

**BY EMAIL**

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December 11, 2017

Senior Tribunal Officer, Secretariat  
Canadian Nuclear Safety Commission  
280 Slater Street, P.O. Box 1046, Station B  
Ottawa, Ontario K1P 5S9

Dear Sir or Madam:

**RE: Canadian Nuclear Laboratories (“CNL”) Site Licence Renewal Application for Chalk River Laboratories (“CRL”): Ref. 2018-H-01**

**I. INTRODUCTION**

We are the solicitors for the Concerned Citizens of Renfrew County and Area (“CCRCA”) and the Canadian Environmental Law Association (“CELA”) in connection with the above matter. These submissions, consisting of this letter and Attachment A (Review of Selected Issues Including Fitness for Service, Environmental Protection, Waste Management, Decommissioning Planning, and Liability) and Attachment B (Review of Licence Condition Standardization Issue), are filed on behalf of CELA and in support of the report that has been prepared and filed under separate cover by Dr. Ole Hendrickson of the CCRCA in respect of this matter.

These submissions are filed in response to a Canadian Nuclear Safety Commission (“CNSC”) notice of public hearing dated June 9, 2017 concerning CNL’s application to renew, for a period of 10 years, its nuclear research, and test establishment operating licence for the CRL located near Chalk River, Ontario. A hearing in Pembroke with respect to this matter is scheduled for January 24-25, 2018.

**II. INTEREST AND EXPERTISE OF THE INTERVENORS**

By this letter, and pursuant to the CNSC’s *Rules of Procedure* (“Rules”), CCRCA and CELA request status to participate as intervenors in the public hearing respecting the CNL site licence renewal application and to each present oral as well as our respective written submissions.

As noted below, both CCRCA and CELA meet the tests set out in the *Rules* for intervening on the basis of both: (1) interest in the matter being heard; and (2) expertise or information that may be useful to the CNSC in coming to a decision.<sup>1</sup>

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<sup>1</sup> *Rules of Procedure*, SOR/2000-211, s. 19(1)(a)(b).

### A. CCRCA Interest and Expertise

CCRCA is a non-governmental, volunteer organization that has been working for the clean-up and prevention of radioactive pollution from the nuclear industry in the Ottawa Valley for over 40 years. CCRCA has intervened at CRL site licence hearings held by the CNSC, and previously by the Atomic Energy Control Board, for over 20 years. The group's current focus includes nuclear waste. CCRCA has filed a separate report for this hearing, authored by Dr. Ole Hendrickson.<sup>2</sup>

### B. CELA Interest and Expertise

CELA was founded in 1970 to use existing laws to protect the environment and, where necessary, to advocate for environmental law reform. CELA is a legal aid clinic within the Legal Aid Ontario system specializing in environmental law. Over the years CELA has appeared before the CNSC in numerous licensing matters from large nuclear power reactors (e.g. Darlington) to smaller commercial nuclear facilities (e.g. SRB Technologies; Shield Source).

## III. BACKGROUND

The current CNL licence for CRL, which expires in March 2018, authorizes CNL to operate the CRL site. The site is composed of a range of nuclear facilities, radioisotope labs, waste management facilities, and other facilities. CNL is requesting site licence approval for a 10-year period, during which it proposes to modernize and consolidate its CRL operations, including shutting down the National Research Universal reactor, among other actions.<sup>3</sup> The concerns of the intervenors include:

- (1) operations at CRL may result in radioactive or other toxic emissions to air and water;
- (2) legacy waste problems need to be dealt with at the site;
- (3) CCRCA members are susceptible to potential adverse impacts from normal operations, accidents, or process upsets at, or arising from operations in connection with, the site because they:
  - (i) take their drinking water from the Ottawa River downstream of the CRL facility;
  - (ii) live downwind of the facility;
  - (iii) own property nearby; and
  - (iv) use local roadways.

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<sup>2</sup> Concerned Citizens of Renfrew County and Area, *The Proposed Canadian Nuclear Laboratories Site Licence Renewal at Chalk River: An Analysis of Selected Issues – for the January 2018 CNSC Hearing* (December 2017).

<sup>3</sup> Canadian Nuclear Safety Commission, Notice of Public Hearing and Participant Funding; Ref. 2018-H-01 (Ottawa: CNSC, June 9, 2017).

All of the foregoing requires robust compliance by the regulated entity and vigilant enforcement by the regulator, to ensure protection of the environment, health, safety, and security of CCRCA members and other members of the public in and around the vicinity of the CNL operations.

#### **IV. WHY CCRCA FINDINGS MAKE IT CLEAR CNL SHOULD NOT RECEIVE SITE LICENCE RENEWAL**

Although Dr. Hendrickson identifies five areas of concern in his report, in this letter submission CELA focuses on just his first concern (changes to the CNL licence conditions and licence condition handbook) to illustrate why the CNL licence at the CRL site should not be renewed or, alternatively, should not be renewed with the licence conditions proposed by CNL,<sup>4</sup> and supported by, CNSC staff.<sup>5</sup> Annexed to this CELA letter submission are Attachments “A” and “B”, which contain memoranda particularizing additional concerns and recommendations from a legal perspective arising from, and in support of, the report of Dr. Hendrickson.

##### **A. Compliance and Enforcement Difficulties Due to Vague or Watered Down Language Regarding CNL Obligations under Licence and Licence Condition Handbook**

Dr. Hendrickson indicates that the proposed licence and licence condition handbook contain sweeping changes that he is of the opinion would reduce regulatory oversight because, among other things:

- (1) half the current 56 licence conditions have been deleted;
- (2) proposed licence conditions often lack important details found in the existing licence conditions being eliminated; and
- (3) the vast majority of compliance verification criteria in the licence condition handbook, which are often used in on-site inspections and reports to verify licensee compliance with the *Nuclear Safety and Control Act* (“NSCA”), applicable regulations, and licence conditions, are being replaced with Canadian Standards Association (“CSA”) standards the adequacy of which is problematic from a substantive point of view (i.e. what they address and do not address), and procedurally in terms of the way they are developed (a more restrictive approach to public comment and consultation than for a regulation), and how accessible they are once finalized (requirement that members of the public sign a non-commercial use agreement in order to review).<sup>6</sup>

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<sup>4</sup> Canadian Nuclear Laboratories, *In the matter of the Chalk River Laboratories – Application for the Renewal of the Nuclear Research and Test Establishment Operating Licence*, CMD18-H2.1 (November 10, 2017).

<sup>5</sup> Canadian Nuclear Safety Commission (Staff), *A Licence Renewal: Canadian Nuclear Laboratories – Chalk River Laboratories*, CMD-H2 (November 10, 2017).

<sup>6</sup> Concerned Citizens of Renfrew County and Area, *The Proposed Canadian Nuclear Laboratories Site Licence Renewal at Chalk River: An Analysis of Selected Issues – for the January 2018 CNSC Hearing* (December 2017) at

The examples set out in Table 1, below, taken from the text of Dr. Hendrickson's report, illustrate some of the concerns with the introduction of greater generality and vagueness into proposed licence requirements:

**Table 1: Selected Existing and Proposed CNL Licence Conditions for CRL Site**

<b>Existing</b>	<b>Proposed</b>
2.1 The licensee shall implement and maintain a <b>management system</b> , including a written safety policy, which places safety paramount within the management system, overriding all other demands, for activities carried out under this licence.	1.1 The licensee shall implement and maintain a <b>management system</b> .
4.16 The licensee shall submit annual compliance monitoring and operational performance <b>reports</b> to the Commission.	3.2 The licensee shall implement and maintain a program for <b>reporting</b> to the Commission or a person authorized by the Commission.
6.1 The licensee shall ensure that the defence-in-depth principle is applied in the <b>design</b> of new or modified nuclear facility at the CRL site in order to prevent, or if prevention fails, to mitigate the consequences resulting from radioactive releases.	5.1 The licensee shall implement and maintain a <b>design</b> program.
12.1 The licensee shall implement and maintain a <b>waste management</b> program documenting handling, processing, transportation, storage and safeguarding of nuclear wastes, including spent fuel and nuclear wastes mixed with other hazardous substances. 12.3 The licensee shall ensure that <b>nuclear legacy liabilities</b> at the CRL site are addressed.	11.1 The licensee shall implement and maintain a <b>waste management</b> program.

**Source: Report of Dr. Ole Hendrickson, CCRCA, December 2017**

The legal implications of the watering down of language in the proposed CNL licence is potentially very significant with respect to ensuring future: (1) compliance by the regulated entity; and (2) enforcement by the regulator where compliance by the regulated entity is not forthcoming.<sup>7</sup> In this regard, there is a body of Supreme Court of Canada jurisprudence regarding when language in a law or legal instrument may be so vague as to void its legal effect. That is; an unintelligible provision gives insufficient guidance and, therefore, may be unconstitutionally vague. Vagueness consists of two notions: (1) fair notice to the person that certain conduct is the subject of legal restriction; and (2) the need to limit the discretion of law enforcement where conviction otherwise would automatically flow from a decision to prosecute even a badly drafted provision.<sup>8</sup> Put another way, a law will be found to be unconstitutionally vague if it is drafted with a lack of precision because precision is needed: (1) to provide fair notice to citizens of prohibited conduct; and (2) to prescribe enforcement discretion.<sup>9</sup> More recently, the Supreme Court of Canada has put these propositions in the following terms:

4-5 and Appendix A (Notes on CSA Standards). See also supporting commentary on these points contained in Attachments "A" and "B" of CELA's letter submission.

