



## Record of Decision

DEC 22-H13

In the Matter of

Applicant Canadian Nuclear Laboratories Ltd.

Subject Application to Renew the Waste Nuclear  
Substance Licence for the Port Hope  
Project as a Single Licence for the Port  
Hope Area Initiative

Public Hearing  
Date November 22, 2022

Summary Record  
of Decision Date December 19, 2022

Record of  
Decision Date April 20, 2023

**RECORD OF DECISION – DEC 22-H13**

Applicant: Canadian Nuclear Laboratories Limited

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

Purpose: Application to Renew the Waste Nuclear Substance Licence for the Port Hope Project as a Single Licence for the Port Hope Area Initiative

Application received: September 10, 2021

Date of public hearing: November 22, 2022

Location: Best Western Plus Cobourg Inn & Convention Centre, 930 Burnham Street, Cobourg, Ontario

Members present: R. Velshi, Chair  
S. Demeter  
R. Kahgee

Registrar: D. Saumure

Recording Secretary: M. McMillan

Senior General Counsel: L. Thiele

<b>Applicant Represented By</b>		<b>Document Number</b>
K. Schruder	Acting VP, Stewardship & Renewal Group	CMD 22-H13.1 CMD 22-H13.1A
M. Hughey	General Manager, Historic Waste Program	
B. Daly	Director, Public & Licensing Communications, Historic Waste Program	
M. Jones	Radiation Protection Program Manager, Historic Waste Program	
S. Anderson	Manager, Stakeholder & Indigenous Relations, Historic Waste Program	
J. Turner	Manager, HWP Environmental Manager, Historic Waste Program	
S. Faught	Manager, ERM Licensing Support	
A. Ghuman	Manager, Port Hope Long-Term Waste Management Facility, Historic Waste Program	
<b>CNSC staff</b>		<b>Document Number</b>
R. Jammal	Executive Vice-President and Chief Regulatory Operations Officer, Executive Vice-President's Office	

K. Murthy	Director General, Directorate of Nuclear Cycle and Facilities Regulations (DNCFR)	CMD 22-H13 CMD 22-H13.A
K. Campbell	Director, Canadian Nuclear Laboratories Regulatory Program Division, DNCFR	
R. Buhr	Senior Project Officer, Canadian Nuclear Laboratories Regulatory Program Division, DNCFR	
M. Fabian-Mendoza	Director, Environmental Risk Assessment Division, DERPA	
H. Tadros	Director General, Environmental Risk Assessment Division, DERPA	
K. Randhawa	Radiation and Health Sciences Officer, Health Sciences and Environmental Compliance Division, DERPA	
S. Oue	Senior Project Officer, Wastes and Decommissioning Division, DNCFR	
A. Levine	Team Leader, Indigenous Consultation and Participant Funding, Indigenous and Stakeholder Relations Division, SPD	
K. Randhawa	Radiation and Health Sciences Officer, Health Sciences and Environmental Compliance Division, DERPA	
<b>Intervenors</b>		
See appendix A		
<b>Other Government Representatives</b>		
<ul style="list-style-type: none"> <li>• Environment and Climate Change Canada: D. Kim</li> </ul>		

<b>Licence: Renewed and issued as a single licence</b>
--

## Table of Contents

<b>1.0</b>	<b>INTRODUCTION</b> .....	<b>1</b>
<b>2.0</b>	<b>DECISION</b> .....	<b>4</b>
<b>3.0</b>	<b>APPLICABILITY OF THE <i>IMPACT ASSESSMENT ACT</i></b> .....	<b>6</b>
<b>4.0</b>	<b>ISSUES AND COMMISSION FINDINGS</b> .....	<b>6</b>
<b>4.1</b>	<b>Sufficiency of Licence Application</b> .....	<b>7</b>
<b>4.2</b>	<b>CNL’s Performance for the Port Hope Area Initiative</b> .....	<b>8</b>
4.2.1	<i>Management System</i> .....	8
4.2.2	<i>Human Performance Management</i> .....	10
4.2.3	<i>Operating Performance</i> .....	11
4.2.4	<i>Physical Design</i> .....	13
4.2.5	<i>Fitness for Service</i> .....	15
4.2.6	<i>Radiation Protection</i> .....	16
4.2.7	<i>Conventional Health and Safety</i> .....	18
4.2.8	<i>Environmental Protection</i> .....	19
4.2.9	<i>Emergency Management and Fire Protection</i> .....	26
4.2.10	<i>Waste Management</i> .....	27
4.2.11	<i>Security</i> .....	29
4.2.12	<i>Safeguards and Non-Proliferation</i> .....	30
4.2.13	<i>Packaging and Transport</i> .....	31
4.2.14	<i>Conclusion on CNL’s Performance for the Port Hope Area Initiative</i> .....	33
<b>4.3</b>	<b>Engagement and Consultation with Indigenous Nations and Communities</b> .....	<b>33</b>
4.3.1	<i>Conclusion on Indigenous Consultation and Engagement</i> .....	37
<b>4.4</b>	<b>Other Matters of Regulatory Importance</b> .....	<b>38</b>
4.4.1	<i>Public Engagement</i> .....	38
4.4.2	<i>Decommissioning Plans and Financial Guarantee</i> .....	40
4.4.3	<i>Cost Recovery</i> .....	41
4.4.4	<i>Nuclear Liability Insurance</i> .....	41
<b>4.5</b>	<b>Licence Length and Conditions</b> .....	<b>42</b>
4.5.1	<i>Licence Length and Issuance as a Single Licence</i> .....	42
4.5.2	<i>Licence Conditions</i> .....	43
4.5.3	<i>Delegation of Authority</i> .....	45
4.5.4	<i>Conclusion on Licence Length and Conditions</i> .....	45
<b>5.0</b>	<b>CONCLUSION</b> .....	<b>45</b>
<b>Appendix A – Intervenors</b> .....		<b>A</b>

## 1.0 INTRODUCTION

1. On September 10, 2021, Canadian Nuclear Laboratories (CNL) applied to the Canadian Nuclear Safety Commission<sup>1</sup> for a 10-year renewal of the waste nuclear substance licence (WNSL) for its Port Hope Long-Term Low-Level Radioactive Waste Management Project ([Port Hope Project](#)) located in Port Hope, Ontario. The Port Hope Project is part of the Port Hope Area Initiative (PHAI). CNL is responsible for implementing the PHAI on behalf of Atomic Energy of Canada Limited (AECL) to manage the clean-up of historic low-level radioactive waste contamination in the municipalities of Port Hope and Clarington, Ontario. The PHAI is being carried out in the traditional territory of the Michi Saagiig Anishinaabe people. These lands are covered by the Williams Treaty between Canada and the Mississauga and Chippewa Nations.
2. At the time of its application, CNL held the following four WNSLs for work associated with the PHAI:
  - Port Hope Long-Term Low-Level Radioactive Waste Management Project licence (WNSL-W1-2310.02/2022), which expires on December 31, 2022
  - Port Granby Long-Term Low-Level Radioactive Waste Management Project licence (WNSL-W1-2311.02/2022), which expires on December 31, 2022
  - Pine Street Extension Temporary Storage Site licence (WNSL-W1-182.0/2022), which expires on December 31, 2022
  - Port Hope Radioactive Waste Management Facility licence (WNSL-W1-344-1.8/ind.), which is valid indefinitely

As part of its licence renewal application, CNL requested that the Commission issue a single licence which would consolidate the licensed activities currently authorized under the four WNSLs associated with the PHAI, collectively referred to as the PHAI licences throughout this *Record of Decision*. CNL also requested that the Commission accept the liquid effluent release limits established for the Port Hope Project wastewater treatment plant (WWTP), as presented in Table 1 of CNL’s application.

3. On December 19, 2022, the Commission renewed the licence for the Port Hope Project for a period of 10 years and issued the renewed licence as a single licence which consolidated the licensed activities previously authorized under the PHAI licences.<sup>2</sup> This *Record of Decision* provides the detailed reasons for that decision.
4. The PHAI includes two distinct projects – the Port Hope Project and the Port Granby Project – which are being conducted in three phases:
  - Phase I – planning

---

<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> The Commission issued a *Summary Record of Decision* to reflect the substance of the Commission’s decision with respect to this licence renewal and the applicable licence conditions. It was issued on December 19, 2022 in light of the expiry of the individual PHAI licences. The [Summary Record of Decision](#) is available on the CNSC website

- Phase II – implementation
- Phase III – long-term maintenance and monitoring

At the time of this hearing, the Port Hope Project was in Phase II and the Port Granby Project was transitioning to Phase III. CNL provided detailed project descriptions in section 1.3 of CMD 22-H13.1.

5. The Pine Street Temporary Storage Site and the Port Hope Radioactive Waste Management Facility are small temporary storage locations used for the short-term storage of contaminated soil retrieved from sites within the Municipality of Port Hope. At the time of this hearing, contaminated soil at these sites had been transferred to the Port Hope Long Term Waste Management Facility (LTWMF). Restoration of the Port Hope Radioactive Waste Management Facility is nearing completion and the Pine Street Temporary Storage Site is planned to be used to support remediation activities at the neighboring Highland Drive landfill.
6. On [March 4, 2022](#), CNL submitted an addendum to its initial application, withdrawing its request to change the levels of uranium and arsenic in the PHAI cleanup criteria. As a result, changes to the PHAI cleanup criteria were not included in the scope of this hearing. Any future requests by CNL to change the clean-up criteria will require Commission authorization and would be considered at a future licence amendment hearing.
7. In December 2021, the Commission granted CNL a one-year licence extension for the [Port Granby Project](#) and a Designated Officer granted CNL a one-year licence extension for the Pine Street Extension Temporary Storage Site. CNL applied for one-year renewals for each of these licences with the intent to align the licence expiry dates with the Port Hope Project licence to facilitate potential future consolidation of the PHAI licences.

#### Issues

8. The Commission is required to determine whether and what requirements the [Impact Assessment Act](#)<sup>3</sup> (IAA) imposes in relation to the activities sought to be authorized in CNL's application to renew the licence for the Port Hope Project. Satisfying any such requirements can be a prerequisite to licensing.
9. Pursuant to paragraphs 24(4)(a) and (b) of the [Nuclear Safety and Control Act](#)<sup>4</sup> (NSCA), the Commission must be satisfied that:
  - a) CNL is qualified to carry on the activity that the licence would authorize;  
and

---

<sup>3</sup> S.C. 2019, c. 28, s. 1

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

- b) in carrying on that activity, CNL will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.
10. As an agent of the Crown, the Commission recognizes its role in fulfilling the Crown's constitutional obligations, along with advancing reconciliation with Canada's Indigenous peoples. The Commission's responsibilities include the duty to consult and, where appropriate, accommodate Indigenous interests where the Crown contemplates conduct which may adversely impact potential or established Aboriginal<sup>5</sup> or treaty rights<sup>6</sup>. As such, the Commission must determine what engagement and consultation steps and accommodation measures are called for, respecting Indigenous interests.

### Public Hearing

11. On March 7, 2022, the Commission published a [Notice of Public Hearing and Participant Funding](#) for this matter, which invited requests to intervene by October 14, 2022. The Commission subsequently published a revised notice on [September 6, 2022](#) which specified the hearing venue.
12. Pursuant to section 22 of the [Nuclear Safety and Control Act](#) (NSCA), the President of the Commission established a Panel of the Commission over which she would preside, including Commission Members Dr. Sandor Demeter and Mr. Randall Kahgee. The Commission, in making its decision, considered information presented for a public hearing held on November 22, 2022, in Cobourg, Ontario. The public hearing was conducted in accordance with the [Canadian Nuclear Safety Commission Rules of Procedure](#)<sup>7</sup> (the Rules). During the public hearing, the Commission considered written submissions and heard oral presentations from CNL ([CMD 22-H13.1](#)) and CNSC staff ([CMD 22-H13](#)). The Commission also considered oral and written submissions from 28 intervenors (see Appendix A for a list of interventions). The hearing was webcast live via the CNSC website, and [video archives](#) are available on the CNSC website. A *Summary Record of Decision* was issued on December 19, 2022.

---

<sup>5</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>6</sup> *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73; *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, 2004 SCC 74

<sup>7</sup> Statutory Orders and Regulations (SOR)/2000-211.

### Participant Funding

13. Pursuant to paragraph 21(1)(b.1) of the NSCA, the Commission has established a [Participant Funding Program](#) (PFP) to facilitate the participation of Indigenous Nations and communities, members of the public and stakeholders in Commission proceedings. In [March 2022](#), up to \$75,000 in funding was made available through the CNSC's PFP to review CNL's licence renewal application and associated documents, and to provide the Commission with value-added information through topic-specific interventions. A Funding Review Committee (FRC), independent of the CNSC, reviewed the funding applications received and made recommendations on the allocation of funds. Based on the recommendations from the FRC, the CNSC awarded a total of [up to \\$36,320 to 4 applicants](#).
- Curve Lake First Nation – up to \$12,980
  - Anna Tilman – up to \$1,500
  - Mississaugas of Scugog Island First Nation – up to \$17,000
  - Port Hope Community Health Concerns Committee – up to \$4,840

### Mandate of the Commission

14. Many intervenors provided the Commission with information about the economic impact of the PHAI. The Commission notes that, as the regulatory authority over nuclear matters in Canada, it has no economic mandate and will not base its decisions on the economic impact of a facility. It is the health, safety and security of the public, the protection of the environment, national security, and the implementation of the international obligations to which Canada has agreed that guide its decisions, in accordance with the NSCA.

