



**Supplementary Information
Oral presentation**

**Presentation from
Northwatch**

In the Matter of the

Canadian Nuclear Laboratories

Application for the renewal of the Nuclear
Research and Test Establishment Operating
Licence for the Chalk River Laboratories

Commission Public Hearing

January 23-25, 2018

**Renseignements supplémentaires
Exposé oral**

**Présentation de
Northwatch**

À l'égard des

Les Laboratoires Nucléaires Canadiens

Demande de renouvellement du permis
d'exploitation d'établissement de recherche
et d'essais nucléaires pour les Laboratoires
de Chalk River

Audience publique de la Commission

23-25 janvier 2018

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Canadian Nuclear Laboratories (CNL) Application for the Renewal of its Nuclear Research and Test Establishment Operating Licence for the Chalk River Laboratories

Ref. 2018-H-01

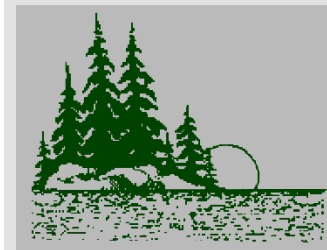
Northwatch

January 2018 | Presentation to the Canadian Nuclear Safety Commission

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I. Introduction

- Northwatch and CELA drafted a joint submission on the CNL site licence renewal application
- Northwatch's review focused on the management of wastes generated or received at the Chalk River Laboratories (CRL) site
- CELA identified radioactive waste management best practice principles and developed a framework to assist in evaluating CNL's proposed waste management activities

II. Waste Management Principles

Methodology

1. Northwatch's research was conducted in accordance with the IAEA definition of waste management:

“all activities, administrative and operational, that are involved in the handling, pre-treatment, treatment, conditioning, transport, storage and disposal of radioactive waste”

2. Based on international guidance, waste management principles were identified:
 1. Minimization and Prevention
 2. Recordkeeping
 3. Waste characterization
 4. Environmental protection and sustainability
 5. Proximity

II. Waste Management Principles

Methodology
(continued)

3. Many express obligations removed from proposed Licence and Licence Conditions Handbook (LCH) and replaced with references to CSA Standards, ie:
 - CSA N292.1 Wet storage of irradiated fuel and other radioactive materials,
 - CSA N292.2 Interim dry storage of irradiated fuel
 - CSA N292.3 Management of low and intermediate level radioactive waste
 - CSA N292.0 General principles for the management of radioactive waste and irradiated

Therefore, Northwatch evaluated the extent to which CSA Standards, incorporated by reference in the proposed Licence, were (a) enforceable or (b) formed the basis for licence compliance and verification

II. Waste Management Principles

Findings –
Guidance vs
Verification
Compliance

- Majority of principles reviewed were absent from CSA Standards and/or lacked a benchmark for compliance:
 - Waste minimization and prevention
 - Environmental protection and sustainability
 - Proximity
- Proposed Licence and LCH differentiates between compliance verification and guidance documents. The principles of radioactive waste management served as 'guidance' and not required for 'compliance verification':
 - Recordkeeping
 - Waste characterization
- Conflicting interpretation between proposed Licence and CSA Standards

II. Waste Management Principles

Findings – Legislative Gaps

- Because of distinctions made in the *Nuclear Safety and Control Act* and its regulations, not all proposed facilities and activities in the licence application are covered equally
 - For instance, recordkeeping requirements do not appear in the proposed licence. The legislative framework does not provide a sufficient substitute for this submission as *NSCA* Reg's provide varying management and retention of record requirements for Class I vs Class II facilities.

CNL's Proposed Site Facilities and Activities

- 12 Class I nuclear facilities
- 5 Class I nuclear facilities in extended shutdown or in storage with surveillance
- 13 different waste management areas
- 4 Class II nuclear facilities [...]

