the scope of the factors for the EA for each of the proposed projects to include the factors mandated in paragraphs 19(1)(a) to (h) of CEAA 2012, with no additional factors.

8. The Commission decides that CNL is to consider the Guidelines for information and requirements on identifying valued components and spatial and temporal boundaries, and engage Indigenous groups and the public on these topics. Furthermore, the Commission has determined that CNL is to consider the longest period of potential effects when defining temporal boundaries, as outlined in section 5.2.2 of the Guidelines.

### **3.0 ISSUES AND COMMISSION FINDINGS**

#### **3.1 Type of Environmental Assessment Required**

9. The Commission notes that CNSC staff reviewed the three project descriptions and the proposed activities pertaining to each proposed project and is of the opinion that CEAA 2012 applies to all three projects in accordance with paragraph 37(b) of the *Regulations Designating Physical Activities*<sup>4</sup>. The Commission agrees and notes that each of the three projects requires an EA under CEAA, 2012.
10. The Commission recognizes that the *Generic Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012*<sup>5</sup> (the Guidelines) apply to the proposed projects. The Guidelines provide proponents with the information required for the preparation of their technical studies, including sufficient guidance on the scope of the factors to be considered in the EAs.
11. Pursuant to section 22 of CEAA 2012, the CNSC as the RA with respect to the designated projects must ensure that:
  - (a) *an environmental assessment of the designated project is conducted*
  - (b) *a report is prepared with respect to that environmental assessment*

---

<sup>4</sup> SOR/2012-147

<sup>5</sup> Canadian Nuclear Safety Commission – *Generic Guidelines for the Preparation of an Environmental Impact Statement Pursuant to the Canadian Environmental Assessment Act*, May, 2016.

### 3.2 Consultations on the Scope of the EAs

#### *Public and Aboriginal Consultation*

12. The Commission recognizes that the common law duty to consult with Aboriginal<sup>6</sup> groups applies when the Crown contemplates actions that may adversely affect potential or established Aboriginal and/or treaty rights. The CNSC ensures that all of its licensing and EA decisions under CEAA 2012 and the *Nuclear Safety and Control Act* (NSCA) uphold the honour of the Crown and consider Aboriginal peoples' potential or established Aboriginal and/or treaty rights pursuant to section 35 of the *Constitution Act, 1982*.
13. The Commission notes that CNSC staff identified Indigenous groups who may have an interest in each project, and that each identified group was provided with the project descriptions, notice of the commencement of the EAs, and the opportunity to apply for participant funding. The Commission also notes that CNSC staff provided a list of Indigenous groups that provided submissions during the project description review.
14. The Commission recognizes that CNL has completed preliminary Aboriginal engagement reports for each project. The Commission notes that CNL has committed to notifying CNSC staff of any concerns raised by Indigenous groups with respect to any impact on potential or established Aboriginal and/or treaty rights, as well as any proposed measures to address concerns raised.
15. CNSC staff indicated its view that the preliminary Aboriginal engagement work conducted by CNL is satisfactory. CNSC staff would continue to monitor CNL's progress throughout the regulatory review process to ensure compliance with the requirements of REGDOC-3.2.2, *Aboriginal Engagement*<sup>7</sup>, and CEAA 2012. The Commission concurs with CNSC staff and is satisfied with the work performed by CNL on this matter. The Commission is also satisfied of the consultation and engagement activities conducted by CNSC staff at this time.

#### *Federal Authorities and Provincial Interest*

16. The Commission recognizes that CNSC staff notified all relevant federal authorities as per section 20 of CEAA 2012, as well as all relevant provincial authorities in the affected provinces (Ontario, Manitoba, Quebec) with respect to the three proposed projects. The Commission also notes that federal authorities all indicated that they possess specialist knowledge with respect to these projects and expertise that could be drawn upon during the EAs. The Commission further notes that the province of Manitoba expressed interest in receiving regular updates on the EA for the WR-1 decommissioning project, and that

---

<sup>6</sup> "Aboriginal" is the term used in this document when referring to the Crown's duty to consult as that is the term used in S. 35 of the *Constitution Act, 1982*. In all other cases, "Indigenous" is the preferred terminology and used accordingly.