## **2.0 DECISION**

15. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Decision*, the Commission concludes the following:
- the IAA does not impose any obligation upon the Commission in relation to this matter
  - the contemplated activities do not present any novel adverse impact on any potential or established Aboriginal claim or right
  - the Commission's responsibility to uphold the honour of the Crown and its constitutional obligations with regard to engagement and consultation respecting Indigenous interests have been satisfied
  - CNL is qualified to carry on the activities that the licence will authorize
  - CNL, in carrying on these activities, will make adequate provision for the protection of the environment, the health and safety of persons and the



maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, renews the waste nuclear substance licence issued to Canadian Nuclear Laboratories Ltd. for its Port Hope Project, located in the municipality of Port Hope, Ontario. In renewing this licence, the Commission issues *Port Hope Area Initiative Waste Management Project* WNSL-W1-2310.00/2032 as a single licence that consolidates the licensed activities previously authorized under CNL's four waste nuclear substance licences for: the Port Hope Project, Port Granby Project, Pine Street Extension Temporary Storage Site, and Port Hope Radioactive Waste Management Facility. Licence WNSL-W1-2310.00/2032 is valid from January 1, 2023 until December 31, 2032.

As a result of this decision,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, revokes indefinite licence WNSL-W1-344-1.8/ind. as of January 1, 2023.

16. The Port Hope Area Initiative Waste Management Project licence comes into effect on January 1, 2023. The licences for the Port Granby Project, Pine Street Extension Temporary Storage Site, and the Port Hope Radioactive Waste Management Facility will no longer be in effect as of January 1, 2023. The Commission reiterates that the Port Hope Area Initiative Waste Management Project licence (WNSL-W1-2310.00/2032) consolidates, under one licence, activities previously authorized under CNL's four individual waste nuclear substance licences for the PHAI.
17. The Commission includes in WNSL-W1-2310.00/2032 the conditions as recommended by CNSC staff in Part Two of CMD 22-H13. The Commission delegates authority for the purposes of licence condition 3.1, as recommended by CNSC staff in section 5.7 of CMD 22-H13. In making this decision, the Commission accepts the liquid effluent release limits for the Port Hope wastewater treatment plant as described in section 5.5 of CMD 22-H13.
18. With this decision, the Commission retains decision-making authority with respect to the Port Hope Area Initiative Waste Management Project licence.
19. The Commission directs CNSC staff to report on the performance of CNL and the PHAI, as part of the periodic [\*Regulatory Oversight Report for Canadian Nuclear Laboratories Sites\*](#). CNSC staff shall present this report at a public proceeding of the Commission, where members of the public will be able to participate.

20. The Commission notes that CNSC staff can bring any matter to the Commission as applicable. The Commission directs CNSC staff to inform the Commission on an annual basis of any changes made to the Licence Conditions Handbook (LCH).

### **3.0 APPLICABILITY OF THE *IMPACT ASSESSMENT ACT***

21. In coming to its decision, the Commission was first required to determine whether any requirement under the IAA applied to the licence renewal application and whether an impact assessment was required.
22. The IAA came into force on August 28, 2019. Pursuant to the IAA and the [\*Physical Activities Regulations\*](#)<sup>8</sup> made under it, impact assessments are to be conducted in respect of projects identified as having the greatest potential for adverse environmental effects in areas of federal jurisdiction. A licence renewal is not a project designated under the *Physical Activities Regulations*.
23. The Commission is satisfied that there is no requirement under the IAA for an impact assessment to be completed. The Commission is also satisfied that there are no other applicable requirements of the IAA to be addressed in this matter.<sup>9</sup> The Commission notes that the NSCA provides a strong regulatory framework for environmental protection and the health and safety of persons. Environmental protection is further discussed in section 4.2.8 of this *Record of Decision*.

### **4.0 ISSUES AND COMMISSION FINDINGS**

24. The matter before the Commission is a renewal of CNL's WNSL for the Port Hope Project for a period of 10 years. As part of its licence renewal application, CNL requested that the Commission issue a single licence which would consolidate the licensed activities currently authorized under the PHAI licences. CNL is also requesting that the Commission accept the liquid effluent release limits established for the Port Hope Project wastewater treatment plant, as presented in Table 1 of CNL's application.
25. Pursuant to section 37 of the NSCA, the Commission has authorized CNSC Designated Officers to consider applications concerning waste nuclear substance licences (WNSLs). A CNSC Designated Officer issued the licences for the Pine Street Extension Temporary Storage Site and Port Hope Radioactive Waste Management Facility in accordance with this authority. In its previous decisions concerning the [\*Port Hope Project\*](#) and the [\*Port Granby Project\*](#), the Commission decided that it would retain decision-making authority for those licences.

---

<sup>8</sup> SOR/2019-285

<sup>9</sup> The IAA can impose other requirements on federal authorities in respect of authorizing projects that are not designated as requiring an impact assessment, including projects that are to be carried out on federal lands, or projects outside of Canada. This licence renewal does not engage any such applicable IAA requirements.

26. In making this licensing decision, the Commission considered a number of issues and submissions relating to CNL's qualification to carry out the licensed activities. The Commission also considered the adequacy of the proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.
27. The Commission decision focuses on the issues relevant for this application, specifically:
- the sufficiency of the licence application
  - CNL's performance over the current licence term
  - Indigenous engagement and consultation
  - other matters of regulatory importance
  - licence length and conditions, including the delegation of authority

#### **4.1 Sufficiency of Licence Application**

28. CNL submitted a licence renewal application for the Port Hope Project on September 10, 2021 and an amendment to the application on March 4, 2022. In its consideration of this matter, the Commission examined the sufficiency of the application and the adequacy of the information submitted by CNL, as required by the NSCA, the [\*General Nuclear Safety and Control Regulations\*](#)<sup>10</sup> (GNSCR), and other applicable regulations made under the NSCA, including the [\*Radiation Protection Regulations\*](#)<sup>11</sup>.
29. Regarding an application for the renewal of a licence, Section 5 of the GNSCR provides:

An application for the renewal of a licence shall contain

- (a) the information required to be contained in an application for that licence by the applicable regulations made under the Act; and
- (b) a statement identifying the changes in the information that was previously submitted.

Additionally, Section 7 of the GNSCR provides:

An application for a licence or for the renewal, suspension in whole or in part, amendment, revocation or replacement of a licence may incorporate by reference any information that is included in a valid, expired or revoked licence.

---

<sup>10</sup> SOR/2000-202.

<sup>11</sup> SOR 2000-203.

30. In its application, application amendment, and CMD 22-H13.1, CNL provided clause-by-clause responses to the requirements set out in the NSCA and applicable regulations, and described how CNL would continue to meet regulatory requirements. In its application, CNL referred to the most recent versions of the programs it has implemented to meet these requirements. In CMD 22-H13, CNSC staff reported that it reviewed CNL's application and that in staff's view it complies with regulatory requirements.
31. The Commission concludes that CNL's licence renewal application is complete and complies with the regulatory requirements for a licence renewal application. The Commission notes that CNL's application is comprehensive and includes all necessary relevant reference materials.

#### **4.2 CNL's Performance for the Port Hope Area Initiative**

32. In consideration of CNL's past performance for the PHAI, the Commission examined CNSC staff's assessment of CNL's performance with respect to the CNSC's [safety and control area](#) (SCA) framework. CNSC staff assessed CNL's performance as it pertains to the 13 SCAs applicable to the proposed single PHAI licence. The proposed licence does not have any requirements for the safety analysis SCA.<sup>12</sup>
33. CNSC staff rated CNL's performance during the current licence period<sup>13</sup> against the requirements for the 11 SCAs applicable to the existing PHAI licences.<sup>14</sup> From 2013-2021<sup>15</sup> CNSC staff rated CNL's performance in each applicable SCA as "satisfactory". CNSC staff submitted that it based its assessment of CNL's past performance on regulatory oversight activities including inspections, documentation reviews, event reviews, and general communication with CNL.

##### *4.2.1 Management System*

34. CNL's management system covers the framework that establishes the processes and programs required to ensure that the PHAI achieves its safety objectives, continuously monitors its performance against these objectives, and fosters a healthy safety culture.
35. In section 6.1 of CMD 22-H13.1, CNL provided the Commission with information on the CNL management system, including its document framework, organizational structure, information management program, corrective action program, and quality

---

<sup>12</sup> The Safety Analysis SCA is not applicable to the proposed single PHAI licence and therefore is not discussed in this *Record of Decision*.

<sup>13</sup> The licence for the Port Hope Project was valid from [November 15, 2012](#) to December 31, 2022 (the licence was amended twice, in [2014](#) and [2017](#)). In this *Record of Decision*, the term "licence period" refers to this period for all PHAI licences, except where noted.

<sup>14</sup> CNL's PHAI licences have no conditions for the safety analysis, fitness for service, or waste management SCAs.

<sup>15</sup> This date range corresponds with the available information within the licence period.

assurance program. CNL reported that it implemented the *Historic Waste Program Quality Assurance Plan* to perform, evaluate, and improve performance across the PHAI licences, in alignment with the corporate-wide CNL management system. CNL submitted that the CNL management system implements the requirements of CSA Group Standard N286-12, *Management System Requirements for Nuclear Facilities*<sup>16</sup>, ISO 9001:2015, *Quality Management Systems –Requirements*<sup>17</sup>, and CNSC [REGDOC-2.1.2, Safety Culture](#).<sup>18</sup>

36. In section 3.1 of CMD 22-H13, CNSC staff submitted information on its assessment of CNL's management system. CNSC staff evaluated CNL's management system by assessing CNL's documentation and annual reports, and by conducting inspections. CNSC staff conducted 3 inspections of the management system in place at the PHAI since the beginning of Phase II activities. Through these inspections, CNSC staff identified areas for improvement related to CNL's contractor oversight and engineering change control procedure. CNSC staff reported that CNL had addressed, or had an appropriate action plan in place to address, all inspection findings. Based on oversight activities, CNSC staff found that CNL has implemented a management system in accordance with the requirements of CSA N286-12.
37. CNL submitted that it has established a safety culture through the implementation of processes, procedures and programs under the CNL management system. CNSC staff informed the Commission that CNL performed a security and safety culture assessment at the PHAI in 2019. CNL voluntarily chose to assess the PHAI against the requirements of CNSC REGDOC-2.1.2. CNSC staff observed that CNL made positive changes to the safety culture at the PHAI following the assessment, as detailed in section 3.1 of CMD 22-H13.
38. CNSC staff reported that its compliance verification activities focused on CNL's contractor management program, as most of the construction and remediation activities performed at the PHAI are executed by contractors. CNSC staff inspected CNL's oversight and management of contractors in 2018 and 2021, and found areas for improvement, including on how oversight findings were managed within CNL's corrective action system. CNSC staff reported that CNL addressed all inspection findings in a timely manner.
39. The Commission finds that the information provided by CNL and CNSC staff's analysis demonstrate that CNL has acceptable programs in place to ensure that the CNL achieves its safety objectives and fosters a healthy safety culture. The Commission concludes that CNL has appropriate organization and management structures in place to carry on the licensed activities. The Commission comes to this conclusion on the following basis as established by the evidence before it:

---

<sup>16</sup> N286-12, *Management System Requirements for Nuclear Facilities*, CSA Group, 2012

<sup>17</sup> 9001:2015, *Quality Management Systems –Requirements*, ISO, 2015

<sup>18</sup> REGDOC-2.1.2, *Safety Culture*, CNSC, April 2018

- The Commission agrees with CNSC staff's assessment that CNL has a management system in place that complies with CSA Standard N286-12
- The Commission is satisfied that CNL has continually implemented positive changes to ensure a healthy safety culture
- The Commission is satisfied that CNL has addressed or has a plan in place to address all inspection findings related to this SCA
- The Commission is satisfied that CNL has an appropriate contractor oversight program in place at the PHAI

#### 4.2.2 Human Performance Management

40. Human performance management encompasses activities that ensure that CNL staff are sufficient in number in all relevant job areas and have the necessary knowledge, skills, procedures and tools in place to safely carry out their duties.
41. In section 6.2 of CMD 22-H13.1, CNL submitted that it has a training and development program in place that implements the requirements detailed in CNSC [REGDOC-2.2.2, Human Performance Management, Personnel Training, Version 2](#)<sup>19</sup>, and has dedicated resources to support the implementation and maintenance of PHAI training programs. CNL specified that it applies a Systematic Approach to Training (SAT) process to the development of training programs for positions performing licensed activities.
42. CNL reported that it has prerequisite qualification requirements for all contract workers before they can work on CNL sites. CNL also requires contractors to complete CNL-specific training including general safety orientation, facility-specific training, and radiation protection training.
43. In section 3.2 of CMD 22-H13, CNSC staff indicated that CNL has implemented and maintains a SAT-based training program to ensure that its workers have the necessary skills to perform licensed activities safely and competently. CNSC staff reported that CNL's training program meets the requirements captured in CNSC's REGDOC-2.2.2 and is acceptable for the activities taking place at the PHAI.
44. CNSC staff inspected the PHAI training program in 2017 and 2019. CNSC staff identified areas for improvement related to:
  - the incorporation of learning objectives into training
  - completion of mandatory training
  - alignment of training with governing documents
  - completion of task analysis
  - the carrying out of training program oversight

---

<sup>19</sup> REGDOC-2.2.2, *Human Performance Management, Personnel Training, Version 2*, CNSC, December 2016

CNSC staff verified that CNL implemented, in a timely manner, suitable corrective actions to address each of the findings.