II. Waste Management Principles

Recommendations

To remedy the deficiencies in the proposed Licence and LCH and ensure all principles are applied equally to all site activities and facilities, we recommended the following:

RECOMMENDATION 1: The CNSC should incorporate a discussion of these fundamental principles within its regulatory approach to radioactive waste. This regulatory policy should then be incorporated by reference into the Licence Conditions Handbook as a required compliance verification document.

RECOMMENDATION 2: As the CNSC's regulatory documents informing their approach to radioactive waste lack discussion of the fundamental principles of radioactive waste management, Northwatch submits the LCH should state that the licensee shall conduct all activities in a manner which minimizes and prevents the generation of radioactive waste.

II. Waste Management Principles

Recommendations (*continued*)

RECOMMENDATION 3: In order for the CNSC to ensure compliance with the record management practices on a site-wide basis, Northwatch recommends that CSA 292.0 General principles for the management of radioactive waste and irradiated be listed as a Compliance Verification Criteria and not a Guidance Document in CNL's Licence Conditions Handbook.

RECOMMENDATION 4: Including a record management requirement as a licence condition which is not time barred, will ensure the preservation of onsite knowledge and, that the licensee's approach to record keeping is applied consistently site-wide.

II. Waste Management Principles

Recommendations (continued)

RECOMMENDATION 5: Northwatch recommends N292.0 General principles for the management of radioactive waste and irradiated be incorporated within the Compliance Verification Criteria of licence condition 11.1 Waste Management Program of the proposed licence.

RECOMMENDATION 6: Northwatch submits the proposed LCH for both waste management (11.1) and environmental protection (9.1) reference the entirety of REGDOC-2.9.1 Environmental Protection Policies, Programs and Procedure as a Compliance Verification Criteria document and not limit its application to s 4.6 of REGDOC-2.9.1.

RECOMMENDATION 7: The CNSC should endorse the proximity principle within its regulatory policy on radioactive waste management and incorporate it into the licence, to ensure CNL's waste management program is in conformity with this tenet.

III. Radioactive Waste Management at CRL



Radioactive waste management at the Chalk River national laboratories is a two-fold challenge, as:

- The site hosts an estimated 70% of Canada's \$7 billion array of nuclear liabilities, including a wide range of low, intermediate and high-level wastes (much of which dates to the early decades of nuclear research and experimentation); and
- Operations at the Chalk River Laboratories continue to accumulate additional radioactive wastes from both on-site operations and off-site sources.

III. Radioactive Waste Management at CRL

Adequacy of Information Provided

The *General Nuclear Safety and Control Regulation Requirement* (herein “*General Regulations*”) sets out in Section 3 that:

An application for a licence shall contain the following information:

(j) the name, quantity, form, origin and volume of any radioactive waste or hazardous waste that may result from the activity to be licensed, including waste that may be stored, managed, processed, or disposed of at the site of the activity to be licensed, and the proposed method for managing and disposing of that waste;