<sup>7</sup> Canadian Nuclear Safety Commission, *The CNSC's Approach to Compliance Verification and Enforcement* (Ottawa: CNSC, August 25, 2015) < nuclearsafety.gc.ca > (indicates a variety of enforcement measures available to the CNSC, including prosecution).

<sup>8</sup> *R. v. Nova Scotia Pharmaceutical Society*, [1992] 2 S.C.R. 606.

<sup>9</sup> *Ontario v. Canadian Pacific Ltd.*, [1995] 2 S.C.R. 1031.

“Impermissibly vague laws mock the rule of law and scorn an ancient and well-established principle of fundamental justice: No one may be convicted or punished for an act or omission that is not clearly prohibited by a valid law. That principle is now enshrined in the *Canadian Charter of Rights and Freedoms*. This has been recognized by the Court since its earliest pronouncements on unconstitutional vagueness in the *Charter* era”.

....

There is...no dispute regarding the analytical framework for determining whether a statutory provision is void for vagueness. Nor is there any dispute as to the governing criteria: In a criminal context, the impugned provision must afford citizens fair notice of the consequences of their conduct and limit the discretion of those charged with its enforcement.

...

Whether the provision satisfies these essential requirements will be judicially determined by examination of both [the provision’s] text and context”.<sup>10</sup>

In the context of the proposed revisions to the CNL licence, the level of generality and vagueness being introduced into the text of this legal instrument, and the accompanying licence condition handbook, is an open invitation for non-compliance, as well as non- under-, or challenged-enforcement of applicable licence provisions. Attachments “A” and “B” of this letter submission elaborate on these concerns.

## **B. Doubt that CNSC Inspection Program Can Compensate for Licence and Licence Condition Handbook Gaps and Deficiencies**

Given the above problems, vagueness in licence conditions could render even a robust inspection program ineffective. However, there is reason to doubt whether the CNSC inspection program is robust, as described further below. Accordingly, there is reason to doubt that it can compensate for licence and licence condition handbook gaps and deficiencies identified by Dr. Hendrickson on behalf of the CCRCA.

The CNSC website indicates, among other things, that:

“Under the *Nuclear Safety Control Act (NSCA)* and its associated regulations, various levels of regulatory action can be taken by the CNSC to correct non-compliance by a licensee and protect the health, safety, and security of Canadians and the environment.

Assuring compliance with legislation, regulations, and licensing requirements is one of the CNSC’s core business processes and is carried out through compliance verification and enforcement.

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<sup>10</sup> *R. v. Levkovic*, [2013] 2 S.C.R. 204 at paras 1, 10, 11.

Together, these activities enable the CNSC to provide assurance to Canadians of the continuing compliance and safety performance of licensees.

Regular inspections and evaluations verify that licensees are complying with laws and regulations, as well as the conditions of their licence. In this way, the CNSC can assure licensees are operating safely and adhering to their licence conditions.

The CNSC verifies compliance through site inspections [among other measures]”.<sup>11</sup>

Notwithstanding the CNSC characterization of its inspection program, there is considerable cause for concern about its adequacy, as set out below.

### **1. CESD 2016 Findings on CNSC Power Plant Inspections**

In 2016, the Commissioner of the Environment and Sustainable Development (“CESD”) (in the Office of the Auditor General of Canada) produced a report highly critical of the CNSC inspection program for nuclear power plants.<sup>12</sup> The CESD conclusions were that:

“Site inspections are one of the key tools that the [CNSC] uses to oversee the operation of nuclear power plants to verify that the environment and the health, safety, and security of Canadians are protected. We concluded that the CNSC could not show that it had adequately managed its site inspections of nuclear power plants. The CNSC could not demonstrate that its inspection plans included the appropriate number and types of inspections and that it had the staff needed to verify that nuclear power plants were complying with all applicable requirements or that site inspections were carried out according to the CNSC’s procedures”.<sup>13</sup>

The report indicated that the CNSC could not show that it had an adequate, systematic, risk-informed process for planning site inspections at nuclear power plants. Problems included:

- insufficient or incomplete documentation to support or explain its planning decisions;
- inability to show how it had taken risks into account when making decisions about which inspections it would or would not carry out each year;

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<sup>11</sup> Canadian Nuclear Safety Commission, *The CNSC’s Approach to Compliance Verification and Enforcement* (Ottawa: CNSC, August 25, 2015) < nuclearsafety.gc.ca >.

<sup>12</sup> Commissioner of the Environment and Sustainable Development, *Report 1 – Inspection of Nuclear Power Plants – Canadian Nuclear Safety Commission* (Ottawa: CESD, 2016).

<sup>13</sup> *Ibid* at para 1.62.

- inability to show that it had determined the minimum number of types of inspections needed to verify that nuclear power plant operators were complying with regulatory and licensing requirements; and
- lack of a systematic, well-documented process so that CNSC could demonstrate that its planning considers risk and that it allocates enough staff at the levels needed, commensurate with the risk.<sup>14</sup>

The CESD regarded these findings as important because: (1) the CNSC needs to show that it carried out the appropriate number and types of site inspections; and (2) site inspections are one of the key verification tools the CNSC uses to assure Canadians that nuclear power plants perform safely and comply with regulatory and licence requirements.<sup>15</sup>

The 2016 CESD report also found that the CNSC did not always follow its own inspection procedures when carrying out and documenting inspections of nuclear power plants. Problems here included:

- inconsistencies, gaps in documentation, and missed opportunities for identifying improvements in conducting inspections;
- lack of clear guidance to CNSC inspectors about which information to retain in inspection files once final inspection reports are completed, with the result that where information was not retained, CNSC could not show that inspection reports fully and accurately reflected observations made during inspections; and
- CNSC rarely used the information gathered during inspections to conduct lessons-learned exercises that could identify ways to improve site inspections.<sup>16</sup>

The CESD report regarded these findings as important because following procedures ensures that: (1) all inspections are carried out in a way that verifies compliance with the applicable regulatory and licence requirements; and (2) noted deficiencies and lessons learned are captured, documented, and addressed in a consistent way.<sup>17</sup>

## **2. Do the CESD 2016 Findings on CNSC Power Plant Inspections Also Apply to Chalk River?**

The 2016 CESD audit was conducted in relation to the CNSC inspection programs for four nuclear reactors (Bruce, Pickering, and Darlington in Ontario and Point Lepreau in New Brunswick). Accordingly, and strictly speaking, it was not an audit of site operations at Chalk

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<sup>14</sup> *Ibid* at para 1.13.

<sup>15</sup> *Ibid* at para 1.14.

<sup>16</sup> *Ibid* at para 1.36.

<sup>17</sup> *Ibid* at para 1.37.

River. However, given the CESD audit findings it raises the question of whether the CNSC inspection regime at Chalk River is the same, better, or worse than that for the reactors. If the inspection program is the same or worse, then the compliance and enforcement situation at Chalk River will certainly not be helped by watering down the conditions in the CNL licence and the handbook. Indeed, even if the CNSC inspection program at Chalk River is better than that described in the CESD audit for the nuclear reactor program, evidence for which we do not have, watering down the conditions in the licence and the handbook could undermine inspections, and the compliance and enforcement picture at the CRL site, going forward.

**C. Still Greater Doubt that CNSC Reliance on Complaints from the Public a Viable Last Line of Defence Substitute for Robust Set of Licence Conditions**

Among other things, the CNSC uses an external complaint process to learn of, and address, unreported non-compliances associated with its regulatory mandate.<sup>18</sup> Indeed, complaints from the public may be a valuable complement to a regulatory licensing program where the type of complaint, such as odour,<sup>19</sup> or smoke,<sup>20</sup> is readily ascertainable. However, where as here, the potential problems from the management of nuclear waste may be less immediately intrusive to members of the public, but potentially far more serious in relation to their environmental health safety, and security, reliance on complaints cannot be a substitute for a robust licensing and inspection program. On the face of the situation at Chalk River in relation to the CNL proposed licence, CNSC potentially has neither robust licensing (if it allows watering down of the licence) nor inspection (if the situation reported in the 2016 CESD inspection audit is also applicable to the situation at Chalk River).