45. The Commission concludes that CNL has appropriate human performance management programs in place for the conduct of licensed activities. The Commission is satisfied that CNL's employees are appropriately trained and qualified in accordance with CNSC requirements. The Commission comes to this overall conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has a SAT-based training program in place that meets regulatory requirements, including REGDOC-2.2.2
  - The Commission is satisfied that CNL has adequate programs in place to ensure that all workers, including contractors, are qualified
  - The Commission is satisfied that CNL has addressed all inspection findings related to this SCA

#### 4.2.3 Operating Performance

46. The operating performance SCA includes an overall review of the conduct of the licensed activities and the activities that enable effective performance, as well as improvement plans and significant future activities.
47. In sections 4 and 5 of CMD 22-H13.1, CNL submitted information on the conduct of licensed activities under each of the PHAI licences, including operating procedures and operational performance data for the Port Hope and Port Granby Projects. In section 7.4 of CMD 22-H13.1, CNL reported that it had implemented a conduct of operations program that provides a compliance framework to ensure that facility operations are conducted in a safe and reliable manner, in compliance with regulatory requirements. CNL specified that the conduct of operations program applies to PHAI through a series of working-level procedures.
48. Regarding reporting, CNL submitted that it has a corporate-wide procedure in place that complies with the requirements of CNSC [REGDOC-3.1.3, Reporting Requirements for Waste Nuclear Substance Licensees, Class II Nuclear Facilities and User of Prescribed Equipment, Nuclear Substances and Radiation Devices](#).<sup>20</sup> CNL submitted that, throughout the licence period, it reported information on events and operations to CNSC staff as required under REGDOC 3.1.3, the GNSCR and the Licence Conditions Handbooks for the PHAI licences.<sup>21</sup>
49. In section 3.3 of CMD 22-H13, CNSC staff reported that it regularly reviews procedures for the PHAI as part of ongoing compliance verification activities. CNSC

---

<sup>20</sup> REGDOC-3.1.3, *Reporting Requirements for Waste Nuclear Substance Licensees, Class II Nuclear Facilities and User of Prescribed Equipment, Nuclear Substances and Radiation Devices*, CNSC, March 2020

<sup>21</sup> Section 6.3, CMD 22-H13.1

staff confirmed that CNL maintains a comprehensive suite of procedures across all PHAI programs and sites. CNSC staff reported that CNL has updated its operating procedures as needed, and that the operating performance program implemented at the PHAI is consistent with regulatory requirements.

50. In CMD 22-H13.A, CNSC staff submitted that CNL reported a total of 65 reportable events across the PHAI licences since 2013. CNSC staff found that CNL implemented acceptable corrective actions in response to all reportable events.<sup>22</sup> CNSC staff noted that most of the events were liquid effluent action level exceedances and clarified that each of these events was of low safety significance, resulting in no risk to the environment or the public.
51. CNSC staff also reported that CNL had complied with the requirements and guidance set out in REGDOC-3.1.3 for reporting unplanned events, compliance monitoring, and operational performance throughout the licence period. CNSC staff also found that CNL took appropriate corrective measures in response to reportable events.
52. In section 1.4.3 of CMD 22-H13.1, CNL submitted that it is working closely with AECL and the Municipality of Port Hope to develop a program to ensure that waste remaining under the Special Circumstance Protocol<sup>23</sup> is appropriately monitored and managed. The Commission asked for additional information on potential future ramifications of the Special Circumstances Protocol, noting concerns raised in the interventions by the Municipality of Port Hope ([CMD 22-H13.16](#)) and the Port Hope Community Health Concerns Committee (PHCHCC; [CMD 22-H13.27](#)). An AECL representative explained that owners of properties where the Protocol has been applied will have a grace period of 20 years so that if they need to excavate material on their property for a specific reason, CNL will remove the material to a licensed disposal facility.<sup>24</sup> A representative from the Municipality of Port Hope expressed that the Municipality was moving in the right direction with AECL and CNL on this issue.<sup>25</sup>
53. The Commission concludes that CNL remains qualified to carry out the activities under the proposed licence. The evidence presented demonstrates that CNL has completed licensed activities associated with the PHAI in accordance with regulatory requirements over the current licence period, and that its programs and procedures meet regulatory requirements. The Commission is satisfied that CNL will continue to ensure that appropriate programs are in place for the conduct of licensed activities for the PHAI to provide for the protection of the health and safety of persons and the environment. The Commission comes to this conclusion on the following basis:

---

<sup>22</sup> *Transcript of November 22, 2022 Public Hearing*, page 57

<sup>23</sup> CNL's Special Circumstances Protocol is applied when remediation of a site or portion of a site is not considered practical or reasonably achievable due to one of six specified constraints, as described in section 5.4.2.7 of CMD 22-H13.1.

<sup>24</sup> *Transcript of November 22, 2022 Public Hearing*, page 203

<sup>25</sup> *Transcript of November 22, 2022 Public Hearing*, pages 150-152



- The Commission agrees with CNSC staff's assessment that CNL maintains a comprehensive suite of procedures across all PHAI programs and sites
- The Commission agrees with CNSC staff's assessment that CNL continues to conduct licensed activities in accordance with regulatory requirements
- The Commission agrees with CNSC staff's assessment that CNL has implemented a program for reporting in compliance with REGDOC-3.1.3
- The Commission is satisfied that the evidence shows that CNL has adequately reported and responded to events over the current licence term

#### 4.2.4 *Physical Design*

54. Physical design includes the activities to design systems, structures and components to meet and maintain the design basis of a facility. The design basis is the range of conditions, according to established criteria, that a facility must withstand without exceeding authorized limits for the planned operation of safety systems.
55. In sections 4 and 5 of CMD 22-H13.1, CNL submitted specific information on the physical design and characteristics of the PHAI sites, including the Port Hope and Port Granby LTWMFs, as well as large-scale (municipal) and small-scale (residential and business) remediation sites in the Municipality of Port Hope. The Port Hope and Port Granby LTWMFs each consist of an above-ground engineered containment mound with associated infrastructure and support facilities, including a WWTP at each location.
56. In section 6.5 of CMD 22-H13.1, CNL provided information on its configuration management programs for the PHAI sites. CNL noted that it maintained and improved its physical design program over the current licence period, and implemented its engineering change control program in 2016.
57. In section 3.5 of CMD 22-H13, CNSC staff submitted that CNL's physical design program meets regulatory requirements. In its submission, CNSC staff explained that, throughout the licence period, it reviewed CNL's conduct of design engineering documents to ensure activities are planned, controlled, and monitored in accordance with regulatory requirements. CNSC staff added that it found CNL's Detailed Design Description Reports for its PHAI facilities to adequately capture design requirements.
58. CNSC staff submitted that it conducted a total of 16 inspections related to the physical design SCA during the licence period. The inspections included the construction of Port Hope and Port Granby LTWMFs and the commissioning of the Port Hope and Port Granby WWTPs, as well as the remediation of various sites in Port Hope. At all inspections, CNSC staff found that CNL was executing construction, commissioning, and remediation activities in compliance with the physical design SCA.

59. In its intervention, the PHCHCC (CMD 22-H13.27) raised concern regarding the adequacy of the design of the Port Hope and Port Granby LTWMFs for the management of radioactive waste. In section 6.5.2 of CMD 22-H13.1, CNL submitted that, per the IAEA [Classification of Radioactive Waste](#), an engineered containment mound with a multi-barrier system is suitable for the management of low level radioactive waste with limited regulatory control. The Commission notes that it previously found the design of the Port Hope and Port Granby LTWMFs to be acceptable in [2012](#)<sup>26</sup> and [2011](#)<sup>27</sup>, respectively.
60. In section 1.3.2 of CMD 22-H13.1, CNL submitted that the number of small-scale sites requiring remediation in Port Hope significantly exceeded CNL's original estimates, resulting in a 300% increase in the expected waste volume from small-scale sites. Intervenors including the Municipality of Port Hope (CMD 22-H13.16) and Curve Lake First Nation ([CMD 22-H13.29](#)) raised concern regarding the impact to project scope and Port Hope LTWMF design, respectively. CNL submitted that, although the waste volume from small-scale sites has increased, CNL has effectively managed the additional waste and increased scope of work by using adaptive management practices and incorporating lessons learned from the Port Granby Project. Asked by the Commission how small-scale site waste compares to other waste streams, a CNL representative clarified that waste from small-scale sites makes up 32% of the total waste volume entering the Port Hope LTWMF.<sup>28</sup>
61. The Commission concludes that CNL continues to implement and maintain an effective physical design program for the PHAI, and that the design program is adequate for the requested licence period. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has physical design and configuration management programs in place that meet regulatory requirements
  - The Commission agrees with CNSC staff's assessment that the PHAI facilities meet design requirements
  - The Commission is satisfied that the evidence shows that CNL has adequate resources in place to safely manage and implement design changes that are within the licensing basis.

---

<sup>26</sup> *Record of Proceedings, Including Reasons for Decision in the Matter of AECL's Application for Amendment of Waste Nuclear Substance Licence for the Port Hope Long-Term Low-Level Radioactive Waste Management Project*, CNSC, October 24, 2012

<sup>27</sup> *Record of Proceedings, Including Reasons for Decision in the Matter of AECL's Application for a Waste Nuclear Substance Licence for the Port Granby Long-Term Low-Level Radioactive Waste Management Project*, CNSC, September 27, 2011

<sup>28</sup> *Transcript of November 22, 2022 Public Hearing*, page 149

#### 4.2.5 *Fitness for Service*

62. Fitness for service covers activities that are performed to ensure that systems, structures and components at PHAI facilities continue to effectively fulfill their intended purpose. The current PHAI licences do not have a licence condition requiring a fitness for service program.
63. CNSC staff included a fitness for service licence condition in the proposed single licence for the PHAI. In section 1.2 of CMD 22-H13, CNSC staff explained that, now that the Port Hope and Port Granby LTWMFs and WWTPs are operational, CNL has gained the necessary operational experience to develop and implement a fitness for service program for the PHAI. Licence conditions are further discussed in section 4.5.2 of this *Record of Decision*.
64. In section 6.6 of CMD 22-H13.1, CNL submitted that, although not explicitly required under the current PHAI licences, it manages fitness for service at the PHAI sites to ensure compliance with CNL's corporate fitness for service program. CNL provided information on its PHAI maintenance program, including information on maintenance management and parts inventory control. CNL outlined its planned improvements to its fitness for service program including enhancing its maintenance team and expanding its component inventory.
65. In section 3.6 of CMD 22-H13, CNSC staff reported that CNL has implemented a corporate-wide plan that identifies structures, systems and components that require preventive maintenance to ensure equipment reliability. CNSC staff also reviewed CNL's site-specific maintenance plans for the PHAI and found that the plans meet regulatory requirements. Although CNSC staff did not inspect CNL's fitness for service program during the licence period, CNSC staff assessed fitness for service elements through other inspections, such as verifying the maintenance of monitoring equipment during environmental protection inspections.
66. The Commission asked CNL about the measures in place respecting the integrity of the reverse osmosis filters at the Port Hope and Port Granby WWTPs. A CNL representative stated that CNL has real-time conductivity monitoring for all its reverse osmosis membranes to identify any membrane failures.<sup>29</sup>
67. The Commission is satisfied that CNL has appropriate programs in place to ensure that the equipment at the PHAI facilities will remain fit for service throughout the proposed licence period. The Commission comes to this conclusion on the following basis:
  - The Commission agrees with CNSC staff's assessment that CNL has adequate maintenance programs and plans in place for the PHAI to meet regulatory requirements for the fitness for service SCA

---

<sup>29</sup> *Transcript of November 22, 2022 Public Hearing*, page 243

- The Commission agrees with CNSC staff's assessment that, given CNL's operating experience, CNL will implement a fitness for service program in accordance with regulatory requirements

#### 4.2.6 Radiation Protection

68. As part of its evaluation of the adequacy of the measures for protecting the health and safety of persons, the Commission considered the information provided by CNL and CNSC staff to assess whether the PHAI radiation protection program satisfies the requirements of the [Radiation Protection Regulations](#).<sup>30</sup> The Commission also considered whether CNL's radiation protection program ensures that radiation doses to persons and contamination are monitored, controlled and kept as low as reasonably achievable (ALARA), with social and economic factors taken into consideration.
69. In section 6.7 of CMD 22-H13.1, CNL submitted that it has a robust corporate-wide radiation protection program in place that complies with the *Radiation Protection Regulations*. CNL also submitted information on its *PHAI Radiation Protection Plan*, which provides a management framework and processes to ensure that radiation exposures arising from PHAI project activities are maintained below regulatory dose limits. CNL further provided information on its ALARA strategy, use of dosimetry, and its compliance oversight activities.
70. CNL submitted that it monitors worker dose to ensure compliance with the CNSC's regulatory dose limits and to maintain radiation doses ALARA. CNL provided specific information on the doses received by workers at PHAI sites. Throughout the current licence period, effective doses received by Nuclear Energy Workers (NEWs) remained well below regulatory dose limits.<sup>31</sup> The maximum annual effective dose received by a NEW at the PHAI was 3.13 mSv. The maximum 5-year cumulative effective dose received by a NEW was 5.04 mSv.<sup>32</sup> CNL noted that doses to workers at the Port Granby Project decreased as a result of capping of the mound and a reduction in the handling of radioactive waste.
71. CNL also submitted that the maximum equivalent dose to skin received by a NEW at the PHAI remained well below regulatory limits for the current licence term.<sup>33</sup> The maximum equivalent dose to the skin received by a NEW at the PHAI was 2.44 mSv.<sup>34</sup>
72. In section 3.7 of CMD 22-H13, CNSC staff reported that it assessed CNL's radiation protection program and found that CNL has implemented and maintained a radiation

---

<sup>30</sup> SOR/2000-203

<sup>31</sup> The regulatory dose limits for nuclear energy workers are 50 mSv in any one year and 100 mSv in a five-year dosimetry period. The regulatory dose limit for members of the public is 1 mSv in one calendar year.

<sup>32</sup> Section 6.7.2.1, CMD 22-H13.1

<sup>33</sup> The regulatory equivalent dose limit to the skin or to the extremities for a NEW is 500 mSv per year.

<sup>34</sup> Section 6.7.2.1, CMD 22-H13.1

program that meets regulatory requirements, including the *Radiation Protection Regulations*. CNSC staff confirmed that no worker received a radiation dose in excess of the CNSC's regulatory limits as a result of the licensed activities conducted for the PHAI. CNSC staff added that CNL adequately applied the ALARA principle over the current licence term. CNSC staff assessed CNL's radiation protection program performance through a number of compliance verification activities including desktop reviews and inspections. CNSC staff reported that, between 2018 and 2021, CNSC staff conducted 5 inspections focused on the radiation protection SCA, and that CNL had satisfactorily closed all associated enforcement actions.

