



Canadian Nuclear
Safety Commission

Commission canadienne
de sûreté nucléaire

Record of Decision

In the Matter of

Applicant Canadian Nuclear Laboratories Ltd.

Subject Application by Canadian Nuclear
Laboratories Ltd. for the Amendment of the
Port Granby Long-Term Low-Level
Radioactive Waste Management Project
Licence WNSL-W1-2311.01/2021

**Date of
Decision** April 5, 2019

RECORD OF DECISION

Applicant: Canadian Nuclear Laboratories Limited

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

Purpose: Application by Canadian Nuclear Laboratories Ltd. for the Amendment of the Port Granby Long-Term Low-Level Radioactive Waste Management Project Licence WNSL-W1-2311.01/2021

Application received: June 1, 2018

Date of hearing in writing decision: April 5, 2019

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

Panel of Commission: R. Velshi, President

Licence: Amended

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1.0 INTRODUCTION

1. Canadian Nuclear Laboratories Ltd. (CNL) has submitted an application to the Canadian Nuclear Safety Commission¹ (CNSC), under subsection 24(2) of the *Nuclear Safety and Control Act*² (NSCA), to amend its Waste Nuclear Substance Licence (WNSL) for the Port Granby Long-Term Low-Level Radioactive Waste Management Project (Port Granby Project), WNSL-W1-2311.01/2021. The application requests the Commission's acceptance of the liquid effluent release limits for the Port Granby Project waste water treatment system. The Port Granby Project site is located in the Municipality of Clarington, Ontario. CNL also requested that its licence be amended to reflect the CNSC's standardized licence conditions and modernized licence format. The current licence expires on December 31, 2021.
2. The Port Granby Project is a federal government undertaking to relocate approximately 450,000 cubic metres of historic low-level radioactive waste, located at an existing waste management facility on the shoreline of Lake Ontario, to a new engineered above-ground mound. In 2011 through its issuance of a WSNL for the Port Granby Project, the Commission accepted the licensee's proposed water treatment process, the list of contaminants requiring treatment by the previous waste water treatment plant and the effluent contamination concentrations for the Port Granby Project.³
3. In its 2011 licensing decision, the Commission also agreed with CNSC staff's assessment that effluent release limits for the Port Granby Project's new waste water treatment plant could be established only after the licensee had optimized the performance of that system and had accumulated data based on at least one year of operating experience. On this basis, in June 2018 and after a year of operation of the waste water treatment system, CNL applied for Commission acceptance of the proposed liquid effluent release limits.

Issue

4. In considering the application, the Commission was required to decide:
 - a) whether an environmental assessment (EA) under CEAA 2012 was required before considering this licence application;
 - b) whether CNL is qualified to carry on the activities that the licence would authorize; and
 - c) whether, in carrying on those activities, CNL would make adequate provision for

¹ The *Canadian Nuclear Safety Commission* is referred to as the "CNSC" when referring to the organization and its staff in general, and as the "Commission" when referring to the tribunal component.

² Statutes of Canada (S.C.) 1997, chapter (c.) 9

³ Canadian Nuclear Safety Commission, "*Record of Proceedings, Including Reasons for Decision – f Atomic Energy Canada Limited, Application by Atomic Energy of Canada Limited for a Waste Nuclear Substance Licence for the Port Granby Long-Term Low-Level Radioactive Waste Management Project*", issued on November 29, 2011.

the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.

Hearing

5. Pursuant to section 22 of the NSCA, I established myself to preside as a Panel of one Commission Member to hear the application. The Commission, in conducting a public hearing based on written materials, considered written submissions from CNL (CMD 19-H101.1) and CNSC staff (CMD 19-H101), as well as a written intervention from the Municipality of Clarington (CMD 19-H101.2).

2.0 DECISION

6. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Decision*, the Commission concludes that CNL satisfies the conditions of subsection 24(4) of the NSCA. Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the Waste Nuclear Substance Licence WNSL-W1-2311.01/2021 held by Canadian Nuclear Laboratories Ltd. for its Port Granby Long-Term Low-Level Radioactive Waste Management Project located in the Municipality of Clarington, Ontario. The amended licence, WNSL-W1-2311.02/2021, is valid until December 31, 2021.

7. Through this amendment to CNL's WSNL, the Commission accepts the proposed liquid effluent limits for the Port Granby Project as presented in CMDs 19-H101 and 19-H101.1.
8. With this decision, the Commission includes in the amended licence the conditions as recommended by CNSC staff in CMD 19-H101, which reflect the CNSC's standardized licence conditions and modernized licence format.
9. With this decision, the Commission also accepts the removal of Appendices A through C from the current licence and the inclusion of the release limits for liquid effluent, as approved by this decision, and the cleanup criteria for remediation (inorganic contaminants of potential concern in surface soils) in the LCH.