**D. Result: Risk that Verification of Compliance with Proposed CNL Site Licence Conditions, and Enforceability of the Conditions under the NSCA and Regulations, will be Undermined**

There are significant implications arising from the above observations, involving whether the CNL proposed licence would be compliant with, or enforceable under, the *NSCA*,<sup>21</sup> and the *General Nuclear Safety and Control Act Regulations* (“*GNSCAR*”),<sup>22</sup> among other requirements. There are many provisions of the Act and regulations compelling nuclear facilities to comply with licence requirements in order to meet the purposes and objectives of the Act.<sup>23</sup> On the basis

<sup>18</sup> Canadian Nuclear Safety Commission, *External Complaints (Whistleblower Reporting)* (Ottawa: CNSC, July 14, 2016) < nuclearsafety.gc.ca >.

<sup>19</sup> *Newmarket (Town) v. Halton Recycling Ltd.* (2006), 274 D.L.R. (4<sup>th</sup>) 447 (Ont. S.C.) (1,100 complaints of odour received by municipality arising from problems at recycling facility resulting in temporary site closure order by the court).

<sup>20</sup> *Ontario v. Canadian Pacific Ltd.*, [1995] 2 S.C.R. 1031 (complaints from residents that dense smoke escaping onto their properties due to controlled burns of dry grass and weeds conducted on adjacent railway right-of-way).

<sup>21</sup> S.C. 1997, c. 9.

<sup>22</sup> SOR/2000-202.

<sup>23</sup> Section 24(4)(b) of the *NSCA* states in part that: “No licence may be issued, renewed, amended or replaced unless, in the opinion of the Commission, the applicant (b) will, in carrying on that activity, make adequate provision for the protection of the environment...” Section 12(1)(f) of the *GNSCAR* states in part that: “Every licensee shall (f) take all reasonable precautions to control the release of radioactive nuclear substances...within the site of the licensed

of the observations of Dr. Hendrickson on behalf of CCRCA, and the CELA submissions contained herein, including Attachments “A” and “B”, it is CELA’s respectful submission that in many instances it is doubtful that CNSC will be able to: (1) verify whether the licence conditions are compliant with, or achieving the objectives of, the Act and regulations; (2) verify whether compliance is occurring with licence requirements as drafted; or (3) enforce, as a matter of law, compliance where it is not occurring, due to the level of vagueness introduced into the proposed licence conditions and handbook.

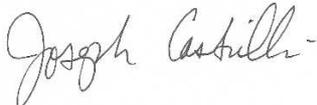
## V. ORDER REQUESTED

For the foregoing, as well as the more particularized, reasons provided in Dr. Hendrickson’s report for the CCRCA, and Attachments “A” and “B” to the CELA letter submission, CCRCA and CELA request that the CNSC issue an Order:

1. Granting CCRCA and CELA the status of intervenors;
2. Granting CCRCA and CELA the opportunity to each make oral presentations at the January 24-25, 2018 hearing;
3. Rejecting the CNL site licence renewal application as submitted by CNL and endorsed by CNSC staff;
4. In the alternative, only approving the CNL site licence renewal application after enhancing the licence conditions and handbook in all the ways suggested by Dr. Hendrickson in the recommendations portion of his report for CCRCA (pages 40-42) and the recommendations contained in Attachments “A” (pages 11-12) and “B” (page 26) to the CELA letter submission.

Yours truly,

### CANADIAN ENVIRONMENTAL LAW ASSOCIATION



Joseph F. Castrilli  
Counsel



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Counsel



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Counsel

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activity and into the environment as a result of the licensed activity”. Section 25 of the *NSCA* states that: “The Commission may, on its own motion, renew, suspend in whole or in part, amend, revoke or replace a licence under prescribed conditions”. Section 8(2) of the *GNSCAR* states in part that: “For the purpose of section 25 of the Act, the Commission may, on its own motion, suspend in whole or in part, amend, revoke or replace a licence under any of the following conditions: (b) the licensed activity poses an unreasonable risk to the environment, the health and safety of persons or the maintenance of national security; (h) failure to do so could pose an unreasonable risk to the environment, the health and safety of persons or national security”.

**ATTACHMENT “A”**

**REVIEW OF SELECTED ISSUES INCLUDING FITNESS FOR SERVICE,  
ENVIRONMENTAL PROTECTION, WASTE MANAGEMENT, DECOMMISSIONING  
PLANNING, AND LIABILITY**

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## Summary of Recommendations

**Recommendation 1:** CELA recommends that the CNSC establish a reasonable minimum time between deadlines for comment submissions, intervention filings, and hearing submissions, commensurate with the complexity of a matter to maximize the ability of eligible members of the public to provide value-added information to the Commission.

**Recommendation 2:** The reliance on CSA Standards creates unacceptable secrecy concerning nuclear licensing requirements. The CNSC should either cease reliance on CSA standards for any matters relevant to nuclear licensing, and instead conduct all standard setting and guidance within the CNSC's own processes or ensure that members of the public are given unrestricted access to all CSA standards referenced in the licence documents free of charge.

**Recommendation 3:** Condition 6 should explicitly stipulate all of the considerations under Requirement 30 of IAEA Specific Safety Requirements No. SSR-2/1 and Requirement 24 of IAEA GSR Part 4. Alternatively, Condition 7.5 of the current licence should be reinstated with increased monitoring and evidence-based assurance that all required structures, systems and components can perform their designated safety function as the CRL facility ages.

**Recommendation 4:** The proposed licence and LCH should reinstate section 10 from the current licence and LCH to ensure compliance with REGDOC 2.9.1 and to ensure that the applicant has made adequate provision for the protection of the environment that adequately reflect the impact of the activities at the CRL site for the duration of the proposed licence.

**Recommendation 5:** The CNSC should establish regulatory requirements specific to the predisposal management of radioactive waste that reflect the actions listed under Requirement 3 of GSR-Part 5, and explicitly include the activities listed under Requirements 4 and 7 of GSR-Part 5 as enforceable waste management licencing conditions.

**Recommendation 6:** To comply with its regulatory regime, Canadian law, and international obligations, the CNSC should ensure the proposed licence conditions include any new operational processes that necessitate significant changes to the decommissioning plan. The decommissioning plan should be updated as necessary in the light of new or revised safety requirements, or technological developments relevant to the selected decommissioning strategy, be updated earlier than every ten years (the length of the proposed licence), and detail, along with updates, the information listed in section 5.1 of G-219.

**Recommendation 7:** Condition 12.3 from the current licence should be reinstated to ensure the licensee is responsible for the continued care and maintenance of legacy waste areas and buildings at CRL, as well as executing remediation activities to minimise the impact of past initiatives.

**Recommendation 8:** The CNSC should maintain the current prescribed liability until CNL can demonstrate that the CRL site no longer poses the threat of a “Single-unit reactor of over 7 MW Class.”

## Introduction

On March 30, 2017, Canadian Nuclear Laboratories (“CNL”) applied for the renewal of the Nuclear Research and Test Establishment Operating Licence for Chalk River Laboratories (“CRL”).<sup>24</sup> The current licence, which expires on March 31, 2018, authorises CNL to operate the CRL site. With the request for licence renewal, CNL is seeking the Canadian Nuclear Safety Commission’s (“CNSC”) approval to continue operation of the CRL site for a further ten years to commence on April 01, 2018 following expiry of the current licence. During the 10-year period, CNL proposes to modernise and consolidate its CRL operations, including the shutdown of the National Research Universal (“NRU”) reactor and various infrastructure and site improvements.

In this submission, CELA reviews the proposal to extend the CRL current licence NRTEOL-01.00/2018 for ten years. CELA’s focus is on the question of whether the CNSC should grant this licence considering the question of the adequacy of the proposed operating licence conditions<sup>25</sup> and proposed Licensing Condition Handbook.<sup>26</sup> CELA will compare the proposed licensing conditions to the current conditions found in the current licence, current Licensing Condition Handbook (“LCH”),<sup>27</sup> international nuclear standards and guidance, as well as to international experience and independent reviews as to the requirements for decommissioning and nuclear waste management.