73. CNSC staff provided information concerning the 9 action level exceedances related to radiation protection that occurred over the licence term.<sup>35</sup> Eight of the exceedances happened between 2012 and 2013. CNSC staff reported that CNL adequately responded to action level exceedances throughout the current licence term, including proper reporting and corrective actions. CNSC staff noted that CNL adjusted its action levels over the licence term to better align with the work activities being performed for the PHAI. CNSC staff confirmed that all action levels were set at appropriate levels.
74. The intervention by A. Tilman ([CMD 22-H13.3](#)) raised concerns about future increases of collective dose to workers at the PHAI sites. Asked by the Commission to comment on the collective dose to workers, a CNL representative stated that CNL expects the collective dose to increase as CNL plans to expand its workforce to complete PHAI projects. The CNL representative explained that while the collective dose is based on the number of workers, the average and maximum doses for individual NEWs at the PHAI sites have been, and will continue to be, maintained well below regulatory limits.<sup>36</sup>
75. The Commission asked CNL for information on baseline worker dose monitoring. A CNL representative explained that select PHAI staff are required to complete bioassays depending on their scope of work, including baseline bioassays completed prior to doing work. The CNL representative stated that, on occasion, baseline bioassays have shown slightly elevated uranium levels. The CNL representative explained that the elevated levels were found in workers who live at homes with residential wells in the Port Hope area. The CNL representative explained that some wells in Ontario are known to have increased levels of uranium.<sup>37</sup>
76. The Commission concludes that CNL has implemented and maintained an adequate radiation protection program to protect the health and safety of persons and the environment from radiation hazards associated with the PHAI. The Commission is

---

<sup>35</sup> Action levels are designed to alert licensees before regulatory dose limits are reached. If an action level is reached, a loss of control of some part of the associated radiation protection program may have occurred, and specific action is required, as defined in the *Radiation Protection Regulations*.

<sup>36</sup> *Transcript of November 22, 2022 Public Hearing*, pages 127-128

<sup>37</sup> *Transcript of November 22, 2022 Public Hearing*, pages 189-190

satisfied that CNL will continue to do so over the proposed licence period. The Commission comes to this conclusion on the following basis:

- The Commission agrees with CNSC staff's assessment that CNL's radiation protection program for the PHAI meets regulatory requirements, including the *Radiation Protection Regulations*
- The Commission is satisfied that the evidence presented by CNL shows that effective and equivalent doses to NEWs remained well below regulatory limits over the licence term
- The Commission agrees with CNSC staff's assessment that CNL has adequately applied the ALARA principle to its radiation protection program
- The Commission is satisfied that CNL has adequately responded to, and closed, all enforcement actions associated with CNSC staff inspections over the current licence term
- The Commission is satisfied that CNL has implemented appropriate corrective actions in response to action level exceedances during the current licence term

#### 4.2.7 Conventional Health and Safety

77. A conventional health and safety program's objective is to minimize risk to the health and safety of workers posed by conventional (non-radiological) hazards in the workplace. A conventional health and safety program manages conventional workplace safety hazards and ensures compliance with applicable labour codes.
78. In section 6.8 of CMD 22-H13.1, CNL provided the Commission with information on its *PHAI Occupational Health and Safety Plan*. CNL reported that the plan is in line with CNL's occupational safety and health program and employs guidance from CNSC [REGDOC-2.8.1, \*Conventional Health and Safety\*](#)<sup>38</sup>. CNL submitted that it promotes a culture of health and safety reporting across the PHAI, and that it created the *Historic Waste Management Contractor Health and Safety Plan Submission Criteria* within the *PHAI Occupational Health and Safety Plan* to ensure a consistent approach with respect to CNL's expectations for contractors.
79. In section 3.8 of CMD 22-H13, CNSC staff reported that CNL has implemented a conventional health and safety program that meets regulatory requirements, including [Part II: \*Occupational Health and Safety\*](#) of the [Canada Labour Code](#), [Canada Occupational Health and Safety Regulations](#). CNSC staff verified CNL's safety practices throughout the licence period through oversight activities including compliance inspections and site walkdowns.
80. CNL submitted that a total of 5 lost-time injury (LTI) events occurred at PHAI sites over the licence period.<sup>39</sup> CNL reported that, for each LTI, it completed an investigation and implemented corrective actions following CNL's corrective action

---

<sup>38</sup> REGDOC-2.8.1, *Conventional Health and Safety*, CNSC, July 2019

<sup>39</sup> Section 6.8.2, CMD 22-H13.1

program. CNSC staff reported that CNL's lost-time injury rate for the PHAI is lower than those of comparable industries in Ontario, such as construction and manufacturing, as per Ontario Workplace Safety and Insurance Board data.<sup>40</sup> CNSC staff confirmed that CNL met regulatory requirements in reporting injuries, per CNSC's [REGDOC 3.1.3](#).

81. The Commission concludes that CNL's conventional health and safety program for the PHAI meets regulatory requirements. The Commission is satisfied that the evidence provided demonstrates that the health and safety of workers and the public was adequately protected during the operation of the facility for the current licence period and that the health and safety of persons will continue to be adequately protected during throughout the proposed licence period. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has implemented a conventional health and safety program that meets regulatory requirements
  - The evidence shows that CNL has a low incidence of lost-time injuries at PHAI sites and that CNL implemented appropriate corrective actions in response to injury events.

#### *4.2.8 Environmental Protection*

82. Environmental protection programs are intended to identify, control and monitor all releases of radioactive and hazardous substances, and aim to minimize the effects on the environment which may result from licensed activities. Environmental protection programs include effluent and emission control, environmental monitoring, and estimated doses to the public.
83. In section 6.9 of CMD 22-H13.1, CNL provided the Commission with detailed information on its environmental protection program including information on its effluent and emissions control, environmental monitoring (including its Environmental Assessment (EA) follow-up monitoring program), protection of the public, and protection of species at risk. CNL reported that its environmental monitoring program is in compliance with regulatory requirements.
84. CNSC staff conducted an environmental protection review (EPR) for all activities requested in CNL's licence application. The EPR report is included in Appendix F of CNSC staff CMD 22-H13. In the EPR, CNSC staff assessed that the potential risks from the PHAI's radiological and hazardous releases to the atmospheric, terrestrial, aquatic, and human environments are low to negligible and are similar to the natural background in the Port Hope area. CNSC staff further reported that potential risks to human health from PHAI activities are indistinguishable from health outcomes found in the general public. CNSC staff also found that CNL continues to implement and

---

<sup>40</sup> Section 3.8.3.1, CMD 22-H13

maintain effective environmental protection measures to adequately protect the environment and the health of persons.

### Effluent and Emission Control

85. In section 6.9.1 of CMD 22-H13.1, CNL submitted information regarding how liquid effluent is controlled at PHAI sites. CNL reported that its environmental protection program includes a set of action levels which comply with CSA Standard N288.8-17, *Establishing and implementing action levels to control releases to the environment from nuclear facilities*<sup>41</sup>. Over the current licence term, CNL reported 21 environmental action level exceedances and one exceedance of the regulatory limit across the PHAI.
86. In section 3.9 of CMD 22-H13, CNSC staff provided specific information on PHAI liquid effluent releases over the current licence term. CNSC staff submitted that the effluent monitoring measures in place for the Port Hope and Port Granby Projects are protective of the environment and the health and safety of the public.
87. In section 6.3.2 of CMD 2-H13.1, CNL provided information concerning a regulatory release limit exceedance for copper, which occurred during the licence period. CNL submitted that the final effluent produced by the Port Hope WWTP for the week ending on June 1, 2022 exceeded the weekly regulatory release limit for copper and the action level for zinc. CNL added that, in response to the event, CNL ceased discharge to the environment and performed an investigation which determined that the issue was caused by corroded cooling loop components. CNL subsequently replaced all suspect fittings to prevent reoccurrence. CNSC staff presented an Event Initial Report to the Commission in [June 2022](#)<sup>42</sup> and reviewed CNL's response to the event. CNSC staff found that CNL implemented sufficient corrective actions.
88. In section 6.3.2 of CMD 22-H13.1, CNL submitted that, in June 2017, a heavy rainfall event overwhelmed water management at both the Port Hope and the Port Granby Projects, resulting in a release of untreated water to the environment. CNL reported that the release had negligible impact on the surrounding environment. In response to the event, CNL reported that it updated its contingency, water management and spill response plans and required personnel to receive training on the updated procedures.<sup>43</sup> CNSC staff noted that CNL took immediate actions to prevent another release of untreated water and confirmed that the event had no adverse environmental or health effects.<sup>44</sup>
89. On the topic of severe weather events, the Commission asked how the impacts of severe weather and climate change were considered in relation to the PHAI projects.

---

<sup>41</sup> N288.8-17, *Establishing and implementing action levels to control releases to the environment from nuclear facilities*, CSA Group, 2017

<sup>42</sup> *Minutes of the Canadian Nuclear Safety Commission Meeting held on June 28, 2022*

<sup>43</sup> Section 6.3.2, CMD 22-H13.1

<sup>44</sup> Section 3.3.1, CMD 22-H13



A CNL representative stated that climate change was considered as part of the environmental assessments for the Port Hope and Port Granby Projects, and that contingencies for such events were factored into the design and management of the facilities. CNSC staff said that, as newer climate change data becomes available, CNL is required to consider additional mitigation measures. A representative from ECCC said that ECCC is working with the CNSC to assess the updated risk of severe weather events and to develop guidance for mitigating those risks.<sup>45</sup>

90. The Commission sought clarification regarding the frequency of CNL's effluent testing. A CNL representative stated that CNL takes a weekly composite sample of its WWTP effluent. The CNL representative explained that the composite sample is generated from samples of the final treated effluent that are taken every 15 minutes.<sup>46</sup>

#### Environmental Monitoring

91. CNL submitted that it implemented the EA follow-up monitoring program to monitor the environmental effects of the PHAI and ensure that those effects are consistent with the predictions of the Port Hope and Port Granby Project EAs.<sup>47</sup> CNL submitted that its EA follow-up monitoring program includes its *Environmental and Biophysical Monitoring Plans* for the Port Hope and Port Granby Projects, which detail how CNL monitors the aquatic, atmospheric, terrestrial, geological and groundwater environments at the PHAI sites. CNL also submitted information regarding environmental monitoring results. CNL noted that results have generally been within the EA predictions, with minimal deviations from the established baseline. CNL added that, when a deviation is found, CNL applies adaptive management practices to determine what mitigation measures are required.
92. CNSC staff assessed CNL's environmental monitoring programs, and reported that the programs meet regulatory requirements, including the requirements of CNSC [REGDOC 2.9.1, \*Environmental Protection: Environmental Principles, Assessments and Protection Measures, Version 1.2\*](#)<sup>48</sup>, and are protective of the public and the environment. CNSC staff added that it continues to review CNL's detailed monitoring activities pertaining to the EA follow-up program to ensure that objectives are being met.
93. CNSC staff submitted that, through its Independent Environmental Monitoring Program (IEMP), CNSC staff took samples from publicly accessible areas around the PHAI sites in 2013, 2014, 2017, and 2019. CNSC staff reported that the IEMP results verified that the public and the environment surrounding the sites are protected. The IEMP results for Port Hope and Port Granby are available on the [CNSC's website](#).

---

<sup>45</sup> *Transcript of November 22, 2022 Public Hearing*, pages 118-122

<sup>46</sup> *Transcript of November 22, 2022 Public Hearing*, pages 240-241

<sup>47</sup> Section 6.9.1.1, CMD 22-H13.1

<sup>48</sup> REGDOC 2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures*, Version 1.2, September 2020

94. The intervention by A. Tilman (CMD 22-H13.3) raised concerns regarding the appropriateness of the existing cleanup criteria levels for uranium and arsenic. The Commission asked for more information on the development of the clean-up criteria. CNSC staff stated that the existing clean-up criteria for uranium and arsenic are based on the standards set by the Ontario Ministry of Environment, Conservation and Parks (OMECPP). CNSC staff explained that the PHAI cleanup criteria were established in consultation with public stakeholders, and provincial and federal authorities including Health Canada, Ontario Ministry of Environment, OMECPC, Ontario Public Health, and the Haliburton Kawartha Pine Ridge District Health Unit. CNSC staff noted that the OMECPC soil standards are conservatively set for residential and parkland use, and are protective of members of the public.<sup>49</sup>
95. The Commission asked CNSC staff to explain how it verifies the adequacy of CNL's remediation work under the PHAI. CNSC staff stated that it retrieves and analyzes samples from various areas where CNL has completed cleanup activities. CNSC staff added that it also verifies that CNL is properly calibrating its instrumentation and managing its samples.<sup>50</sup>
96. In its EPR report, CNSC staff found that there are no additive cumulative effects occurring in the environment around the PHAI sites.<sup>51</sup> Noting concerns raised in the intervention by A. Tilman (CMD 22-H13.3) regarding cumulative effects, the Commission asked CNSC staff for additional information on the assessment of cumulative effects of chemicals of potential concern in the environment. CNSC staff stated that it assesses all potential impacts of licensed facilities through multiple means including review of environmental protection program documents, monitoring data, IEMP results, and review of any applicable environmental or health studies. CNSC staff also noted that licence release limits are set to be protective of the public and of the environment.
97. The intervention by A. Tilman (CMD 22-H13.3) raised the issue of the classification of the Port Hope Harbour as an "area of concern" under the [\*Great Lakes Water Quality Agreement\*](#)<sup>52</sup>. The Commission asked for more information on this subject. An ECCC representative stated that the Port Hope Harbour had been designated as an area of concern in 1987, primarily due to sediment contamination in the inner harbour. A CNL representative explained that CNL plans to complete dredging and remediating the harbour's Centre Pier in 2025. The ECCC representative explained that, once remediation activities are complete, ECCC will be involved in the process of verifying the cleanup criteria and delisting the harbour as an area of concern.<sup>53</sup>

---

<sup>49</sup> *Transcript of November 22, 2022 Public Hearing*, pages 111-114 and pages 146-147

<sup>50</sup> *Transcript of November 22, 2022 Public Hearing*, pages 241-242

<sup>51</sup> *Transcript of November 22, 2022 Public Hearing*, pages 117-118

<sup>52</sup> *Great Lakes Water Quality Agreement*, the Government of Canada and the Government of the United States of America, September 7, 2012