<sup>7</sup> Canadian Nuclear Safety Commission Regulatory Document – REGDOC-3.2.2, *Aboriginal Engagement*, February 2016.

the provinces of Ontario and Quebec did not provide a response with respect to the NSDF and NPD projects.

#### *Public Participation and Participant Funding*

17. The Commission recognizes that section 24 of CEAA 2012 requires that the public be provided with an opportunity to participate in the EA, and under section 58 of CEAA 2012, a responsible authority must establish a participant funding program. Under paragraph 21(1)(b) of the NSCA, the CNSC has the authority to provide participant funding through its own participant funding program.
18. The Commission notes that the submissions from the public and Indigenous groups included questions and commentary about the projects, the project descriptions, engagement efforts and the EA process. The Commission concurs with the responses provided by CNSC staff to members of the public and the Indigenous groups, and further notes that the detailed responses from CNSC staff would be distributed to all commenters after the decision on the scope of the factors for the EAs has been made.
19. The Commission recognizes that future public participation opportunities for each project will include a public comment period on the draft Environmental Impact Statement (EIS), a further opportunity to comment on CNSC staff's EA Report and Commission member documentation, as well as participation in the EA and licensing public hearing process.
20. The CNSC offered up to \$100,000 per project to assist members of the public, Indigenous groups and other stakeholders in participating in the EA, licence application review and Commission hearing processes. Based on recommendations from an independent funding review committee, the CNSC awarded participant funding in respect of the three projects for the following amounts:
  - \$124,824.79 for the NSDF project
  - \$154,430.64 for the NPD project
  - \$158,149.50 for the WR-1 Decommissioning project

### **3.3 Scope of the Environmental Assessment**

#### *Project Scope*

21. The Commission notes that CNL included direct and ancillary activities in its project descriptions, which are summarized below.
22. The NPD project pertains to the NPD waste facility, which is a former nuclear generating station that operated until 1987 and contains various structures, landfills, buried utilities and drainage facilities. The NPD waste facility is currently in a "storage with surveillance" phase of decommissioning under a Waste Facility Decommissioning

Licence issued by the Commission in 2014. The following activities are proposed for this project:

- assembly and operation of a batch mixing plant on site to produce grout (for the purposes of these projects, grout means a site-specific material mix, often cement-based, and structurally stable material, which will be used to seal and isolate the waste sources), including use of water tanks, piping, power, stockpiling materials and constructing settling ponds for equipment wash out
- grouting of below-grade (underground) structures and systems (including the reactor vessel)
- removal of above-grade structures for use as backfill within the below-grade structure
- installation of concrete cap and engineered barrier over the grouted structure
- final site restoration
- long-term care and maintenance activities

23. The NSDF is a proposed engineered disposal facility for radioactive waste at the CRL site. The NSDF is planned to have an operating life of at least 50 years during which radioactive waste is to be emplaced in the facility. This waste consists of low-level waste, intermediate-level waste and mixed wastes (radioactive waste that also contains hazardous substances). No high-level waste and no nuclear fuel is to be placed in the proposed NSDF. The NSDF would have a disposal capacity of approximately 1 million m<sup>3</sup>. The NSDF would be an engineered mound built at near surface level on the CRL site. The engineered mound would be cellular, made up of multiple disposal cells consisting of:

- base liner and final cover systems
- leachate collection and leak detection systems
- environmental monitoring systems
- supporting infrastructure
- security systems

The proposed project would also include a wastewater treatment plant and supporting infrastructure such as a truck wheel wash, vehicle monitoring and weighing stations, work stations and change facilities, security systems to monitor access and egress, construction trailers, and marine containers or tents for storage of construction materials.