## Intervention Deadlines

CELA is disappointed in the process the CNSC has chosen to undertake in its consideration of input from public participants, particularly Participant Funding Program (PFP) applicants, on the relicensing and EA of nuclear facilities. The coextensive deadlines for submitting interventions and comments for several licensing applications and hearings over the holiday season has meant that any analysis and value-added input on CNL’s application is likely to be only cursory in nature. The original deadlines for the current licencing proposals are:

- December 11, 2017 - Intervention filing deadline for the relicensing of Chalk River Laboratories

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<sup>24</sup> Chalk River Laboratories, Nuclear Research and Test Establishment Operating Licence, NRTEOL-01.00/2018, Expiry Date: 2018 March 31. [**current licence**]

<sup>25</sup> Chalk River Laboratories, Nuclear Research and Test Establishment Operating Licence, NRTEOL-01.00/2028, Expiry Date: 2028 March 31. [**proposed licence**]

<sup>26</sup> Canadian Nuclear Safety Commission, *Licence Conditions Handbook for Chalk River Laboratories, NRTEOL-LCH-01/2028*, Revision 0. [**proposed LCH**]

<sup>27</sup> Canadian Nuclear Safety Commission, *Licence Conditions Handbook for Chalk River Laboratories, NRTEOL-LCH-01/2018*, Revision 0 (CRL-508760-HBK-001, Revision 4), 2016 December 12. [**current LCH**]

- December 19, 2017 - Comments on draft environmental impact statement of the In-Situ Decommissioning of the Whiteshell Reactor
- Week of January 15, 2018 – presentation materials due for Chalk River relicensing hearing
- January 24 -25, 2018 – Chalk River Relicensing hearing
- January 29, 2018 - Comments on the draft environmental impact statement of the Nuclear Power Demonstration Closure Project

The proximity of deadlines has compelled interested parties to request extensions for their submissions to the Commission. CELA is aware of at least one organisation, which previously provided value-added interventions to the Commission that was unable to submit a written intervention as a direct result of having insufficient resources to address multiple interventions within the given timeframe. There are likely several other eligible members of the public who were unable to provide valuable information to the Commission on its decisions simply because of insufficient time to draft simultaneous interventions for each of the applications.

According to the PFP Guide, the PFP aims to provide some funding to eligible applicants to help bring valuable information to the Commission. “The PFP is intended to improve the regulatory review process for large nuclear projects. Funding is available to enhance participation and to bring value-added information to the CNSC.”<sup>28</sup>

**Recommendation 1:** CELA recommends that the CNSC establish a reasonable minimum time between deadlines for comment submissions, intervention filings, and hearing submissions, commensurate with the complexity of a matter to maximize the ability of eligible members of the public to provide value-added information to the Commission.

## **Fitness for Service**

Condition 6 under the proposed licence seeks to replace the five paragraphs under Condition 7 (Fitness for Service) of the current licence, which detail five separate Safety and Control Areas (“SCA”), with a general nonspecific requirement to develop a fitness for service program. While the proposed Condition 6 would replace all five of the paragraphs, we illustrate the implication of eliminating Condition 7.5, not to diminish the importance of paragraphs 7.1 to 7.4, but merely to serve as an example of the impact of removing explicit enforceable conditions. Table 1 provides the licensing condition for the SCA “Fitness for Service” found under the current licence as compared to the condition under the proposed licence. As indicated by the current LCH, Condition 7.5 of the current licence requires the licensee to develop, implement, and maintain an environmental qualification program at the CRL site to ensure all required structures, systems and components at the site can perform their designated safety function in a postulated harsh environment resulting from design-basis accidents.<sup>29</sup> This Condition is formulated to meet the *Class I Nuclear Facilities Regulations* section 6(d) requirement that a

<sup>28</sup> CNSC, Participant Funding Program Guide, 2011, at pg. 3.

<sup>29</sup> *Supra*, note 24 at pg. 7 and note 27 at pgs. 111-112.

licence application contain the proposed measures, policies, methods and procedures to maintain a nuclear facility<sup>30</sup> and the International Atomic Energy Agency (“IAEA”) Specific Safety Requirements No. SSR-2/1 (“SSR-2/1”).<sup>31</sup>

Table 1: Comparison between the language of Condition 7 of the current licence NRTEOL-01.00/2018 and Condition 6 of proposed licence NRTEOL-01.00/2028.

Current Condition	Proposed Condition
<p><b>7. FITNESS FOR SERVICE</b></p> <p>...</p> <p><b>7.5 Environmental Qualification</b></p> <p>The licensee shall develop, implement and maintain an environmental qualification program at the CRL site.</p>	<p><b>6. Fitness for Service</b></p> <p><b>6.1</b> The licensee shall implement and maintain a fitness for service program.</p>

The current LCH stipulates explicit criteria for the establishment of an environmental qualification program that provides the licensee with a clear path to compliance, the regulator with clear measures against which to determine the need for and degree of enforcement, and the public with a rationally based and transparent licensing process. The proposed Condition 6 under the proposed licence, however, simply requires the licensee to “implement and maintain a fitness for service program” without stipulation of the enforceable activity that would bring the licensee into compliance with the condition.<sup>32</sup> The proposed LCH provides no further clarification for the content of Condition 6 aside from listing the regulatory document, REGDOC-2.6.3, and the Canadian Standards Association (“CSA”), CSA N291, as licensing basis publications.

REGDOC-2.6.3, *Aging Management*, sets out the requirements of the CNSC for managing the ageing of structures, systems and components of power reactor facilities. REGDOC-2.6.3 also provides general guidance on how these requirements may be met. Also, where referenced in a licence, REGDOC-2.6.3 becomes part of the licensing basis for a regulated facility or activity.<sup>33</sup> While directing the licensee to REGDOC-2.6.3 and its general requirement and guidance is preferable to no guidance whatsoever, it is not equivalent to specifying how a licensee should establish an evidentiary basis to demonstrate compliance with an enforceable condition. That language is currently only found under the current LCH compliance verification criteria 7.5(1) through 7.5(8), absent under the proposed licence and LCH.

CSA N291, and CSA Standards in general, are privately developed standards not subject to the same level of public scrutiny as the legislative process for public laws and regulations. As stated by CELA in the past, the use of CSA Standards inappropriately delegates the setting of regulatory standards to an industry body, not easily accessible by the public. The reliance on CSA Standards creates unacceptable secrecy concerning nuclear licensing requirements. CELA has requested, and does so once again, that the CNSC cease reliance on CSA standards for any matters relevant to nuclear licensing, and instead conduct all standard setting and guidance within the CNSC’s processes. Should the CNSC decide to continue this problematic reliance on

<sup>30</sup> *Class I Nuclear Facilities Regulations*, SOR/2000-204, at subsection 6(d).

<sup>31</sup> Specific Safety Requirements No. SSR-2/1, Requirement 30.

<sup>32</sup> *Supra*, note 24 at pg. 3 and note 26 at pg. 29.

<sup>33</sup> REGDOC-2.6.3, *Aging Management*, Preface, pg. i.

CSA Standards, the CNSC should, as a minimum, ensure that members of the public are given unrestricted access to all CSA standards referenced in the licence documents free of charge.

Aside from the question of public scrutiny and accessibility of CSA N291, the mere listing of the document, as in the case of REGDOC-2.6.3, does not provide a clear set of conditions against which the CNSC can measure compliance or determine whether enforcement action is necessary.

**Recommendation 2:** The reliance on CSA Standards creates unacceptable secrecy concerning nuclear licensing requirements. The CNSC should either cease reliance on CSA standards for any matters relevant to nuclear licensing, and instead conduct all standard setting and guidance within the CNSC's processes or ensure that members of the public are given unrestricted access to all CSA standards referenced in the licence documents free of charge.

In addition to replacing an enforceable set of requirements under the conditions of the current licence with vague, and likely unenforceable, licensing conditions, the omissions arguably leave the proposed licence contrary to Requirement 30 of IAEA SSR-2/1. Requirement 30, *Qualification of items important to safety*, of SSR-2/1 requires that a qualification programme important to safety of a nuclear power plant ("NPP") be implemented to verify that items important to safety at a nuclear power plant are capable of performing their intended functions when necessary, and in the prevailing environmental conditions, throughout their design life, with due account taken of plant conditions during maintenance and testing.<sup>34</sup> To meet this Requirement, SSR-2/1 details the content of a qualification programme of a nuclear power plant to include, amongst others, the consideration of ageing effects caused by environmental factors and environmental conditions that could reasonably be anticipated and that could arise in specific operational states. For nuclear facilities other than NPPs the IAEA, Safety Assessment for Facilities and Activities, GSR Part 4 ("GSR-Part 4"),<sup>35</sup> makes similar provision for establishing programs to ensure components important to the safety of facilities are performing as intended.

Requirement 24, *Maintenance of the safety assessment*, stipulates that the safety assessment of a facility be periodically reviewed and updated. To meet this Requirement, a licensee must utilize the results of the safety assessment to establish a programme for maintenance, surveillance and inspection, which will use procedures and controls that are auditable to ensure that:<sup>36</sup>

- (a) All necessary conditions are maintained.
- (b) All structures, systems and components maintain their integrity and functional capability over their required lifetime.

Removal of Condition 7 of the current LCH for any nuclear facility, particularly one as aged as the CRL site, creates an unnecessary gap in the CNSC's oversight of the facility that unavoidably increases the likelihood of an accident. As noted by Regulatory Oversight Report for Canadian Nuclear Power Plants in 2013, 2014, and 2015, maintaining a high standard in this area is

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<sup>34</sup> *Supra*, note 31.