<sup>53</sup> *Transcript of November 22, 2022 Public Hearing*, pages 114-116

Protection of People

98. In section 6.7.2.2 of CMD 22-H13.1, CNL reported that estimated public dose from the PHAI sites remained well below the annual public dose limit of 1 mSv/year over the licence period. In section 3.9.3 of CMD 22-H13, CNSC staff submitted that the maximum recorded public dose estimate over the licence period was 0.0998 mSv/year from the Port Hope Project in 2013. In 2021, the annual public dose estimates for the Port Hope and Port Granby Projects were 0.023 mSv/year and 0.041 mSv/year, respectively.
99. In section 3.9 of CMD 22-H13, CNSC staff submitted that CNL maintains a comprehensive environmental monitoring program for the PHAI to verify that public dose remains ALARA. CNSC staff confirmed that the estimated maximum effective radiation dose to the public from the PHAI was well below the regulatory dose limit of 1 mSv/year over the current licence term. CNSC staff also noted that, in 2016, CNL modified its approach for calculating estimated dose to the public to include dose contributions from radon monitoring and dose measurements taken at the perimeter of the Port Hope and Port Granby LTWMF sites. CNSC staff found the new approach to be more conservative.
100. Regarding exposure of the public to contaminated dust generated from PHAI projects, a CNL representative stated that CNL's operations for the PHAI meet the Ontario Ambient Air Quality Criteria for dust management and that CNL has an extensive dust monitoring program around all CNL sites.<sup>54</sup> CNL submitted information on its *Dust Management and Requirements Plan* and *Small-Scale Sites Dust Management and Requirements Plan*, which ensure the protection of the public from re-suspension of contaminated dust during remediation activities. CNL also submitted that dust monitoring results are publicly available on the [PHAI website](#).
101. The Commission asked CNL to respond to the concern raised in the intervention by the PHCHCC (CMD 22-H13.27) regarding gamma levels at the top of the capped engineered containment mounds. A CNL representative stated that a recent gamma scan of the capped Port Granby mound found that gamma levels at the surface of the mound were at background levels. A CNL representative noted that the 3-metre-thick cap is sufficient to block all gamma rays emitted from the waste emplaced in the mound. The CNL representative explained that CNL anticipates the same results once the Port Hope mound is capped. The CNL representative further stated that CNL maintains an inventory of the radioactive material stored in the mounds to ensure that the source-term volumes and total radionuclide activity are not exceeded.<sup>55</sup> A CNL representative provided specific detail on how it calculates the quantity of stored radioactive material, and CNSC staff confirmed staff's conclusion that CNL's methods were appropriate to estimate the amount of radioactive material stored in the engineered containment mounds.<sup>56</sup>

---

<sup>54</sup> *Transcript of November 22, 2022 Public Hearing*, page 177

<sup>55</sup> *Transcript of November 22, 2022 Public Hearing*, pages 174-175

<sup>56</sup> *Transcript of November 22, 2022 Public Hearing*, pages 245-249

102. Regarding radon emissions from the engineered containment mounds, a CNL representative said that radon monitoring equipment is in place at the now capped and closed Port Granby engineered containment mound and, though it was too early to have six-month averaged data, CNL was not anticipating radon levels above background. The CNL representative said that CNL will be monitoring radon emissions as part of its Phase III monitoring plan.<sup>57</sup>
103. On the topic of radiation monitoring, CNL submitted that monitoring of ambient gamma radiation levels and of radon gas concentrations is ongoing. CNL added that monitoring would continue until all PHAI sites have been remediated and regulatory control requirements have been removed by the CNSC.

#### Health Studies

104. CNSC staff reported that the findings of environmental and epidemiological studies conducted in Port Hope over several decades demonstrate that the low levels of radiological and non-radiological environmental exposures within the Port Hope region resulting from the radium and uranium industry have not caused adverse effects on human health. In section 5.2 of the EPR, CNSC staff reported that multiple studies have been conducted to assess the potential effects of contamination in the Port Hope community over the last 70 years. In 2009, the CNSC, working with Health Canada, published a peer-reviewed [synthesis report](#)<sup>58</sup> which summarized the scientific information used by government organizations to assess the health effects of past and current uranium refining and processing activities in Port Hope.
105. CNSC staff submitted that the synthesis report found cancer incidence in Port Hope residents – for all cancers combined – to be comparable with the general population of Ontario and Canada. CNSC staff also reported that mortality rates from all types of cancer in Port Hope were comparable to those for the general Ontario population.<sup>59</sup>
106. The interventions by the PHCHCC (CMD 22-H13.27) and F. More ([CMD 22-H13.28](#)) strongly disagreed with CNSC staff's conclusions with respect to effects on human health in the Port Hope community. These interventions shared personal examples of community members who had experienced poor health. The intervenors also cited an assessment of Port Hope health data completed by Dr. Eric Mintz, which concluded that the data showed elevated rates of a variety of cancers in the Port Hope community. CNSC staff stated that it had reviewed Dr. Mintz's assessment. CNSC staff noted that, although Dr. Mintz's observations were consistent with the reviewed data, many of the findings were not statistically significant due to limitations with the data, such as a small number of cases over a small sample size. CNSC staff explained that community health studies require large data samples and long timeframes to be

---

<sup>57</sup> *Transcript of November 22, 2022 Public Hearing*, pages 175-176

<sup>58</sup> *Understanding Health Studies and Risk Assessments Conducted in the Port Hope Community from the 1950s to the Present*, Canadian Nuclear Safety Commission, 2009

<sup>59</sup> Section 5.2.1 of the *Environmental Protection Review Report*, Appendix F of [CMD 22-H13](#)

reliable. CNSC staff noted that such limitations are a reason that CNSC staff looks at epidemiological data trends over time, rather than focusing on any one study.

107. The Commission asked CNSC staff to respond to concerns raised by the PHCHCC (CMD 22-H13.27) regarding elevated rates of lung cancer in the Port Hope community. CNSC staff noted the finding in the synthesis report that Port Hope residents, especially women, were found to have excess cases of lung cancer. CNSC staff noted that this pattern was seen for the whole of Northumberland County, not specifically in Port Hope, and was consistent with the known main risk factor of lung cancer (tobacco smoking) within the community.
108. The interventions by the PHCHCC (CMD 22-H13.27) and F. More (CMD 22-H13.28) also cited a 1998 study by Health Canada's Great Lakes Health Effects Program, *Health Data and Statistics for the Population of the Region (1986-1992)*, as a study which showed elevated rates of disease in the Port Hope area compared to the rest of Ontario. CNSC staff stated that the intervenors' interpretation was not consistent with the conclusion of the study, which found no significant difference in either cancer incidence or birth health in the Port Hope area compared to the overall Ontario population. CNSC staff noted that multiple studies by Health Canada's Great Lakes Health Effects Program, including *Health Data and Statistics for the Population of the Region (1986-1992)*, are considered in the synthesis report.
109. The Commission acknowledges the concerns raised by intervenors and notes the difference between the conclusions of health studies, such as those described in the synthesis report, and the lived health issues of individuals. The Commission is of the view from its review of the evidence that, when considering the health of a broad population over many years, the conclusions are more meaningful when determined by synthesizing the results of many health studies, rather than focusing on the results of individual analyses. The Commission concludes that the findings of the multiple peer-reviewed studies made in this area, as detailed in the synthesis report, provide a reliable demonstration that Port Hope residents are as healthy as the general population. For the purpose of this licence renewal, the Commission is satisfied that the health of persons in Port Hope is protected.

#### Conclusions on Environmental Protection

110. The Commission concludes that, based on the results and information provided, and given the mitigation measures and programs that are in place to control hazards, CNL will provide adequate protection to the health and safety of persons and the environment throughout the proposed licence period. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has implemented an environmental monitoring program in compliance with regulatory requirements, including REGDOC 2.9.1

- The Commission agrees with the findings of CNSC staff's Environmental Protection Review that risks to the environment and human health from PHAI licensed activities are negligible
- The Commission is satisfied that results from the CNSC's IEMP support CNSC staff's assessment that the public and the environment surrounding the PHAI sites are protected
- The Commission is satisfied that estimated dose to the public over the current licence period was well below regulatory requirements
- The Commission is satisfied that CNL implemented adequate corrective actions in response to the exceedance regulatory limit for copper, over the current licence term
- The Commission is satisfied that CNL has addressed all findings associated with CNSC staff's environmental protection SCA inspections to CNSC staff's satisfaction
- The Commission is satisfied that the synthesis report, *Understanding Health Studies and Risk Assessments Conducted in the Port Hope Community from the 1950s to the Present*, provides a reliable overview of the health of persons in Port Hope

#### 4.2.9 Emergency Management and Fire Protection

111. CNL's emergency management and fire protection programs cover the measures for preparedness and response capabilities implemented by CNL in the event of emergencies and non-routine conditions at the PHAI. The measures applicable to the PHAI include conventional emergency preparedness and response, and fire protection and response.
112. Regarding emergency management, CNL reported, in section 6.10.1.1 of CMD 22-H13.1, that it maintains the *PHAI Emergency Plan* which outlines all necessary emergency response measures for the PHAI. CNL submitted that it has memoranda of understanding with municipal and provincial emergency response organizations so that it may call upon their resources if necessary. CNL also reported that it has in place the *PHAI Five Year Drill Plan* and completes emergency drills and exercises per all statutory requirements – in 2021, PHAI sites completed 14 full emergency and fire-related drills involving personnel evacuation exercises.
113. In section 3.10 of CMD 22-H13, CNSC staff confirmed that CNL's emergency plan contains the necessary guidelines and responsibilities for CNL staff to respond to an emergency at the PHAI. CNSC staff reported that it conducted 4 inspections of CNL's emergency preparedness and response program since the construction of the Port Hope Project and Port Granby Project WWTP and LTWMF, including inspections of emergency drills. CNSC staff found that CNL adequately implemented lessons learned from the emergency drills to strengthen their emergency response plan.

114. On the topic of fire protection, CNL submitted, in section 6.10.1.2 of CMD 22-H13.1, that it has implemented the *PHAI Fire Protection Plan*, which provides the framework, requirements, processes and responsibilities pertaining to fire protection across PHAI activities. CNL also provided information on the physical and program improvements it made to the fire prevention and emergency features of PHAI facilities over the licence term, including improvements to communication practices, training, and contractor oversight.
115. In section 3.10 of CMD 22-H13, CNSC staff reported that CNL's fire protection program for the PHAI meets regulatory requirements, including compliance with the [National Fire Code of Canada, 2015](#)<sup>60</sup> and the [National Building Code of Canada, 2015](#).<sup>61</sup> CNSC staff inspected CNL's fire protection program in December 2021 and identified opportunities for improvement, including for better oversight of contractor sites. CNSC staff reported that CNL made appropriate improvements to its fire protection plan following the inspection.
116. The Commission concludes that CNL's emergency management and fire protection programs in place for the PHAI are adequate to protect the health and safety of persons and the environment. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has implemented emergency preparedness and fire protection programs that meet regulatory requirements, including the *National Fire Code of Canada, 2015* and the *National Building Code of Canada, 2015*.
  - The Commission is satisfied that CNL has adequate emergency response plans in place, including support from municipal and provincial emergency response organizations, if necessary
  - The Commission is satisfied that the evidence shows that CNL is executing emergency drills as required and implementing lessons learned.

#### 4.2.10 Waste Management

117. Waste management covers waste-related programs that form part of a facility's operations up to the point where the waste is removed from the licensed site for storage, treatment, or disposal at another licensed location, and includes waste minimization, segregation, characterization, and storage programs.
118. The current PHAI licences do not have a specific licence condition for a waste management program because wastes generated from Port Hope and Port Granby Project activities have been stored in their respective LTWMFs. As the projects transition to Phase III, it will no longer be possible for the LTWMFs to accept waste. As such, CNSC staff have proposed that it is necessary for CNL to develop and

---

<sup>60</sup> *National Fire Code of Canada 2015*, National Research Council Canada, 2015.

<sup>61</sup> *National Building Code of Canada 2015*, National Research Council Canada, 2015.

implement waste management programs at the Port Hope and Port Granby Projects and decommissioning plans for supporting infrastructure. The proposed licence conditions related to waste management and decommissioning are discussed further in section 4.5.2 of this *Record of Decision*.

119. Though not required under the current PHAI licences, CNL submitted, in section 6.11.1 of CMD 22-H13.1, that it has maintained a waste management program for the PHAI to ensure that waste is managed, tracked, and diverted to appropriate waste receipt facilities. In its licence renewal application, CNL committed to implementing applicable requirements of the following CSA standards and CNSC waste management and decommissioning regulatory documents into the PHAI waste management program<sup>62</sup>:

- N292.0-19, General principles for the management of radioactive waste and irradiated fuel<sup>63</sup>
- N292.3-14, Management of low - and intermediate - level radioactive waste<sup>64</sup>
- N292.5-11, Guideline for the exemption or clearance from regulatory control of materials that contain or potentially contain, nuclear substances<sup>65</sup>
- N292.6-18, Long-term management of radioactive waste and irradiated fuel<sup>66</sup>
- N294-19, Decommissioning of facilities containing nuclear substances<sup>67</sup>
- [REGDOC-2.11, Framework for Radioactive Waste Management and Decommissioning in Canada, Version 2](#)<sup>68</sup>
- [REGDOC-2.11.1, Waste Management, Volume I: Management of Radioactive Waste](#)<sup>69</sup>
- [REGDOC-2.11.1, Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste, Version 2](#)<sup>70</sup>
- [REGDOC-2.11.2, Decommissioning](#)<sup>71</sup>

CNL noted that it had provided CNSC staff with a gap analysis of its current programs and implementation plan for meeting these requirements. In section 3.11 of CMD 22-H13, CNSC staff reported that it found CNL's implementation plan for meeting the requirements of the applicable regulatory documents and CSA standards to be reasonable.