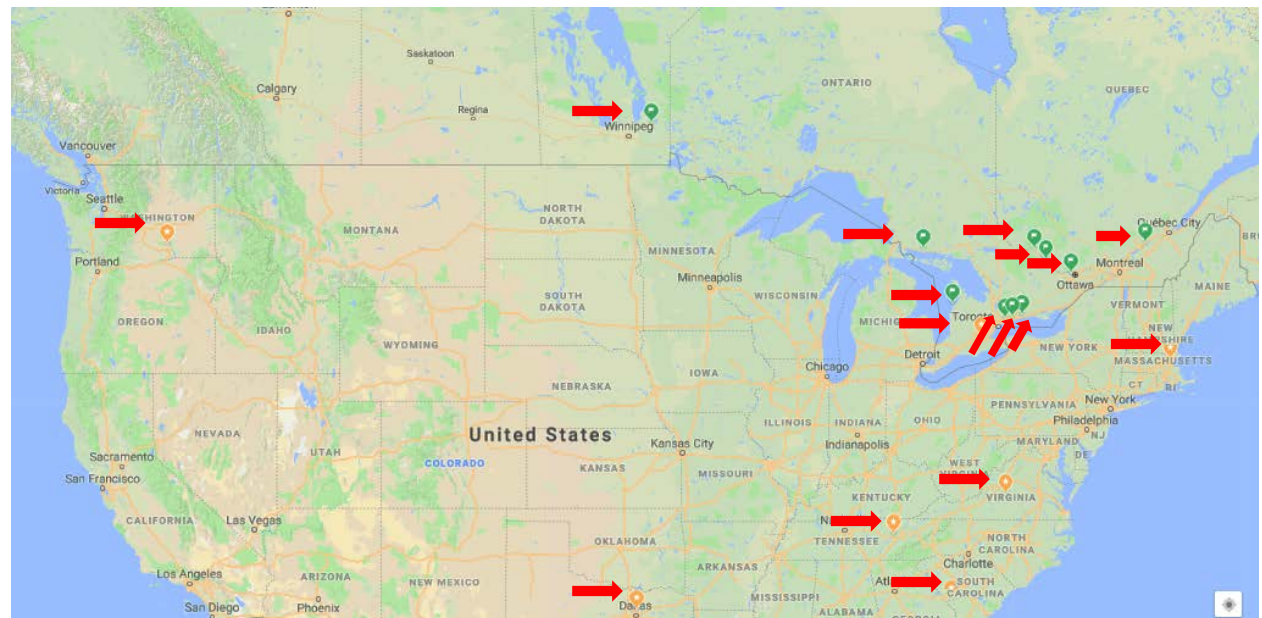
The image shows two overlapping forms from the Canadian Nuclear Laboratories (CNL). The left form is titled 'Application for Renewal of Licence' and is dated 2017 March 30. It includes sections for 'Information Required for Licence Renewal Application as per Sections 5 and 7 of the General Nuclear Safety and Control Regulations', 'Application for Renewal of Licence', and 'Section 5: 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'. The right form is titled 'Written submission from Canadian Nuclear Laboratories' and is dated 2017 March 30. It includes sections for 'In the Matter of the', 'Chaik River Laboratories', 'Application for the renewal of the licence for the Chaik River Laboratories', and 'Audience publique de la Commission'. Both forms include the CNL logo and the Canadian flag.

III. Radioactive Waste Management at CRL

Radioactive Wastes from External Sources

In CNL's licence application, the proponent states that "CNL intends to conduct the following licensed activities throughout the proposed period of the renewed licence which are identical to those in the current licence [B-1]", including:

- h) possess, store or dispose of waste received from offsite clients; and
- i) receive, repair, modify, store and return contaminated equipment from offsite clients.



III. Radioactive Waste Management at CRL

Recommendations

RECOMMENDATION 8: The CNSC should require CNL to provide information which at minimum summarizes the volume, origin, form, quantity and name of any radioactive waste or hazardous waste that may result from the licensed activities; the proposed method for managing and disposing of that waste must be included, as per the regulatory requirements.

RECOMMENDATION 9: The CNSC should direct CNL to provide a detailed inventory of waste transfers into and out of the Chalk River Laboratory properties, including transfers from other operations in Canada, and transfers from the U.S. into Canada. The inventory should include information that allows the user to trace waste volumes from point of generation through treatment to long term storage / disposition.

RECOMMENDATION 10: The CNSC should establish a publicly accessible registry of waste transfers between operations / sites in Canada, and transfers in and out of Canada. The registry should include information that allows the user to trace waste volumes from point of generation through treatment to long term storage / disposition.

IV. Procedural Considerations

Facilitating Accessible and Meaningful Public Engagement

- Reliance on CSA Standards impairs public's ability to review guidance and verification components of proposed licence
- Discussion and sharing of CSA Standards is prohibited due to copyright
- Purchased vs complimentary CSA Standards are not equal:
 1. Complimentary access provides "an approximation of the original document" only;
 2. Complimentary access does not alert users to updates or changes within a standards; and
 3. Complimentary access is only available online (downloadable PDF function is disabled)

RECOMMENDATION 11:

Cease reliance on CSA standards as licence conditions until such a time that the public can easily access standards and have access to content which is equivalent to paid memberships. Facilitating public and transparent decision-making requires providing a level of access to the public which is equivalent in substance and ease-of-use to that enjoyed by users of CSA purchased content.