<sup>35</sup> IAEA, Safety Assessment for Facilities and Activities, GSR Part 4. [**GSR-Part 4**]

<sup>36</sup> *Ibid*, Requirement 24.

becoming a greater challenge due to increased reactor ageing.<sup>37</sup> The historical trend for the CRL site's Fitness for Service SCA over the last decade has been, based on CNSC staff's assessment, "Below Expectations" (BE). According to CMD-18-H2, as of April 2017, this SCA has finally attained a rating of "Satisfactory" (SA).<sup>38</sup> The significance of this improvement is unclear since a previous rating of BE made little material difference to the awarding of a Nuclear Research and Test Establishment Licence for the CRL site. Nevertheless, given the historically poor performance of at least one of the SCA's, and the continued ageing of the CRL site, to meet the requirement under the *Class I Nuclear Facilities Regulations* and Canada's international obligations, the implemented environmental qualification programs should be explicit and robust.

**Recommendation 3:** Condition 6 should explicitly stipulate all of the considerations under Requirement 30 of IAEA Specific Safety Requirements No. SSR-2/1 and Requirement 24 of IAEA GSR Part 4. Alternatively, Condition 7.5 of the current licence should be reinstated with increased monitoring and evidence based assurance that all required structures, systems and components can perform their designated safety function as the CRL facility ages.

## Environmental Protection

CMD 18-H2 indicates that "CNL has committed to plans for improvement for CRL environmental protection program through implementation of CSA N288.7-15, Groundwater protection programs at Class I nuclear facilities and uranium mines and mills..."<sup>39</sup> The proposed licence, however, only requires the implementation and maintenance of an environmental protection program, which includes a set of action levels, that when reached, must be reported on within seven days. The proposed new LCH does not provide any further clarification on the content of the condition or the necessary basis for compliance.<sup>40</sup> The LCH is confined to referencing a few CSA standards and only section 4.6 of the CNSC REGDOC-2.9.1, *Environmental Protection Policies, Programs and Procedure*. The current LCH, in contrast, indicates that "[t]he licensee shall implement and maintain an environmental management system that conforms to the CNSC regulatory document REGDOC-2.9.1 ... and the requirements set by CSA standard CAN/CSA-ISO-14001 Environmental Management System – Requirements with Guidance for Use."<sup>41</sup>

Table 2 provides the licensing condition for environmental protection found under the current licence as compared to the condition under the proposed licence.

<sup>37</sup> Regulatory Oversight Report for Canadian Nuclear Power Plants: <<http://nuclearsafety.gc.ca/eng/reactors/power-plants/regulatory-oversight-report-npp/index.cfm>>

<sup>38</sup> Commission Member Document, CMD-18-H2, at pgs. 37-38 [CMD-18-H2].

<sup>39</sup> *Ibid*, at pg. 62.

<sup>40</sup> *Supra*, note 26 at pg. 33.

<sup>41</sup> *Supra*, note 27 at pg. 116.

Table 2: Condition 10 of the current licence compared to Conditions 7 and 9 of the proposed licence.

Current Condition	Proposed Condition
<p><b>10. Environmental Protection</b></p> <p><b>10.1 Environmental Management System</b> The licensee shall implement and maintain an environmental management system, including an integrated environmental monitoring program that includes site-wide groundwater monitoring.</p> <p><b>10.2 Release of Radioactive Substances</b> The licensee shall control, monitor and record releases of radioactive nuclear substances from CRL such that the releases do not exceed the limits specified in Appendix A to this licence.</p> <p><b>10.3 Release of Hazardous Substances</b> The licensee shall control, monitor and record releases of hazardous substances.</p> <p><b>10.4 Action Levels for Environmental Releases</b> The licensee shall notify the Commission within seven calendar days of becoming aware that an action level for environmental releases has been reached, and shall submit a detailed report to the Commission within 60 calendar days of becoming aware of the matter.</p>	<p><b>9. Environmental Protection</b></p> <p><b>9.1</b> The licensee shall implement and maintain an environmental protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within seven days.</p> <p><b>7. Radiation Protection</b></p> <p><b>7.1</b> The licensee shall implement and maintain a radiation protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within seven days.</p>

The proposed licence, as currently drafted, would almost completely remove Condition 10 of the current licence. While the proposed LCH does list section 4.6 of REGDOC-2.9.1 as one of the licensing basis publications under the compliance verification criteria for licence condition 9.1, neither the proposed licence nor the proposed LCH adequately meet the explicit requirement of that regulatory document. Section 2 of REGDOC-2.9.1 is explicit:

The CNSC requires the environmental effects of all facilities or activities to be evaluated and considered when licensing decisions are made... For each licensing decision, the CNSC ... must be satisfied that the applicant or licensee will make adequate provision for the protection of the environment and the health and safety of persons before a licence can be granted.

Merely mentioning the document that must be complied with does not constitute compliance with that document's requirements. Section 2.1 of REGOC 2.9.1 outlines the factors for compliance:

For each facility or activity that has direct interactions with the environment, the CNSC must determine that the licensee or applicant has made adequate provision for the protection of the environment. The applicant or licensee's licence application shall demonstrate ... that their environmental protection measures:

- are commensurate with the level of risk associated with the activity
- recognize that uncertainty exists in science and account for this uncertainty:
  - by keeping all releases to the environment as low as reasonably achievable (ALARA), social and economic factors being taken into account for nuclear substances

- through the application of the best available technology and techniques economically achievable (BATEA) for hazardous substances
- respect the precautionary principle, the “polluter pays” principle, and the concepts of pollution prevention, sustainable development and adaptive management
- are assessed against performance indicators and targets that are based on sound science

The rest of REGDOC 2.9.1 provides information on how to meet these principles. Section 4 stipulates the content of environmental protection measures, including, where applicable, an environmental risk assessment (“ERA”), effluent and emissions control and monitoring, environmental monitoring, public dose, groundwater protection and monitoring, and an environmental management system (“EMS”).

The rationale for and content of each of the environmental measures, or lack thereof, under the licencing basis, should be reflected in the proposed licence or LCH; otherwise, the applicant is open to utilizing previous evaluations and their results as the basis for minimizing its burden to implement environmental protection measures. The Environmental Assessment Report (“EAR”), which documents the results of the EA conducted under the *Nuclear Safety and Control Act* (“NSCA”) for the licence application, demonstrate such an occurrence. The EAR refers to the CNSC review of the current environmental measures implemented by CNL for the CRL site.:<sup>42</sup>

- The ERA submitted is from December 2013;
- The EMS is mentioned as being established and implemented and in compliance with REGDOC 2.9.1;
- Effluent and emissions control and monitoring is mentioned as being established, implemented, and in compliance as of 2015, based on a desktop review inspection of this program. Reporting is done based on the requirement of the licence and LCH;
- Environmental monitoring is undertaken, and reporting is done on the basis of the requirement of the licence and LCH;
- Public dose -- During the licence period, reported radiological and non-radiological releases at CRL have remained below their respective regulatory limits. At no time during the licensing period did the emissions from the CRL site exceed the dose constraint (0.3mSv from all CRL releases).

The review undertaken by CNSC staff only reflects the adequacy of the current environmental measures implemented for the CRL site. For the CNSC to be satisfied that the licensee will make adequate provision for the protection of the environment and the health and safety of persons before a licence can be granted, it should require that the environmental protection measures adequately reflect the impact of the activities at the CRL site for the duration of the proposed licence.

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<sup>42</sup> The Environmental Assessment Report: Canadian Nuclear Laboratories Chalk River Laboratories Nuclear Research and Test Establishment Licence, Section 2 - Regulatory Oversight, at pg. of 59 (pg. 207 of CMD 18-H2)

**Recommendation 4:** The proposed licence and LCH should reinstate section 10 from the current licence and LCH to ensure compliance with REGDOC 2.9.1 and to ensure that the applicant has made adequate provision for the protection of the environment that adequately reflect the impact of the activities at the CRL site for the duration of the proposed licence.

## Waste Management

The general principles of managing radioactive waste safely have been set out in the IAEA Safety Fundamentals publication entitled Fundamental Safety Principles (SF-1).<sup>43</sup> IAEA General Safety Requirements Part 5, Predisposal Management of Radioactive Waste, explains:<sup>44</sup>

The safety objective and the fundamental safety principles established in [SF-1] apply to all facilities and activities in which radioactive waste is generated or managed, for the entire lifetime of facilities, including planning, siting, design, manufacture, construction, commissioning, operation, shutdown and decommissioning. This includes the associated transport of radioactive material and the management of radioactive waste.

GSR Part 5 stipulates the CNSC's responsibility with respect to radioactive waste management under Requirement 3, including the ongoing requirement to ensure compliance:

### Requirement 3: Responsibilities of the regulatory body

The regulatory body shall establish the requirements for the development of radioactive waste management facilities and activities and shall set out procedures for meeting the requirements for the various stages of the licensing process. The regulatory body shall review and assess the safety case and the environmental impact assessment for radioactive waste management facilities and activities, as prepared by the operator both prior to authorization and **periodically during operation**. The regulatory body shall provide for the issuing, amending, suspension or revoking of licences, subject to any necessary conditions. **The regulatory body shall carry out activities to verify that the operator meets these conditions. Enforcement actions shall be taken as necessary by the regulatory body in the event of deviations from, or non-compliance with, requirements and conditions.**

...