---

<sup>62</sup> Section 6.11.3, CMD 22-H13.1

<sup>63</sup> N292.0-19, *General principles for the management of radioactive waste and irradiated fuel*, CSA Group, 2019

<sup>64</sup> N292.3-14, *Management of low - and intermediate - level radioactive waste*, CSA Group, 2014

<sup>65</sup> N292.5-11, *Guideline for the exemption or clearance from regulatory control of materials that contain or potentially contain, nuclear substances*, CSA Group, 2011

<sup>66</sup> N292.6-18, *Long-term management of radioactive waste and irradiated fuel*, CSA Group, 2018

<sup>67</sup> N294-19, *Decommissioning of facilities containing nuclear substances*, CSA Group, 2019

<sup>68</sup> REGDOC-2.11, *Framework for Radioactive Waste Management and Decommissioning in Canada, Version 2*, CNSC, March 2021

<sup>69</sup> REGDOC-2.11.1, *Waste Management, Volume I: Management of Radioactive Waste*, CNSC, January 2021

<sup>70</sup> REGDOC-2.11.1, *Waste Management, Volume III: Safety Case for the Disposal of Radioactive Waste, Version 2*, CNSC, January 2021

<sup>71</sup> REGDOC-2.11.2, *Decommissioning*, CNSC, January 2021



120. The Commission asked CNL for more information on its gap analysis for the waste management and decommissioning regulatory documents. A CNL representative explained that CNL had completed its gap analysis for the CNSC's REGDOC-2.11 suite of regulatory documents and identified areas for improvement related to waste acceptance criteria and consolidation of existing post-closure safety case information, in line with REGDOC 2.11.1 Volume III. CNSC staff confirmed that it would verify CNL's implementation of these requirements, and general performance in the waste management SCA, through regulatory oversight activities throughout the proposed licence period.<sup>72</sup>
121. Regarding decommissioning, CNSC staff submitted that it was in the process of completing a technical review of CNL's Preliminary Decommissioning Plan (PDP) for the Port Granby Project. CNSC staff confirmed that CNL is required to submit its PDP for the Port Hope Project by June 30, 2024.<sup>73</sup>
122. The Commission is satisfied that CNL has implemented sufficient measures to safely manage waste at the PHAI. The Commission is satisfied that CNL will update its waste management program to be in compliance with the requirements of the new waste management SCA over the proposed licence term. The Commission comes to this conclusion on the following basis:
- The Commission is satisfied that CNL has an adequate plan in place to implement a waste management program in compliance with regulatory requirements during the proposed licence term, per the conditions of the proposed licence

The Commission directs CNSC staff to provide updates on the status of the PDPs for the PHAI sites through the *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites*.

#### 4.2.11 Security

123. The security SCA covers the implementation of a program which provides provisions to prevent the loss, unauthorized removal and sabotage of nuclear substances, nuclear materials, prescribed equipment, or information. CNL's security program for the PHAI must comply with applicable provisions of the GNSCR.
124. In section 6.12 of CMD 22-H13.1, CNL submitted information on its *PHAI Security Plan*, which outlines practices to minimize risk to the public, workers, and the environment, as well as to protect against acts of sabotage or theft. CNL reported that PHAI activities comply with CNSC [REGDOC 2.12.3, Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material](#).<sup>74</sup> CNL

---

<sup>72</sup> Transcript of November 22, 2022 Public Hearing, pages 243-245

<sup>73</sup> Section 3.11, CMD 22-H13

<sup>74</sup> REGDOC 2.12.3, *Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material*, CNSC, Version 2.1, September 2020

clarified that PHAI activities do not involve Category I, II, or III nuclear materials, however, sealed sources are utilized across PHAI activities for equipment calibration purposes.

125. In section 3.12 of CMD 22-H13, CNSC staff submitted that it assessed the *PHAI Security Plan* and found that CNL's security program meets regulatory requirements. CNSC staff noted that although there were minor incidents involving equipment theft and vandalization of property over the current licence term, the risk associated with these instances was low. CNSC staff added that the 2 security inspections it conducted during the licence period confirmed that the security measures in place for the PHAI meet regulatory requirements.
126. The Commission is satisfied that the evidence provided demonstrates that CNL has adequate programs and measures in place to provide for the physical security of the PHAI sites during the proposed licence period. The evidence shows that CNL's performance with respect to maintaining security at the PHAI facilities has been acceptable and that CNL meets CNSC regulatory requirements. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has a security program in place that meets regulatory requirements
  - The Commission notes that CNSC staff found no non-compliances during inspections of the security SCA over the current licence period

#### *4.2.12 Safeguards and Non-Proliferation*

127. The CNSC's regulatory mandate includes ensuring conformity with measures required to implement Canada's international obligations under the [Treaty on the Non-Proliferation of Nuclear Weapons](#)<sup>75</sup> (NPT). Pursuant to the NPT, Canada has entered into a [Comprehensive Safeguards Agreement](#)<sup>76</sup> and an [Additional Protocol](#)<sup>77</sup> (safeguards agreements) with the IAEA. The objective of these safeguards agreements is for the IAEA to provide credible assurance on an annual basis to Canada and to the international community that all declared nuclear material is in peaceful, non-explosive uses and that there is no undeclared nuclear material or activity in this country. Safeguards and non-proliferation became a requirement for the Port Hope Project in 2018. There are no safeguards and non-proliferation requirements for the other PHAI sites.
128. In section 6.13 of CMD 22-H13.1, CNL submitted that it manages a mature *Nuclear Materials and Safeguards Management Program* which provides compliance oversight and services to the PHAI, and complies with the requirements laid out in

---

<sup>75</sup> INFCIRC/140

<sup>76</sup> INFCIRC/164

<sup>77</sup> INFCIRC/164/Add.1

CNSC [REGDOC-2.13.1, \*Safeguards and Nuclear Material Accountancy\*](#).<sup>78</sup> CNL specified in its submission that some of the nuclear material that it has received from Cameco Corporation, which operates the [Port Hope Conversion Facility](#), has been deemed as safeguarded by the IAEA. CNL reported that the material from Cameco has been emplaced in the Port Hope LTWMF in accordance with the facility design and under the ongoing monitoring by the CNSC and the IAEA.

129. In section 3.13 of CMD 22-H13, CNSC staff submitted that it assessed CNL's safeguards and non-proliferation program and found that it meets regulatory requirements, including REGDOC-2.13.1. CNSC staff confirmed that CNL provided the CNSC and IAEA all the reports and information necessary to comply with safeguards regulatory requirements during the licence period. CNSC staff reported that the IAEA performed 13 inspections and verifications over the licence term and visited the Port Hope Project an additional 3 times to install and maintain safeguards equipment. CNSC staff reported that, in all cases, CNL provided the IAEA with the necessary access and assistance. The IAEA made no findings as a result of these inspections.
130. The Commission concludes that CNL has implemented and is maintaining a satisfactory safeguards program that provides for, and will continue to provide for, the implementation of measures that are necessary for maintaining national security, and for implementing international agreements to which Canada has agreed. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has a safeguards and non-proliferation program in place which meets regulatory requirements, including REGDOC-2.13.1
  - The Commission is satisfied that the evidence shows that CNL provided the IAEA with the necessary information and access during the licence term, and that the IAEA had no findings as a result of its inspections.

#### *4.2.13 Packaging and Transport*

131. Packaging and transport covers the safe packaging and transport of nuclear substances and radiation devices to and from the licensed facility. CNL must adhere to the [Packaging and Transport of Nuclear Substances Regulations, 2015](#)<sup>79</sup> (PTNSR, 2015) and Transport Canada's [Transportation of Dangerous Goods Regulations](#)<sup>80</sup> (TDGR) for all shipments.
132. In section 6.14 of CMD 22-H13.1, CNL submitted information on its *Transportation of Dangerous Goods Program* which establishes the processes necessary to facilitate the safe transport of dangerous goods to and from CNL sites in accordance with

---

<sup>78</sup> REGDOC-2.13.1, *Safeguards and Nuclear Material Accountancy*, CNSC, February 2018

<sup>79</sup> SOR/2015-145.

<sup>80</sup> SOR/2001-286.

regulatory requirements. CNL submitted that its *PHAI Transport of Dangerous Goods Plan* provides operational transportation details for PHAI sites. CNL provided detailed information on how its waste transportation process complies with regulations. CNL further detailed that, as the PHAI progresses, the focus of remediation efforts will shift from large project sites to smaller sites, with limited waste transfers. CNL confirmed that, regardless of site scale, each shipment will continue to be performed in compliance with Transport Canada and CNSC regulations.

133. In section 3.14 of CMD 22-H13, CNSC reported that it reviewed CNL's packaging and transport program for the PHAI and found that the packaging and transport program meets regulatory requirements, including the requirements of PTNSR, 2015 and the TDG Regulations. CNSC staff reported that it conducted an inspection focused on packaging and transport in March 2019, which resulted in 2 enforcement actions of low safety significance. CNSC staff added that CNL addressed both enforcement actions appropriately.
134. CNSC staff submitted that, over the licence period, CNL reported 3 minor packaging and transport incidents. The 3 incidents involved incorrect labelling and improperly classified material.<sup>81</sup> CNSC staff confirmed that CNL reported the incidents in accordance with regulatory requirements and that none of the incidents impacted the health and safety of the public, workers, or the environment. CNSC staff found that CNL adequately implemented corrective actions in response to the events.
135. The Commission asked for more information on the transport of waste to the Port Hope LTWMF. A CNL representative explained that, once removed from a remediation site, low level radioactive waste is transported by truck on designated transportation routes to the Port Hope LTWMF. CNL reported that, per the PTNSR, 2015, CNL determines the activity inventory for each vehicle and confirms that contamination on the vehicle's exterior surfaces is below the requisite contamination limits prior to departure.<sup>82,83</sup>
136. The Commission is satisfied that the evidence provided demonstrates that CNL has adequate programs and measures in place to meet regulatory requirements regarding packaging and transport. The Commission is of the opinion that CNL will continue to meet these requirements over the proposed licence period. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has implemented a packaging and transport program that meets regulatory requirements, including the PTNSR, 2015 and the TDGR
  - The Commission is satisfied that CNL appropriately addressed all inspection findings over the current licence term

---

<sup>81</sup> Section 3.14.3.1, CMD 22-H13

<sup>82</sup> *Transcript of November 22, 2022 Public Hearing*, page 249

<sup>83</sup> Section 6.14, CMD 22-H13.1

- The Commission is satisfied that CNL implemented adequate corrective actions in response to packaging and transport events over the current licence period and that these events had no impact on the health and safety of the public, workers, or the environment.

#### 4.2.14 Conclusion on CNL's Performance for the Port Hope Area Initiative

137. Based on the evidence provided, the Commission concludes that CNL is qualified to carry on the licensed activities under the proposed single PHAI licence, and has adequate programs and measures in place with respect to the 13 applicable SCAs to ensure that the health and safety of workers, the public and the environment will be protected over the proposed licence term. The Commission is further satisfied that CNL has measures in place to provide for the maintenance of national security and to implement international obligations to which Canada has agreed.

### 4.3 Engagement and Consultation with Indigenous Nations and Communities

138. The Commission considered the information provided by CNSC staff and CNL regarding Indigenous consultation and engagement activities in respect of this application. Indigenous consultation refers to the common law duty to consult with Indigenous Nations and communities pursuant to section 35 of the [\*Constitution Act, 1982\*](#).<sup>84</sup>
139. The common law duty to consult with Indigenous Nations and communities is engaged when the Crown contemplates action that may adversely affect established or potential Aboriginal and/or treaty rights. The CNSC, as an agent of the Crown and as Canada's nuclear regulator, recognizes and understands the importance of building relationships and engaging with Canada's Indigenous Nations and communities. The CNSC ensures that its licensing decisions under the NSCA uphold the honour of the Crown and consider Indigenous Nations and communities' potential or established Aboriginal and/or treaty rights pursuant to section 35 of the *Constitution Act, 1982*.
140. The duty to consult is engaged wherever the Crown has "knowledge, real or constructive, of the potential existence of an Aboriginal right or title and contemplates conduct that might adversely affect it".<sup>85</sup> Licensing decisions of the Commission, where Indigenous interests may be adversely impacted, can engage the duty to consult, and the Commission must be satisfied that it has met the duty prior to making the relevant licensing decision.

---

<sup>84</sup> Schedule B to the Canada Act 1982 (UK), 1982, c 11

<sup>85</sup> *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73 at para 35

Indigenous Engagement by CNSC Staff

141. In section 4 of CMD 22-H13, CNSC staff provided the Commission with information on its engagement activities with Indigenous Nations and communities that were identified as having a potential interest in the PHAI licence renewal, including:

- Alderville First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Mississaugas of Scugog Island First Nation
- Chippewas of Beausoleil First Nation
- Chippewas of Georgina Island First Nation
- Chippewas of Rama First Nation
- Mohawks of the Bay of Quinte
- Métis Nation of Ontario

CNSC staff identified these communities due to the proximity of their communities, treaty areas, and/or traditional territories and homelands to the PHAI, or due to previously expressed interest in being kept informed.

142. CNSC staff provided information on the timeline of its engagement activities pertaining to CNL's licence renewal application. CNSC staff reported that it communicated with the identified Indigenous Nations and communities to answer questions about the regulatory process, encourage their participation in the proceeding, and to inform them of the availability of participant funding. CNSC staff submitted that, during engagement sessions with Indigenous Nations and communities, it heard specific concerns regarding ecological compensation and the long-term management of contaminated soils.

143. CNSC staff submitted that the proposed licence renewal is unlikely to cause any new impacts on Indigenous and/or treaty rights. CNSC staff noted that it had not been made aware of any concerns regarding potential new impacts on Indigenous and/or treaty rights, specific to this licence renewal, expressed by Indigenous Nations and communities.

144. CNSC staff noted that it has a Terms of Reference for long-term engagement with Curve Lake First Nation, the Mississaugas of Scugog Island First Nation, and the Métis Nation of Ontario. CNSC staff reported that it is committed to ongoing engagement and collaboration with interested Indigenous Nations and communities and will continue to provide opportunities for meaningful long-term engagement over the proposed licensing term.