3.0 ISSUES AND COMMISSION FINDINGS

10. In making its licensing decision, the Commission considered CNL's qualification to carry out the licensed activities. The Commission also considered the adequacy of the CNL's proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.
11. In its consideration of this matter, the Commission examined the completeness of the application and the adequacy of the information submitted by CNL, as required by the NSCA, the *General Nuclear Safety and Control Regulations*⁴ (GNSCR) and other applicable regulations made under the NSCA.

3.1 Application of *Canadian Environmental Assessment Act, 2012*

12. In coming to its decision, the Commission was first required to determine whether an Environmental Assessment (EA) under the *Canadian Environmental Assessment Act, 2012*⁵ (CEAA 2012), was required.
13. The licence amendment application submitted by CNL is for Commission acceptance of CNL's proposed liquid effluent release limits for the Port Granby Project and to adopt the CNSC's standardized licence format. CNL is not requesting authorization for new projects or physical activities.⁶ CNSC staff submitted that its review of the licence application found that the requested licence amendments would not require an EA.
14. The Commission is satisfied that the requested licensing action is not in relation to a designated project under CEAA 2012, and consequently an EA under CEAA 2012 was not required in this matter. Further, the Commission is satisfied that the licensee has made, and will continue to make, adequate provision for the protection of the environment in relation to the licensed activities throughout the licence period.

3.2 Other Matters for Consideration

15. The Commission considered the information submitted by CNL regarding the licensing requirements for effluent release limits in respect of its application. The Commission notes that, in the November 2011 *Record of Decision* for the issuance of the WNSL for the Port Granby project, the Commission agreed to the proposed approach of defining the liquid effluent release limits following the commissioning and operation of the new waste water treatment plant after a period of 12 months.
16. CNL submitted that the new waste water treatment plant was fully commissioned at the

⁴ SOR/2000-202

⁵ S.C. 2012, c. 19

⁶ "Projects" as defined in section 66 of CEAA 2012

Port Granby site in October 2016. CNL added that the liquid effluent release limits currently in the Port Granby WNSL were applicable to the previous decommissioned and dismantled waste water treatment building and that, with one year of operating data now available for the new waste water treatment plant, new liquid effluent release limits were developed.

17. CNSC staff indicated that the proposed release limits applied to the final point of discharge and that this was consistent with national and international practices.
18. The Commission notes that the release limits in Appendix B of the current Port Granby Project's licence were limited to Radium-226, pH and toxicity testing, and applied only to the legacy waste water treatment system. The Commission also notes that the inclusion of more extensive release limits for the Port Granby Project in the proposed LCH will apply to the new waste water treatment plant, provide for greater clarity and more stringent requirements on CNL with respect to effluent releases, and that the addition of these release limits will not alter the activities that CNL is authorized to carry out.
19. In its 2011 decision, the Commission also required the licensee to set appropriate action levels for the ongoing monitoring of the performance of the water treatment plant prior to the establishment of release limits. CNSC staff submitted that CNL established action levels for the complete suite of contaminants of concern and had operated the waste water treatment plant below the design objectives.

3.2.1 Development of Effluent Release Limits

20. In its written submission, CNL submitted information about the proposed liquid effluent release limits for the Port Granby Project and informed the Commission that these limits were based on:
 - a technology-based approach
 - consideration of federal and provincial requirements
 - weekly concentrations (composite) and monthly mean concentrations
 - 12 months of operating data
21. CNSC staff informed the Commission that the projected maximum effluent concentrations for the Port Granby Project were compared to the Canadian Council of Ministers of the Environment (CCME) *Canadian Water Quality Guidelines for the Protection of Aquatic Life*.⁷ CNSC staff further submitted that, in the absence of a CCME guideline, the Ontario Provincial Water Quality Objective⁸ (PWQO) was used.
22. CNSC staff's CMD informed the Commission that the proposed release limits for

⁷ Canadian Council of Ministers of the Environment, *Canadian Water Quality Guidelines for the Protection of Aquatic Life*, 2003.

⁸ Province of Ontario, *Water Management: Policies, Guidelines, Provincial Water Quality Objectives*, <https://www.ontario.ca/page/water-management-policies-guidelines-provincial-water-quality-objectives>, 1994,

radium-226, total suspended solids, and pH followed the federal *Metal and Diamond Mining Effluent Regulations*⁹ and that a technology-based release limit was proposed for the release limit for uranium. CNSC staff also explained that, since the maximum predicted design release for molybdenum prior to treatment was lower than current and proposed future provincial guidelines, a proposed release limit was not established for molybdenum.