3.8. To facilitate compliance with regulatory requirements, the regulatory body has to do the following, amongst others:

- Provide necessary guidance on the interpretation of national standards and regulatory requirements that takes into consideration the complexity of the operations and the magnitude of the hazards associated with the facility and operations;

<sup>43</sup> IAEA Safety Standards, Fundamental Safety Principles SF-1. [SF-1]

<sup>44</sup> IAEA General Safety Requirements Part 5, Predisposal Management of Radioactive Waste, at pg. 5. [GSR-Part 5]

- Establish and clarify to the operator the processes used to evaluate safety and to review applications;
- Document the procedures that operators are expected to follow in the licensing process;
- Document the procedures that apply to the mechanisms for compliance verification and enforcement;
- Establish a mechanism by means of which information on incidents significant to safety is disseminated to interested parties...

The responsibility of the licence applicant, in general, is provided in Requirement 4:

#### **Requirement 4: Responsibilities of the operator**

Operators shall be responsible for the safety of predisposal radioactive waste management facilities or activities...

3.11. ...the operator has to ensure an adequate level of protection and safety by various means, including:

- Demonstration of safety by means of the safety case, and for an existing facility or activity by means of periodic safety reviews;
- Preparation and implementation of appropriate operating procedures, including monitoring;
- Establishment and implementation of a management system;
- Maintenance of records and reporting as required by the regulatory body, including those records and reports necessary to guarantee the accountability for and traceability of radioactive waste throughout the different processes of radioactive waste management...

The specific requirements respecting waste management is provided in Requirement 7 of GSR Part 5:

#### **Requirement 7: Management systems**

Management systems shall be applied for all steps and elements of the predisposal management of radioactive waste.

3.24. To ensure the safety of predisposal radioactive waste management facilities and the fulfilment of waste acceptance criteria, management systems are to be applied to the siting, design, construction, operation, maintenance, shutdown and decommissioning of such facilities and to all aspects of processing, handling and storage of waste. Features that are important to safe operation, and that are considered in the management system, are to be identified on the basis of the safety case and the assessment of environmental impacts. These activities are required to be supported by means of an effective management system that establishes and maintains a strong safety culture.

The rest of the GSR-Part 5 provides for the steps involved in the predisposal management of radioactive waste and the operation of radioactive waste facilities and activities.

In the Canadian context, subsection 3(1) of the *General Nuclear Safety and Control Regulations* requires that a licence application contain information related to the management of radioactive waste or hazardous waste resulting from the licensed activities.<sup>45</sup> Both subsection 6(e) of the *Class I Nuclear Facilities Regulations* and subsection 4(g) of the *Class II Nuclear Facilities and Prescribed Equipment Regulations* require that a licence application contain the proposed procedures for handling, storing, loading and transporting nuclear substances and hazardous substances.<sup>46</sup>

The current licence and LCH attempt to meet the requirements of GSR Part 5 and the *NSCA* regulations under Condition 12. The Condition outlines the procedures that CNL is required to take under a waste management program to meet its legal obligations under the *NSCA*, and in requiring CNL to do so, ensures that the CNSC is meeting its IAEA obligations. While Condition 12 could be improved by including all the requirements under Requirements 3 and 7 of GSR-Part 5, the current formulation is safer for the public and the environment than a Condition with no substantive content, one whose vague requirements, and little oversight, are easily met.

Table 3: Waste management Conditions under the current licence compared to the proposed licence

Current Condition	Proposed Condition
<p><b>12. WASTE MANAGEMENT</b></p> <p><b>12.1 Waste Management</b> The licensee shall implement and maintain a waste management program documenting handling, processing, transportation, storage and safeguarding of nuclear wastes, including spent fuel and nuclear wastes mixed with other hazardous substance.</p>	<p><b>11. Waste Management</b></p> <p><b>11.1</b> The licensee shall implement and maintain a waste management program.</p>

The lack of articulated procedures for the handling of radioactive waste under a waste management program in the licence application contravenes the specific requirement of the *General Nuclear Safety and Control Regulations* to include information related to the management of radioactive waste or hazardous waste resulting from licensed activities. The lack of sufficiently detailed information in the licence application related to the handling, storing, loading and transporting nuclear substances and hazardous substances would also mean the licence application is inadequate under the *Class I Nuclear Facilities Regulations* and the *Class II Nuclear Facilities and Prescribed Equipment Regulations*. Furthermore, the failure of the CNSC to establish the requirements for the development of radioactive waste management activities and set out procedures for meeting the requirements would violate Canada's obligation under the IAEA.

<sup>45</sup> *General Nuclear Safety and Control Regulations*, SOR/2000-202, at subsection 3(1).

<sup>46</sup> *Class I Nuclear Facilities Regulations*, SOR/2000-204, at s. 6(e); *Class II Nuclear Facilities and Prescribed Equipment Regulations*, SOR/2000-205, at s. 4(g).

**Recommendation 5:** The CNSC should establish regulatory requirements specific to the predisposal management of radioactive waste that reflect the actions listed under Requirement 3 of GSR-Part 5, and explicitly include the activities listed under Requirements 4 and 7 of GSR-Part 5 as enforceable waste management licencing conditions.

## Decommissioning Planning

The proposed licence redrafts the specific language of Condition 12.2 of the current licence, from requiring a decommissioning plan in the form of a living document to a vague minimum requirement of having a plan. The current licence requires the licence holder to “review and revise the plan at such times as the Commission may require and in any event, no later than ten years from previous revision.” The relevant condition under the proposed licence mandates no explicit review or revision of a decommissioning plan.

Table 4: Responsibility for a Decommissioning plan under the current licence as compared to the proposed licence.

Current Condition	Proposed Condition
<p><b>12. WASTE MANAGEMENT</b></p> <p><b>12.2 Decommissioning</b> The licensee shall maintain a comprehensive preliminary decommissioning plan for the CRL site, and shall review and revise the plan at such times as the Commission may require and in any event, no later than ten years from previous revision.</p>	<p><b>11. Waste Management</b></p> <p><b>11.2</b> The licensee shall maintain a decommissioning plan.</p>

The omission of Condition 12.2 as found under the current licence from the proposed licence without the inclusion of a condition with similar content is likely a violation of Requirement 10 of the IAEA General Safety Requirement publication, Decommissioning of Facilities, GSR- Part 6.<sup>47</sup>

### Requirement 10: Planning for decommissioning

The licensee shall prepare a decommissioning plan and shall maintain it throughout the lifetime of the facility, in accordance with the requirements of the regulatory body, in order to show that decommissioning can be accomplished safely to meet the defined end state.

GSR- Part 6 is clear with respect to the CNSC’s responsibility regarding decommissioning planning:

7.1 The regulatory body shall ensure that the licensee takes decommissioning into account in the siting, design, construction, commissioning and operation of the facility, by means which include features to facilitate decommissioning, the maintenance of

<sup>47</sup> IAEA General Safety Requirement publication, Decommissioning of Facilities, GSR-Part 6, pg. 14. [GSR-Part 6]

records of the facility, and consideration of physical and procedural methods to limit contamination and/or activation.

...

7.5. The decommissioning plan shall be updated by the licensee and shall be reviewed by the regulatory body periodically (typically every five years or as prescribed by the regulatory body), or when specific circumstances warrant, such as if changes in an operational process necessitate significant changes to the plan. The decommissioning plan shall be updated as necessary in the light of relevant operational experience gained, available lessons learned from the decommissioning of similar facilities, new or revised safety requirements, or technological developments relevant to the selected decommissioning strategy. If an accident occurs or a situation arises with consequences relevant for decommissioning, the decommissioning plan shall be updated by the licensee as soon as possible and shall be reviewed by the regulatory body.

In addition, the CNSC's own Regulatory Guide G-219 is clear on the matter in its Introduction:<sup>48</sup>

The CNSC requires that planning for decommissioning take place throughout a licensed activity's life-cycle, and that both a preliminary decommissioning plan and a detailed decommissioning plan be prepared for approval by the CNSC.

A preliminary decommissioning plan should be filed with the CNSC as early as possible in the life-cycle of the licensed activity...

Additionally, the *Class I Nuclear Facilities Regulations* also requires that the licence application contain the proposed plan for decommissioning of the CRL site.<sup>49</sup> The decommissioning strategy for CRL site is documented in the comprehensive preliminary decommissioning plan (CDPD), drafted in May 2014. Unfortunately, the CDPD has not been updated to reflect the proposed activities at the CRL site or the ten-year duration of the activities, but is nonetheless considered adequate to meet the requirement of an up-to-date document that establishes decommissioning can be accomplished safely.

**Recommendation 6:** To comply with its regulatory regime, Canadian law, and international obligations, the CNSC should ensure the proposed licence conditions include any new operational processes that necessitate significant changes to the decommissioning plan. The decommissioning plan should be updated as necessary in the light of new or revised safety requirements, or technological developments relevant to the selected decommissioning strategy, be updated earlier than every ten years (the length of the proposed licence), and detail, along with updates, the information listed in section 5.1 of G-219.