Indigenous Engagement by CNL

145. The Commission examined the information submitted by CNL regarding its ongoing engagement with Indigenous Nations and communities near the PHAI. As part of its

licence renewal application, CNL submitted an Indigenous Engagement Report to CNSC staff in accordance with [REGDOC-3.2.2, \*Indigenous Engagement\*](#).<sup>86</sup> This report included a list of Indigenous Nations and communities identified for engagement, a summary of engagement activities conducted to date, and a description of planned engagement activities.

146. CNL submitted that it routinely engages with the following Indigenous Nations and communities with respect to the PHAI:

- Williams Treaties First Nations
- Alderville First Nation
- Beausoleil First Nation
- Georgina Island First Nation
- Chippewas of Rama First Nation
- Curve Lake First Nation
- Hiawatha First Nation
- Missisaugas of Scugog Island First Nation
- Anishinabek Nation
- Mohawks of Bay of Quinte
- Métis Nation of Ontario
- Local Métis Councils

CNL reported that its engagement activities include regular meetings, receipt of feedback from Indigenous Nations and communities on PHAI programs, participation in field demonstrations, notification of significant project changes, PHAI site tours, and invitations to community events.

147. Through its ongoing engagement activities related to the PHAI, CNL noted that common issues raised by Indigenous Nations and communities pertain to:

- Impacts to animal health and migration
- Impacts to water quality
- CNL's archaeological protocols
- Indigenous participation in/monitoring of project activities, including providing input on the Port Hope and Port Granby Environmental Protection Plans.

148. CNL submitted that, historically, its *PHAI Public Information Program* has included Indigenous communities and organizations as a priority audience. In support of CNL's objective to advance reconciliation, CNL reported that it was in the process of implementing a distinct *PHAI Indigenous Communications & Engagement Program* which will be guided by the requirements in REGDOC-3.2.2 and [REGDOC-3.2.1, \*Public Information and Disclosure\*](#).<sup>87</sup>

---

<sup>86</sup> REGDOC-3.2.2, *Indigenous Engagement*, Version 1.2, CNSC, February 2022

<sup>87</sup> REGDOC-3.2.1, *Public Information and Disclosure*, CNSC, March 2018

149. The Commission asked for more information on CNL's Reconciliation Action Plan. A CNL representative explained that the CNL Reconciliation Action Plan was under development, and that CNL's Director of Indigenous Relations and a Senior Advisor of Indigenous Relations for the PHAI would assist in the development of the plan. The CNL representative confirmed that CNL would seek input from Indigenous communities once the draft plan is complete.
150. The presentation by AECL ([CMD 22-H13.22A](#)) noted an initiative, led by the Municipalities of Clarington and Port Hope, to establish a nature reserve around the Port Granby site. The Commission asked for more information on this initiative and on the involvement of Indigenous Nations and communities. An AECL representative explained that AECL was working with the local municipalities and Indigenous Nations and communities to establish the nature reserve. The representative stated that AECL was planning to set up a co-management model between the federal government, the Municipality of Clarington, Indigenous Nations and communities, and stakeholder groups to manage the nature reserve. The MSIFN expressed its support for this initiative in CMD 22-H13.26. The Commission notes its interest in this initiative.
151. The Commission asked CNL how it incorporates Indigenous Knowledge into its remediation activities. A CNL representative explained that CNL has worked with Indigenous Nations and communities on different projects in the field, including archaeological site walkdowns and the de-fishing of the Port Hope harbour during its remediation. The CNL representative also said that CNL was gifted, as part of its Indigenous engagement activities, a list of native plant species to incorporate into its restoration projects. The CNL representative expressed CNL's commitment to enhancing the use of Indigenous knowledge systems in CNL's operations.<sup>88</sup>
152. Regarding archaeological protocols, CNL reported, in section 2.3 of CMD 22 H13.1, that it has established a *Protocol for Archaeological and Forensic Discovery*, which outlines the required procedure should items of potential archaeological, Indigenous or cultural heritage significance be discovered during PHAI work activities. The protocol includes engagement of Indigenous Cultural Heritage Monitors and notification of Indigenous communities.<sup>89</sup>
153. CNL noted that it has Contribution Agreement with Curve Lake First Nation to provide funding to support Curve Lake First Nation's active involvement in CNL communications and engagement, and project planning. CNL reported that it is open to developing similar agreements with other Indigenous communities if desired.

---

<sup>88</sup> *Transcript of November 22, 2022 Public Hearing*, pages 135-138

<sup>89</sup> Section 2.3, CMD 22-H13.1



Submissions by Indigenous Nations and Communities

154. The Commission received written interventions from the Mississaugas of Scugog Island First Nation (MSIFN; [CMD 22-H13.26](#)), and Curve Lake First Nation ([CMD 22-H13.29](#)).
155. In its written intervention, the MSIFN emphasized its desire for additional engagement, specifically regarding environmental monitoring, species at risk protocols, adaptive management practices, and the protection of water bodies near the PHAI sites. The MSIFN expressed a concern that consolidating the PHAI licences would result in fewer engagement opportunities, and recommended that a collaborative planning process be established between CNL and the MSIFN to enhance communication. The MSIFN also recommended that CNL set up an ecological restoration fund for lands and waters outside of PHAI site area.
156. In its written intervention, Curve Lake First Nation provided recommendations on ways to improve the language used in CNL's and CNSC staff's land acknowledgements and submissions. Curve Lake First Nation also raised concerns regarding:
- Environmental protection and cumulative environmental effects
  - Impacts to harvesting and fishing rights
  - Impacts to human health
  - Past, present, and future engagement of Indigenous rights holders throughout the stages of the PHAI
  - Inclusion of indigenous knowledge systems in PHAI activities
157. In its intervention, Curve Lake First Nation disagreed with CNSC staff's assertion that the proposed licence renewal is unlikely to cause any new impacts on Indigenous and/or treaty rights. Curve Lake First Nation submitted that CNSC staff came to this conclusion without considering Indigenous knowledge systems. CNSC staff stated that Curve Lake First Nation did not raise any specific information on how the renewal could impact their Indigenous or treaty rights during engagement meetings prior to the hearing. CNSC staff noted that it would be following up with Curve Lake First Nation in the future.

*4.3.1 Conclusion on Indigenous Consultation and Engagement*

158. The Commission concludes that its responsibility to uphold the honour of the Crown and its constitutional obligations with regard to engagement and the duty to consult respecting Indigenous interests has been satisfied. The renewal of the Port Hope Project licence as a single PHAI licence does not include any new licenced activities that could cause new impacts on human health or the environment. As such, the issuance of the single PHAI licence will not cause any new adverse impacts to any

potential or established Indigenous and/or treaty rights.<sup>90</sup> Absent any new adverse impacts, the Commission is satisfied that the consultation and engagement activities undertaken for this application have been adequate.

159. The Commission acknowledges the current efforts and commitments made by CNL in relation to Indigenous engagement and CNSC staff's efforts in this regard on behalf of the Commission. The Commission is satisfied with CNSC staff's efforts to engage with Indigenous Nations and communities who may have interest in the PHAI, as described. The efforts made by CNSC staff in this regard are key to the important work of the Commission toward reconciliation and relationship-building with Canada's Indigenous Nations and communities. The Commission expects CNSC staff to continue to build meaningful long-term relationships with Indigenous Nations and communities as part of the CNSC's reconciliation efforts.

#### **4.4 Other Matters of Regulatory Importance**

##### *4.4.1 Public Engagement*

160. The Commission assessed CNL's public information and disclosure program (PIDP) for the PHAI. Per the requirements of the current PHAI licences, CNL is required to implement and maintain a public information and disclosure program. Though CNSC REGDOC 3.2.1-*Public Information and Disclosure* is not applicable to WNSLs, CNL has committed to maintain a PIDP for the PHAI in alignment with REGDOC-3.2.1.<sup>91</sup>
161. In section 3 of CMD 22-H13.1, CNL provided the Commission with detailed information on the *PHAI Public Information Program*, including information on CNL's processes for public outreach and engagement, responding to public inquires, communication with local municipalities, communication with small-scale site property owners, public attitude surveys, and public disclosure. CNL submitted that it has a dedicated website – [PHAI.ca](http://PHAI.ca) – where it posts descriptions of current and upcoming work, environmental monitoring reports, annual compliance reports, and public disclosures.
162. In section 4.2 and 5.3 of CMD 22-H13, CNSC staff reported that CNL has implemented a PIDP for the PHAI that follows the guidance provided in REGDOC 3.2.1. CNSC staff reported that it inspected CNL's PIDP as recently as September 2019 and found that CNL's PIDP identifies clear goals and objectives in terms of dissemination of information to multiple target audiences, recognizes the importance of actively providing updates and briefings to Indigenous Nations and communities, and is publicly available on CNL's website. Throughout the current licence period, CNSC staff found that CNL made reasonable efforts to keep targeted audiences informed about the PHAI and address project-specific issues and concerns raised.

---

<sup>90</sup> *Rio Tinto Alcan v. Carrier Sekani Tribal Council*, 2010 SCC 43[2010] 2 S.C.R. 650 at paras 45 and 49

<sup>91</sup> Section 5.3, CMD 22-H13

163. In its intervention, the PHCHCC raised concerns about the accuracy of a diagram on the PHAI website depicting the layers in the engineered containment mounds. The Commission asked CNL to comment on the diagram. A CNL representative confirmed that the drawing was not drawn to scale and stated that, in the future, CNL would clearly identify whether diagrams on its website are drawn to scale.
164. The Commission asked CNL to comment on the concerns raised in the written intervention by J. Sypher ([CMD 22-H13.14](#)) regarding CNL's responsiveness to public complaints. A representative from CNL confirmed that CNL had addressed ,or was in the process of addressing, the intervenor's concerns as the project has progressed. CNL explained that it addresses all property owner concerns as soon as possible, and would continue to work with property owners until their issues are resolved.<sup>92</sup>
165. The Commission asked about the types of concerns that CNL has received from the public. A CNL representative expressed that recent concerns from the community were in regard to the impact of remediation activities on private properties such as tree-removal, impact to sentimental property features, and the duration of work.<sup>93</sup>
166. Regarding opportunities for public engagement in the PHAI, the Commission asked CNL why the Port Granby Citizen Liaison Group had been discontinued. A CNL representative explained that the Port Granby Citizen Liaison Group was formed to provide information to, and get feedback from, the local community during Phase II of the Port Granby Project. The CNL representative stated that, as the project moves into Phase III, CNL would be developing a Phase III public engagement plan for the Port Granby Project which may include similar engagement groups.<sup>94</sup>
167. The intervention by A. Tilman (CMD 22-H13.3) highlighted the importance of having detailed event reports made available to the public. In CMD 22-H13.1, CNL submitted that it posts disclosures about unplanned project activities and events on the PHAI [Public Disclosure webpage](#), typically within four business days, and that key stakeholders may be directly notified.
168. The intervention by F. More (CMD 22-H13.28) raised concerns regarding the availability of public information regarding contamination at the former Dr. L.B. Powers Public School. The intervenor noted that such information would be in the public interest. In response to questions from the Commission on this subject, a CNL representative explained that the property was now privately-owned, and that for private properties, CNL provides radiological status letters only to the property owner or prospective property owners and their real estate agents, unless express permission to share the status letter has been given by the property owner. The CNL representative added that an *Access to Information* request could be submitted under

---

<sup>92</sup> Transcript of November 22, 2022 Public Hearing, page 256

<sup>93</sup> Transcript of November 22, 2022 Public Hearing, page 160

<sup>94</sup> Transcript of November 22, 2022 Public Hearing, pages 84-86

the [Access to Information Act](#)<sup>95</sup> to access information.<sup>96</sup> The Commission encourages CNSC staff to reach out to the intervenor to see how information on the former Dr. L.B. Powers Public School may be made available to them.

169. The Commission asked CNSC staff for an update on an action from the [August 2018 Commission Meeting](#) for CNSC staff to facilitate the provision of information by CNL on radiation survey results in the Port Hope community to the public. CNSC staff said that, following the action, it verified that CNL had updated its public information process in order to make municipal property survey results more readily available. CNSC staff stated that information on this process is available on CNL's website. A CNL representative added that CNL worked with the Municipality of Port Hope to simplify the process for property owners to gain access to information on public property, such as road allowances adjacent to their property.<sup>97</sup>
170. The Commission concludes that CNL will continue to communicate to the public information about the health, safety and security of persons and the environment and other issues related to its facility. The Commission comes to this conclusion on the following basis:
- The Commission agrees with CNSC staff's assessment that CNL has implemented a PIDP that meets the guidance of REGDOC-3.2.1
  - The Commission is satisfied that CNL met its public disclosure and reporting obligations throughout the current licence term

The Commission acknowledges CNL's efforts to engage with the public regarding the PHAI. The Commission emphasizes the importance of transparency and notes that there is still work to be done to increase the availability of information to the public. The Commission encourages CNL to make available radiological survey results and remediation information for public property or property that was previously public.

#### *4.4.2 Decommissioning Plans and Financial Guarantee*

171. The Commission requires that CNL develop operational plans for the decommissioning and long-term management of waste produced during the lifespan of the PHAI. In order to ensure that adequate resources are available for safe and secure future decommissioning of the PHAI support facilities, the Commission requires that an adequate financial guarantee for realization of the planned activities is put in place and maintained in a form acceptable to the Commission.
172. In section 8.2 of CMD 22-H13.1, CNL submitted that AECL retains ownership of the lands, assets and liabilities associated with CNL's licences. As an agent of His Majesty in Right of Canada, AECL's liabilities are ultimately liabilities of the Crown.

---

<sup>95</sup> R.S.C., 1985, c. A-1

<sup>96</sup> *Transcript of November 22, 2022 Public Hearing*, pages 224-232

<sup>97</sup> *Transcript of November 22, 2022 Public Hearing*, pages 222, 230-231

These liabilities have been formally recognized by the Federal Minister of Natural Resources in a letter dated July 31, 2015. CNL confirmed that the provisions in the 2015 letter remain valid on August 25, 2020. CNSC staff submitted that an expressed commitment from a federal government is an acceptable form of financial guarantee per [REGDOC-3.3.1, \*Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities\*](#) and that the financial guarantee is sufficient for funding the decommissioning of the PHAI including the supporting infrastructure.