23. CNSC staff's CMD informed the Commission that, as per the CNSC-Environment and Climate Change Canada (ECCC) memorandum of understanding (MOU), CNSC staff consulted with ECCC during the finalization of the Port Granby Project liquid effluent release limits. CNSC staff submitted that following this consultation, ECCC was satisfied that the liquid effluent release limits were established based on the principles of pollution prevention and were protective of the environment.
24. CNL submitted that it had been implementing compliance with the proposed release limits since April 4, 2018. CNL's submission noted that any release limit exceedance would be immediately reported to the Commission through the CNSC Duty Officer, followed by a full report 21 days later, as required by the GNSCR.
25. CNSC staff allowed CNL to change the frequency of toxicity testing from monthly to quarterly following CNL's establishment of action levels for the ongoing monitoring of the performance of the waste water treatment plant. CNSC staff's submission noted that CNL would be required to resume monthly testing should a quarterly sample be found toxic, noting that since the start of operations of the new waste water treatment, no effluent with contaminant concentrations higher than action levels had been released. The Commission agrees with this frequency, and with the need to adjust frequency, as noted by CNSC staff, in the event of a toxic sample.
26. The Commission considered the information submitted by the Municipality of Clarington regarding CNL's application and noted that the Municipality of Clarington and the Municipal Peer Review Team did not have concerns in respect of the proposed liquid effluent release limits for the Port Granby Project.

3.2.2 Aboriginal Engagement

27. The common law duty to consult with Aboriginal peoples applies when the Crown contemplates action that may adversely affect established or potential Aboriginal and/or treaty rights. The CNSC, as an agent of the Crown and as Canada's nuclear regulator, recognizes and understands the importance of building relationships and engaging with Canada's Aboriginal peoples. The CNSC ensures that its licensing decisions under the NSCA uphold the honour of the Crown and considers Aboriginal peoples' potential or established Aboriginal and/or treaty rights pursuant to section 35 of the *Constitution Act, 1982*.¹⁰

⁹ SOR/2002-222

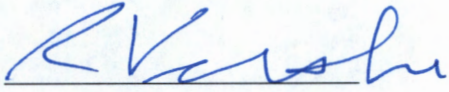
¹⁰ *Constitution Act, 1982*, Schedule B to the *Canada Act 1982*, 1982, c. 11 (U.K.).

28. In its CMD, CNSC staff expressed the view that no duty to consult was engaged by the amendment application since it did not propose any physical or operational changes to the Port Granby site and no impacts to potential or established Aboriginal and/or treaty rights were anticipated.
29. Based on the information examined by the Commission, the Commission is satisfied that this licence amendment will not result in adverse changes to the Port Granby site, and that the licence amendment will not cause adverse impacts to any potential or established Aboriginal and/or treaty rights.

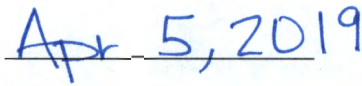
4.0 CONCLUSIONS

30. The Commission has considered the licence amendment application submitted by the CNL. Based on its consideration of the information submitted, the Commission is satisfied that the application meets the requirements of the NSCA, the GNSCR and other applicable regulations made under the NSCA.
31. The Commission has also considered the information and submissions of CNL and CNSC staff as set out in the material available for reference on the record, as well as the intervention from the Municipality of Clarington.
32. The Commission is satisfied that this licence amendment application does not propose any new activities and that an environmental assessment under CEAA 2012 was not required in this matter. Further, the Commission notes that the NSCA and its regulations provide for the protection of the environment and the health and safety of persons, and is satisfied that the licensee will continue to adequately provide these protections.
33. The Commission is satisfied that CNL meets the test set out in subsection 24(4) of the *Nuclear Safety and Control Act*. That is, the Commission is of the opinion that CNL is qualified to carry on the activity that the proposed amended licence will authorize and that it will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed.
34. Therefore, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, amends the Waste Nuclear Substance Licence WSNL-W1/2311.01/2021 issued to Canadian Nuclear Laboratories Ltd. for the Port Granby Long-Term Low-Level Radioactive Waste Management Project. The amended licence, WNSL-W1-2311.02/2021, is valid until December 31, 2021.

35. With this decision, the Commission accepts the proposed table currently found on page 17 of the draft LCH, in CMD 19-H101, and amends the licence to include the standardized licence conditions as proposed by CNSC staff also in CMD 19-H101.



Rumina Velshi
President,
Canadian Nuclear Safety Commission



Date