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<sup>48</sup> Regulatory Guide G-219, pg. 1. [G-219]

<sup>49</sup> *Class I Nuclear Facilities Regulations*, SOR/2000-204, at s. 3(k)

## Liability

According to the current LCH,<sup>50</sup>

Nuclear legacy liabilities are the result of nuclear research and development conducted in Canada since 1944. Approximately 70% of the liabilities are located in the Chalk River Laboratories. The liabilities consist of research facilities and buildings, a wide variety of buried and stored radioactive waste, and affected lands.

...

The licensee is responsible for continued care and maintenance of legacy waste areas and buildings at CRL, as well as executing remediation activities to minimise the impact of past initiatives.

Section 4.6 of CMD-18-H2 indicates CNSC staff believe:<sup>51</sup>

After the NRU reactor has transitioned to a state of storage with surveillance, CNSC staff expect that CNL will seek a reclassification such that the CRL site should no longer fall into the “Single-unit reactor of over 7 MW Class” for the purposes of the [*Nuclear Liability and Compensation Regulations* (NLCR)].

This would result in the reclassification of the site to a “Nuclear Fuel Waste Processing Facility Class” from “Single-unit reactor of over 7 MW Class” as reducing the prescribed liability of the operator from \$180 million to \$40 million under section 5 of the NLCR.

CMD 18-H2 describes that the activities associated with the shutdown are divided into five stages with a corresponding change in risk posed by the NRU reactor:<sup>52</sup>

As the NRU reactor transitions from normal operation to a shutdown state to storage with surveillance, the risk associated with the NRU facility and CRL site will continue to decrease and the regulatory focus for CRL will be adjusted accordingly.

Despite the NRU reactor being transitioned to a state of storage and surveillance, the contaminated components may remain at the CRL site for the foreseeable future until a suitable off-site disposal facility is available. According to the EAR:<sup>53</sup>

Decommissioning of reactor facilities including the NRU and the NRX will consist of the removal of all activated and contaminated components, which will only be packaged for disposal once permanent storage facilities become available.

Based on the preceding, it is surprising that Condition 12.3 of the current licence has not been included in any form in the proposed licence.

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<sup>50</sup> *Supra*, note 27 at pg. 130.

<sup>51</sup> *Supra*, note 38, section 4.6, at pg. 85.

<sup>52</sup> *Supra*, note 38, section 2.1.1, at pgs. 9-10.

<sup>53</sup> *Supra*, note 42, at pg. 11.

Table 5: Requirement to address nuclear liability under the current licence compared to the proposed licence.

Current Condition	Proposed Condition
<p><b>12. WASTE MANAGEMENT</b></p> <p><b>12.3 Nuclear Legacy Liabilities</b> The licensee shall ensure that nuclear legacy liabilities at the CRL site are addressed.</p>	

CMD 18-H2 indicates that CNL has yet to prepare a storage with surveillance plan and detail a decommissioning plan for the NRU reactor and that it plans to do so in 2018:<sup>54</sup>

CNL plans to prepare a storage with surveillance plan and detailed decommissioning plan in 2018 as CNL progresses through the phases of the NRU shutdown.

Based on the lack of a detailed plan for storage with surveillance and decommissioning, it is premature for the CNSC staff to anticipate a reduction in the prescribed liability of the operator. While the NRU may be transitioned to a state of storage with surveillance, the objective of the NLLP to reduce the nuclear legacy liabilities, and associated risks, is based on sound waste management and environmental protection principles. In the absence of detailed plans that demonstrate sound waste management and environmental protection principles, the CNSC should maintain the current prescribed liability until CNL can demonstrate that the CRL site no longer poses the threat of a “Single-unit reactor of over 7 MW Class”.

**Recommendation 7:** Condition 12.3 from the current licence should be reinstated to ensure the licensee is responsible for the continued care and maintenance of legacy waste areas and buildings at CRL, as well as executing remediation activities to minimize the impact of past initiatives.

**Recommendation 8:** The CNSC should maintain the current prescribed liability until CNL can demonstrate that the CRL site no longer poses the threat of a “Single-unit reactor of over 7 MW class”.

<sup>54</sup> *Supra*, note 38, section 3.3.3.1, at pg. 26

## ATTACHMENT “B”

### REVIEW OF LICENCE CONDITION STANDARDIZATION ISSUES

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#### Summary of Recommendations

**Recommendation 1:** CNSC should immediately release all documents that describe the *Project on Standardization of Licence Conditions* to allow the public to understand the purpose and impact of this project.

**Recommendation 2:** A public hearing should be conducted to review the *Project on Standardization of Licence Conditions* in order to provide the public with an opportunity to comment on this policy in a sector-wide context, and not limited to consideration of the CNL Site Licence Renewal Application. While CELA welcomes standardization where beneficial, such standardization must not lead to a loss of transparency, public access, enforcement and public accountability.

**Recommendation 3:** The CNSC should halt the implementation of the standardization project and stop the migration of licence conditions to the LCH and other documents outside the licence itself until it has provided the public with an opportunity to review and comment upon these changes. This migration of licence conditions leads to an increased lack of transparency, accountability and oversight. The increased reliance on supporting documents when establishing the licence conditions and licencing basis is contrary to both the letter and the spirit of s. 9(b) of the *Nuclear Safety and Control Act* (“NSCA”).

#### Introduction

In this submission CELA will provide a number of comments and recommendations that deal with CNSC’s ongoing standardization of licence conditions. When comparing the existing 17-month CNL licence issued in 2016 and the proposed CNL licence and when looking closer at the history of the existing CNL licence, this standardization appears to be the cause of many of the substantive changes in the proposed 10-year extension of the CNL licence.

CELA has included these comments as a result of the significant substantive changes examined in CCRCA's report, from which it is clear that this standardization may have a sweeping impact on the activities at CRL, including the management of waste at CRL.

CELA has furthermore included these comments as a result of CNSC staff indicating that this is the proper procedure through which to provide such comments.<sup>55</sup> CNSC staff has informed CELA that no consultation has taken place on the standardization of licences due to this being an "internal initiative", and has advised CELA that the various re-licensing hearings provide opportunity for public comment on the subject of licence standardization.

It should, however, be noted that CELA's comments on the licence standardization project do not merely apply to the CRL re-licensing. CELA therefore reserves the right to raise these concerns again in future submissions on other licence application. As is clear from CELA comments below, we believe that a separate review process that allows for an open discussion of the licence standardization that is apparently underway, would be a more appropriate way of discussing issues which affect all licences.

## **The Significant Reductions in Licence Conditions – Likely a Result of Standardization Efforts**

From what CELA has so far gathered, the CNSC's *Harmonized Plan of Improvement Initiatives*, in particular the *Project on Standardization of Licence Conditions*, is likely the cause of many of the changes in the proposed CNL licence when compared to the existing CNL licence. During the April 2016 Commission hearing on the 17-month extension of the CNL licence, the following was said:

MEMBER TOLGYESI: On page 5 of H2, the Staff document, the last paragraph is that: "At time of writing the CMD, CNSC Staff are assessing whether to implement the standardized format as an administrative change during this renewal." (As read) Was the decision taken what you will do, since this was written February 10th?

DR. NEWLAND: Dave Newland for the record. So what you will notice about this licence and this Licence Condition Handbook, it does not meet the modern licences that we have for other facilities, and so what we did at the time of writing was to see whether it was possible to move to the modern licence NLCH. And what we concluded was: (a) staff really didn't have the time to do that work; and (b) we felt it more appropriate that we leave for that 17 months the licensee with the existing licence and the existing LCH, so there was absolutely clarity and that we would bring forward a modern licence with modern 207 licence conditions, an LCH for the next licensing period.<sup>56</sup>

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<sup>55</sup> R. Richardson, Personal communication, 4 December 2017.

<sup>56</sup> Transcript of CNSC Hearing, April 6, 2016 <<http://nuclearsafety.gc.ca/eng/the-commission/pdf/2016-04-06%20-%20Hearing%20Corrected.pdf>>, page 206.

Furthermore, in the CNSC staff document (CMD: 18-H2) dealing with the proposed CRL licence, the following is said:

#### 2.4 Licence and Licence Conditions Handbook Format (LCH)

CNSC staff have recently developed a set of standardized licence conditions for Class I facilities in order to ensure consistency of language and improve clarity of requirements for licensees. The proposed licence is aligned with this initiative and consistent with other proposed licences brought before the Commission by CNSC staff in recent licensing hearings for Class I facilities and uranium mines and mills.

Based on these quotes and CNSC documents relating to other licence reviews, which reference the standardization project, as well as correspondence with CNSC staff at the beginning of December 2017, it is clear that this standardization project has led to many of the changes seen in the proposed CNL Licence.