Summary of Recommendations

RECOMMENDATION 1: The CNSC should incorporate a discussion of these fundamental principles within its regulatory approach to radioactive waste. This regulatory policy should then be incorporated by reference into the Licence Conditions Handbook as a required compliance verification document.

RECOMMENDATION 2: As the CNSC's regulatory documents informing their approach to radioactive waste lack discussion of the fundamental principles of radioactive waste management, Northwatch submits the LCH should state that the licensee shall conduct all activities in a manner which minimizes and prevents the generation of radioactive waste.

RECOMMENDATION 3: In order for the CNSC to ensure compliance with the record management practices on a site-wide basis, Northwatch recommends that CSA 292.0 General principles for the management of radioactive waste and irradiated be listed as a Compliance Verification Criteria and not a Guidance Document in CNL's Licence Conditions Handbook.

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RECOMMENDATION 5: Northwatch recommends N292.0 General principles for the management of radioactive waste and irradiated be incorporated within the Compliance Verification Criteria of licence condition 11.1 Waste Management Program of the proposed licence.

RECOMMENDATION 6: Northwatch submits the proposed LCH for both waste management (11.1) and environmental protection (9.1) reference the entirety of REGDOC-2.9.1 Environmental Protection Policies, Programs and Procedure as a Compliance Verification Criteria document and not limit its application to s 4.6 of REGDOC-2.9.1.

RECOMMENDATION 7: The CNSC should endorse the proximity principle within its regulatory policy on radioactive waste management and incorporate it into the licence, to ensure CNL's waste management program is in conformity with this tenet.

Summary of Recommendations (cont.)

RECOMMENDATION 8: The CNSC should require CNL to provide information which at minimum summarizes the volume, origin, form, quantity and name of any radioactive waste or hazardous waste that may result from the licensed activities; the proposed method for managing and disposing of that waste must be included, as per the regulatory requirements.

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RECOMMENDATION 10: The CNSC should establish a publicly accessible registry of waste transfers between operations / sites in Canada, and transfers in and out of Canada. The registry should include information that allows the user to trace waste volumes from point of generation through treatment to long term storage / disposition.

RECOMMENDATION 11: The Commission should direct the CNL, AECL and CNSC staff to jointly select an independent third party expert group to undertake a comprehensive review of progress being made on the remediation of the Chalk River site, including in the review an evaluation of progress made against previously set milestones, and identification of milestones for the next ten and twenty years against which progress is reported annually to the Commission and the public.

RECOMMENDATION 12: The CNSC must cease reliance on CSA standards as licence conditions until such a time that the public can easily access standards and have access to content which is equivalent to that provided through a paid membership. Facilitating public and transparent decision-making requires providing a level of access to the public which is equivalent in substance and ease-of-use to that enjoyed by users of CSA purchased content.

RECOMMENDATION 13: The CNSC should establish a period for consultation which is congruous with the principles of access to justice and transparency, and next-generation environmental law which includes providing accessible information and allowing sufficient time for its review.

RECOMMENDATION 14: The Commission should direct the CNSC staff to replace the current version of the IEMP presented on the CNSC web site with a report that is comprehensive and includes data for a range of radioactive and toxic contaminants associated with the nuclear materials at the Chalk River site, and presents data from a number of years, and includes sampling locations within the CNL site, and in the immediate vicinity of the CNL site, as well as locations that are more distant to the site (such as those currently included in the IEMP report).

V.CONCLUSION

Order Requested

Due to the documented lack of replacement enforceable conditions in the proposed licence and reliance on CSA Standards in the proposed licence and LCH, Northwatch seeks the following order from the Canadian Nuclear Safety Commission:

1. Deny CNL's site licence renewal application;
2. In the alternative, grant a one-year operating licence on the condition that the foregoing amendments be carried out before any further licence renewals.



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