173. On the topic of decommissioning, and as previously discussed in section 4.2.10 of this *Record of Decision*, the Port Granby Project PDP is currently undergoing technical review by CNSC staff. CNL is due to submit the Port Hope Project PDP by June 30, 2024.
174. The Commission acknowledges CNL's commitment to meet the requirements of the CNSC's waste management and decommissioning regulatory documents. The Commission is satisfied that CNL has adequate plans in place with respect to PDPs for the Port Granby and Port Hope Projects. The Commission expects CNSC staff to report on the status of CNL's PDPs as part of the *Regulatory Oversight Report for Canadian Nuclear Laboratories Sites*.
175. The Commission finds CNL's financial guarantee to remain acceptable for the purpose of this licence renewal. The Commission is satisfied that the expressed commitment from the federal government is an acceptable form of financial guarantee.

#### 4.4.3 Cost Recovery

176. The Commission examined CNL's standing under the [Canadian Nuclear Safety Commission Cost Recovery Fees Regulations](#)<sup>98</sup> (CRFR) requirements for the PHAI. CNL submitted that the PHAI is exempt from CNSC's CRFR under Section 2(e) as CNL, acting as a sub-contractor to AECL, as an Agency of the Federal Government, is applying for a licence from the Commission in respect of contaminated sites where the contamination did not result from the activities of the applicant. CNSC staff concurred and confirmed that CNL is exempt from the CRFR. The Commission is satisfied that the PHAI project is exempt from the CRFR.

#### 4.4.4 Nuclear Liability Insurance

177. The *Nuclear Liability and Compensation Act*<sup>99</sup> (NLCA) establishes a compensation and liability regime in the unlikely event of a nuclear accident resulting in civil injury and damages. The Commission notes that the licensed activities associated with the

---

<sup>98</sup> SOR/2003-212.

<sup>99</sup> S.C. 2015, c. 4, s. 120

PHAI are not subject to the liability and financial security requirements of the NLCA and, therefore, CNL is not required to maintain nuclear liability insurance for the PHAI.

#### **4.5 Licence Length and Conditions**

178. The Commission considered CNL's application for the renewal of the Port Hope Project licence for a period of 10 years and, in doing so, whether to issue a single licence that would consolidate the licensed activities authorized under the following PHAI licences:
- Port Hope Long-Term Low-Level Radioactive Waste Management Project licence (WNSL-W1-2310.02/2022), which expires on December 31, 2022
  - Port Granby Long-Term Low-Level Radioactive Waste Management Project licence (WNSL-W1-2311.02/2022), which expires on December 31, 2022
  - Pine Street Extension Temporary Storage Site licence (WNSL-W1-182.0/2022), which expires on December 31, 2022
  - Port Hope Radioactive Waste Management Facility licence (WNSL-W1-344-1.8/ind.), which is valid indefinitely
179. The individual licences for the Port Granby Project, Pine Street Extension Temporary Storage Site, and the Port Hope Radioactive Waste Management Facility will no longer be in effect as of January 1, 2023. In considering whether to issue a single PHAI licence, the Commission also considered whether to revoke the indefinite Port Hope Radioactive Waste Management Facility licence as of January 1, 2023.
- 4.5.1 Licence Length and Issuance as a Single Licence*
180. CNL is requesting a 10-year term for the renewed licence. Based on CNSC staff's review of CNL's application, supporting information, and performance, as well as consideration of the nature of the activities to be performed over the proposed 10-year licence period, CNSC staff recommended that the Commission renew the licence for a period of 10 years, until December 31, 2032.
181. In its application, CNL submitted that a single PHAI licence would enable CNL to continue the cleanup of historic waste under the PHAI, while reducing the administrative effort of holding separate licences for similar projects under the PHAI. CNSC staff recommended that the Commission issue a single PHAI licence to consolidate activities previously authorized under CNL's four separate PHAI licences, as proposed in Part Two of CMD 22-H13.
182. The Commission notes that, were it to issue the single Port Hope Area Initiative Waste Management Project licence, the licence would come into effect on January 1, 2023.

183. The Commission asked CNSC staff how the Pine Street Extension Temporary Storage Site licence and the Port Hope Radioactive Waste Management Facility licence, which had been issued by Designated Officers, would be managed under the single licence. CNSC staff explained that the Licence Conditions Handbook for the proposed single licence would have different sections for each site to differentiate requirements where necessary.
184. The interventions by the MSIFN and the PHCHCC raised concerns that a single 10-year licence for the PHAI could reduce Indigenous and public participation with respect to the PHAI. The PHCHCC proposed a 3-year licence term. In section 1.2 of CMD 22-H13, CNSC staff submitted that it would report compliance performance on the PHAI to the Commission in public meetings through the regulatory oversight *Regulatory Oversight Report on Canadian Nuclear Laboratories Sites*, which will allow for continued public participation throughout the licence term. The Commission notes that both CNL and CNSC staff committed to continuing their routine Indigenous and public engagement activities throughout the proposed licence term.
185. The Commission is satisfied that issuance of a single PHAI licence, with a 10-year licence term, is appropriate. The Commission's decision is based on the following:
- As previously described in this *Record of Decision*, the Commission is of the opinion that CNL is qualified to carry out the activities that the proposed licence would authorize
  - The evidence shows that CNL has consistently performed satisfactorily across applicable SCAs during the current licence term
  - The Commission is satisfied that CNL has a mature and effective management system in place to manage operations across the PHAI
  - The Commission is satisfied that there will be adequate and meaningful opportunities for public engagement during the 10-year licence term through routine engagement activities and the periodic *Regulatory Oversight Report on Canadian Nuclear Laboratories Sites*.

With this decision, the Commission revokes the indefinite Port Hope Radioactive Waste Management Facility licence, WNSL-W1-344-1.8/ind., as of January 1, 2023.

#### 4.5.2 Licence Conditions

186. Part Two of CNSC staff's CMD 22-H13 includes a proposed draft licence and a draft licence conditions handbook. In Table 19 of CMD 22-H13, CNSC staff describe the specific proposed changes to the renewed licence. These changes include:
- standardization of licence conditions
  - the removal of packaging and transport licensed activities

- the removal of “process” as an authorized activity (was previously included in the PSETSS licence)
- the addition of licence condition G.3 for a financial guarantee
- the addition of licence condition 5.1 for fitness for service
- the addition of licence conditions 10.1 and 10.2 for waste management and decommissioning
- the addition of licence condition 12.1 for safeguards

187. With respect to the removal of packaging and transport licensed activities, CNSC staff noted that previous PHAI licences included licensed activities that authorized CNL to package and transport radioactive material. CNSC staff explained that these activities could be removed from the licence as they are covered under the PTNSR, 2015 and do not require specific authorization under a licence.

188. Regarding standardized licence condition 3.1 for reporting requirements, CNSC staff noted that compliance verification criteria for the previous Port Hope Project licence included requirements for quarterly reporting. CNSC staff recommended that the requirements for quarterly reporting be removed as they are not consistent with the regulatory reporting requirements described in CNSC REGDOC-3.1.3.<sup>100</sup> In Table 19 of CMD 22-H13, CNSC staff detail the proposed changes to the compliance verification criteria to be incorporated in the LCH for licence condition 3.1.

#### Liquid Effluent Release Limits

189. CNL proposed that the Commission accept the liquid effluent release limits established for the Port Hope Project WWTP, as presented in Table 1 of CNL’s application. In the [2009 Record of Proceedings](#)<sup>101</sup> for the Port Hope Project licence application, the Commission required that CNL apply for a licence amendment to revise release limits as soon as practicable after the new Port Hope WWTP is operational. In section 5.3.2.1 of CMD 22-H13.1, CNL detailed the process undertaken to establish suitable discharge criteria since commissioning of the Port Hope WWTP in 2017.

190. In section 5.5 of CMD 22-H13, CNSC staff submitted that CNL had proposed liquid effluent release limits and action levels following the approach set out in draft [REGDOC-2.9.2, Controlling Releases to the Environment](#).<sup>102</sup> CNSC staff reported that it consulted with Environment and Climate Change Canada (ECCC) during finalization of the proposed limits and found the release limits to be protective of the environment. If accepted by the Commission, CNSC staff submitted that the proposed release limits would be captured in CNL’s *Port Hope Project Environmental and*

---

<sup>100</sup> Section 3.3.5, CMD 22-H13

<sup>101</sup> *Record of Proceedings, Including Reasons for Decision in the Matter of AECL’s Application for a Waste Nuclear Substance Licence for the Port Hope Long-Term Low-Level Radioactive Waste Management Project*, CNSC, 2009

<sup>102</sup> REGDOC-2.9.2, *Controlling Releases to the Environment*, CNSC, Draft, March 2021



*Biophysical Monitoring Plan* and would require Commission approval if any increase to these proposed limits are requested in the future.

191. The Commission accepts the licence conditions as recommended by CNSC staff. The proposed licence reflects the current CNSC standardized licence conditions and the activities to be licenced. The Commission is satisfied that the liquid effluent release limits for the Port Hope WWTP, as described in section 5.5 of CMD 22-H13, are acceptable.

#### *4.5.3 Delegation of Authority*

192. In order to provide adequate regulatory oversight of changes that are administrative in nature, and do not require a licence amendment nor Commission approval, CNSC staff recommended that the Commission delegate authority for certain approvals or consents, as contemplated in licence conditions that contain the phrase “a person authorized by the Commission,” to the following CNSC staff:

- Director, Canadian Nuclear Laboratories Regulatory Program Division
- Director General, Directorate of Nuclear Cycles and Facilities Regulation
- Executive Vice-President and Chief Regulatory Operations Officer, Regulatory Operations Branch.

CNSC staff recommended that the Commission delegate authority for licence condition 3.1, Reporting Requirements.

193. The Commission delegates its authority for the purposes of licence conditions 3.1 Reporting Requirements, as recommended. The Commission is satisfied that this approach is reasonable and consistent with the current licences.

#### *4.5.4 Conclusion on Licence Length and Conditions*

194. The Commission is satisfied that a 10-year, single PHAI licence is appropriate. The Commission accepts the licence conditions as recommended by CNSC staff. The Commission also accepts CNSC staff’s recommendation regarding the delegation of authority, and notes that it can bring any matter at any time to the Commission as required.

195. The Commission is satisfied that the liquid effluent release limits for the Port Hope WWTP, as described in section 5.5 of CMD 22-H13, are acceptable.

## **5.0 CONCLUSION**

196. The Commission has considered the licence renewal application submitted by CNL. The Commission has also considered the information and submissions of CNL,

CNSC staff and all participants as set out in the material available for reference on the record, as well as the oral submissions made at the hearing.

197. Based on its consideration of the evidence on the record for this hearing, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, renews the waste nuclear substance licence issued to Canadian Nuclear Laboratories Ltd. for its Port Hope Project, located in the municipality of Port Hope, Ontario. In renewing this licence, the Commission issues *Port Hope Area Initiative Waste Management Project* WNSL-W1-2310.00/2032 as a single licence that consolidates the licensed activities previously authorized under CNL's four waste nuclear substance licences for the Port Hope Project, Port Granby Project, Pine Street Extension Temporary Storage Site, and Port Hope Radioactive Waste Management Facility. Licence WNSL-W1-2310.00/2032 is valid from January 1, 2023 until December 31, 2032.
198. As a result of this decision, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, revokes indefinite licence WNSL-W1-344-1.8/ind. as of January 1, 2023.
199. With this decision, the Commission retains decision-making authority with respect to the Port Hope Area Initiative Waste Management Project licence.

Velsh  
Rumii



Digitally signed by Velshi, Rumina  
C: CA, O=GC, OU=CNSC-  
N="Velshi, Rumina"  
I am approving this  
3.04.20 07:33:57-04'00'  
Editor Version: 12.0.2

April 20, 2023

Rumina Velshi  
President,  
Canadian Nuclear Safety Commission

Date

**Appendix A – Intervenors**

<b>Intervenors – Oral Presentations</b>	<b>Document Number</b>
Sandra Holmes	CMD 22-H13.2
Anna Tilman	CMD 22-H13.3 CMD 22-H13.3A
Fleming College, Environmental Technician/Technology Program, represented by Melanie Logan	CMD 22-H13.9
Municipality of Port Hope, represented by D. Smith	CMD 22-H13.16 CMD 22-H13.16A
Canadian Nuclear Association, represented by S. Coupland	CMD 22-H13.17
Atomic Energy of Canada Limited, represented by A. MacDonald, J. McCafferty and J. Cameron	CMD 22-H13.22 CMD 22-H13.22A
Port Hope Community Health Concerns Committee, represented by F. More and G. Edwards	CMD 22-H13.27 CMD 22-H13.27A CMD 22-H13.27B
Faye More	CMD 22-H13.28 CMD 22-H13.28A
<b>Intervenors – Written submissions</b>	
Port Hope High School	CMD 22-H13.4
Regional Municipality of Durham	CMD 22-H13.5
Heather Kenny	CMD 22-H13.6
Rotary Club of Port Hope	CMD 22-H13.7
Durham Region Association of REALTORS®	CMD 22-H13.8
Port Hope and District Chamber of Commerce	CMD 22-H13.10
Municipality of Clarington	CMD 22-H13.11
Northumberland Hills Association of REALTORS®	CMD 22-H13.12
Henry Kowalski and Michael Stone	CMD 22-H13.13
John Sypher	CMD 22-H13.14
Kinectrics Inc.	CMD 22-H13.15
David Piccini, Member of Provincial Parliament, Northumberland- Peterborough South	CMD 22-H13.18
Cameco Corporation	CMD 22-H13.19
Women in Nuclear (WiN) Canada	CMD 22-H13.20
Donna Snowden	CMD 22-H13.21
Brian M. Ikeda	CMD 22-H13.23
Robin Dines	CMD 22-H13.24
Adrian Szamreta	CMD 22-H13.25
Mississaugas of Scugog Island First Nation	CMD 22-H13.26
Curve Lake First Nation	CMD 22-H13.29