CELA has requested information on this standardization project for which at the moment there does not appear to be very much that is public, on such matters as the nature of the process, steps in the process, intended outcomes, and related matters. Therefore, CELA's comments below are of a somewhat preliminary nature while we await the release of further information from CNSC on this standardization project.

**Recommendation 1:** CNSC should provide all documents that describe the *Project on Standardization of Licence Conditions* to allow the public to understand the purpose and impact of this project.

### **Lack of Public Hearing on the Licence Standardization Project**

Despite the significant number of the changes to the proposed licence that are likely the result of the *Project on Standardization of Licence Conditions*, CNSC staff has informed CELA that this standardization project has never been subject to public comment. CELA finds this highly problematic given the very significant impact this project is having on both the public's ability to review licences and the Commission's oversight role.

It appears that what used to be subject to Commission as well as public scrutiny, is now being moved or even deleted from the licence document itself in an effort to standardize licences, without addressing the potentially dramatic erosion of the public's ability to comment on licence requirements or considering the erosion of the Commission's authority. From CELA's perspective, the proposed changes severely limit our ability to carry out the type of work that the Participant Funding Program was created to support.

It is CELA's assessment that the lack of public consultation on this policy is likely contrary to s. 9(b) of the *NSCA*, which provides that one of the objects of the Commission is to: "Disseminate objective scientific, technical and regulatory information to the public concerning the activities

of the Commission and the effects, on the environment and on the health and safety of persons, of the development, production, possession and use referred to in paragraph (a).”

A lack of public consultation is thus contrary to the objective of disseminating regulatory information concerning the effect, on the environment and on the health and safety of persons, of the use of nuclear substances at CRL.

Equally troubling is the fact that, going forward, this standardization project will likely result in a permanent impairment of the Commission’s ability to live up to this part of its mandate. This impairment is clearly evidenced by the lack of licence information and documents made available to the public as part of the hearing on the proposed CNL licence.

The lack of public consultation on the *Project on Standardization of Licence Conditions*, also appears to engage s. 40(5)(b) of the *NSCA*, which states that the Commission shall hold public hearings with respect to any other matters within its jurisdiction under the *NSCA*, if the Commission is satisfied that it would be in the public interest to do so. Given the significant impact this standardization project appears to be having on the proposed CNL licence and other licences, it is CELA’s view that the Commission is obliged to exercise its authority to hold public hearings, as this standardization project represents a significant policy change, a review of which is clearly in the public interest. The public interest in this matter stems from both the reduction in public involvement in the review of licence conditions and from the potentially significant reduction in protective licence requirements which is examined in detail in CCRCA’s report.

**Recommendation 2:** A public hearing should be conducted to review the *Project on Standardization of Licence Conditions* in order to provide the public with an opportunity to comment on this policy in a sector-wide context, and not limited to consideration of the CNL Site Licence Renewal Application. While CELA welcomes standardization where beneficial, such standardization must not lead to a loss of transparency, public access, enforcement and public accountability.

## **Licence conditions outside the licence itself reduce transparency, accountability and oversight**

A significant element of CNSC’s standardization project appears to include the extensive deletion of licence conditions, which are then, to some degree, replaced by conditions and standards found in the draft LCH and in other supporting documents.

The significant number of deleted licence conditions is in itself highly problematic as is evident from CELA’s main submission and Attachment A to this submission as well as from the findings in the report prepared by Dr. Ole Hendrickson on behalf of Concerned Citizens of Renfrew County and Area (CCRCA). However, replacing the deleted conditions with conditions and standards in the proposed LCH and in supporting documents outside the licence document itself is also troubling as there are different requirements when it comes to amending the CRL licence

itself, which is a matter for the Commission, whereas amendments to the LCH and other supporting documents are not subject to the same involvement of the Commission.

Below, CELA will look at some of the requirements related to the amendment of the LCH and supporting documents, with the aim of showing how changes to these documents do not require the involvement of the public or in some cases even the Commission.

### **Implications of the Licence Condition Handbook Being Easier to Amend Compared to Amending a Licence**

As stated on page 1 of the proposed LCH, “the LCH will be updated regularly, due to high-rate of changes expected for CRL in the near future”.

And in the April 6 2016 Record of Decision on the Application to Renew and to Amend the Nuclear Research and Test Establishment Operating Licence for Chalk River Laboratories,<sup>57</sup> the following was stated:

The Commission accepts CNSC staff’s recommendation regarding the delegation of authority in the Licence Conditions Handbook (LCH) and extends the delegation of authority as presented in the previous CRL operating licence. The Commission notes that CNSC staff can bring any matter to the Commission as required. The Commission directs CNSC staff to inform the Commission on an annual basis of any changes made to the LCH.

It is thus clear that CNSC staff have made regular changes to the LCH and will continue to do so, making it obvious that amendments to the LCH is not subject to the same requirements as actual licence amendments. Relying on conditions in the LCH rather than in the licence itself thus makes licence conditions less permanent and reduces public as well as Commission oversight.

### **Amendments to Licensee Documents**

The draft LCH refers to a number of Licensee documents. Changes to these documents may in some cases merely require written notification of changes, as outlined on page 6 of the proposed LCH:

#### **Compliance Verification Criteria:**

The licensee shall, as a minimum, notify CNSC staff of changes to licensee’s documents identified in the LCH. The written notification of change shall include a copy of the revised document.

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<http://nuclearsafety.gc.ca/eng/the-commission/pdf/Record%20of%20Decision%20-%20CNL%20-%20Chalk%20River%20Laboratories.pdf>.

Licensee documents listed in the LCH are subdivided into groups having different requirements for notification of change.

PN - prior notification - the licensee shall submit the notice to the CNSC prior to implementing the change; typically, the requirement is to submit the proposed changes 30 days prior to planned implementation; however the licensee shall allow sufficient time for the CNSC to review the change proportionate to its complexity and the importance of the safety and control measures being affected

NT - notification at time of making the change

ACC - CNSC staff acceptance of changes is required before proceeding with change

Changes that may affect the licensing basis, including any change that is not captured as a change to a document listed in the LCH (e.g., construction of new facilities/buildings, or transitioning any facility/building from one phase of its life cycle to another), requires written notification to the CNSC to verify they are in accordance with the licensing basis.

Again, changes to these documents, which may contain proposed CNL licence conditions that were previously set out in the CNL licence document itself, may under some circumstances occur without the involvement of the Commission or the public.

Furthermore, given the often very broad and vague requirements included in the proposed CNL licence, it will inevitably become more difficult for CNSC staff to determine if a given change is indeed in accordance with the licencing basis, and in turn more difficult for CNSC staff to enforce these licence conditions, where changes are made in supporting documents. This includes situations where a licensee makes amendments to supporting (licensee) documents that may have material impacts on the licence conditions, but which are not contrary to the broad and vague conditions included in the proposed CNL licence.

With the public and the Commission excluded from the process and with licence conditions that are barely enforceable as per CELA's main submission to which this submission is attached, CNSC staff risk being left with the task of reviewing what may be very material changes to supporting documents without any public oversight.

### **Using CSA-Standards as Part of the Licencing Basis Significantly Reduces Public Access**

Much like reliance on the LCH and supporting (licensee) documents as sources of licence conditions removes significant portions of the proposed CRL licence from public access and oversight, so does the increased use of CSA Standards. This issue of reliance on CSA Standards is also explored in Attachment A to CELA's main submission, and the comments made here supplement those made in Attachment A.

While CELA may obtain access to relevant CSA-standards, we are not allowed by the CSA to share these with anyone else. Furthermore, CELA's access is provided in a restrictive format (section by section, and read only) which makes review of these standards more complicated and time-consuming than if the entire standard was made available as one document.

While the existing reliance on CSA-standards creates unacceptable secrecy concerning the actual licence conditions imposed under the existing CNL licence, the standardized licence format that is being implemented in the proposed CNL licence – which appears to include an increased reliance on CSA standards – only exacerbates this problem, making the complicated and potentially costly access to these underlying CSA Standards even more problematic. More than ever, the public will be left in the dark as to what conditions and standards govern the activities covered by the proposed CNL licence.

CELA finally submits that the secret nature of these CSA Standards is a highly compelling argument against the deletion of licence conditions from the proposed CNL licence itself, even if the intention is that the void left by some or all of these deleted conditions will be filled by CSA Standards. If that is what is happening with the standardization of these licence conditions, the result is the permanent removal of these conditions from proper public scrutiny, contrary to both the letter and the spirit of s. 9(b) of the *NSCA*.

**Recommendation 3:** The CNSC should halt the implementation of the standardization project and stop the migration of licence conditions to the LCH and other documents outside the licence itself until it has provided the public with an opportunity to review and comment upon these changes. This migration of licence conditions leads to an increased lack of transparency, accountability and oversight. The increased reliance on supporting documents when establishing the licence conditions and licencing basis is contrary to both the letter and the spirit of s. 9(b) of the *NSCA*.