24. The WR-1 Reactor is a former nuclear research reactor that operated until 1985. The following activities are being proposed for this project:

- preparation for *in situ* decommissioning
- assembly of a temporary batch mixing plant on site (if required, otherwise use of a local grout supplier to prepare and transport grout to the site)
- grouting of below-grade (underground) structures and systems (including the reactor vessel)
- removal of above-grade structures and systems for use as backfill within the



- below-grade structure
- installation of engineered cover over the grouted structure
- final site restoration
- long-term care and maintenance activities
- additional temporary infrastructure
- additional groundwater monitoring wells

Some temporary infrastructure would also be required in order to facilitate decommissioning. Additional groundwater monitoring wells would be installed, as required, to monitor the performance of the in situ decommissioned facility. CNL is currently decommissioning the Whiteshell site under a Nuclear Research and Test Establishment Decommissioning Licence, which expires on December 31, 2018.

25. The Commission concurs with CNSC staff that the project components and activities listed in each project description, as detailed in CMD 17-H100, are appropriate.

*Scope of the Factors to be Considered*

26. The Commission acknowledges that all three EAs are required to take into account subsection 19(1) factors of CEEA 2012:
- a) *the environmental effects of the designated project, including the environmental effects of malfunctions or accidents that may occur in connection with the designated project and any cumulative environmental effects that are likely to result from the designated project in combination with other physical activities that have been or will be carried out*
  - b) *the significance of the effects*
  - c) *comments from the public*
  - d) *mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project*
  - e) *the requirements of the follow-up program in respect of the designated project*
  - f) *the purpose of the designated project*
  - g) *alternative means of carrying out the designated project that are technically and economically feasible and the environmental effects of any such alternative means*
  - h) *any change to the designated project that may be caused by the environment*
  - i) *the results of any relevant study conducted by a committee established under*

*section 73 or 74*

- j) *any other matter relevant to the EA that the responsible authority, or – if the EA is referred to a review panel – the Minister, requires to be taken into account*

27. The Commission recognizes that paragraph i) does not apply to the three proposed CNL EAs as there are no relevant regional studies conducted by a committee established by the Minister to consider.
28. The Commission notes that CNL is to refer to the Guidelines for information and requirements on identifying valued components and spatial and temporal boundaries, and engage Indigenous groups and the public on these topics. In determining the scope of the factors to be considered in the EA, the Commission accepts the recommendation from CNSC staff that CNL is to consider the longest period of potential effects when defining temporal boundaries, as outlined in section 5.2.2 of the Guidelines.
29. The Commission is satisfied with the information provided by CNSC staff, and accepts CNSC staff's recommendation that the scope of the factors for the EA for each of the proposed projects includes the factors mandated in paragraphs 19(1)(a) to (h) of CEAA 2012 with no additional factors requiring consideration.

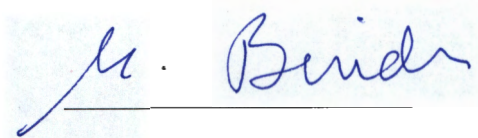
### **3.4 Preparation of the Environmental Impact Statement**

30. The Commission notes that CNL is to prepare an EIS for each of the three projects, as directed in the Guidelines.

### **4.0 CONCLUSION**

31. The Commission has considered the information from CNSC staff as presented for reference on the record.
32. The Commission decides that the scope of the factors for the EA for each of the proposed projects is to include the factors mandated in paragraphs 19(1)(a) to (h) of CEAA 2012, with no additional factors requiring consideration.
33. The Commission decides that CNL is to consult the Guidelines for information requirements on identifying valued components and spatial and temporal boundaries, and that CNL is to consider the longest period of potential effects when defining temporal boundaries, as outlined in section 5.2.2 of the Guidelines.
34. The Commission notes that the three EAs will consider Indigenous traditional knowledge and community knowledge.

35. The Commission directs CNSC staff to report to the Commission on any issues arising during the conduct of the EAs that could warrant the Commission giving further consideration to the above scoping decisions.

A handwritten signature in blue ink, appearing to read "M. Binder", is written over a light blue rectangular background. A horizontal line is drawn below the signature.

Michael Binder  
President,  
Canadian Nuclear Safety Commission

MAR 08 2017

---

Date