

Decommissioning and Environmental Remediation
Reactor Decommissioning
G-1 & DP Decommissioning

2024 July 17

Ms. Candace Salmon
Commission Registrar
Canadian Nuclear Safety Commission
280 Slater Street
PO Box 1046, Station B
Ottawa, Ontario K1P 5S9

Dear Ms. Salmon:

Application for Licence Amendment to Proceed with Execution of Decommissioning at the Gentilly-1 Waste Facility

The purpose of this letter is to submit an application to the Canadian Nuclear Safety Commission (CNSC) for an amendment to the *Waste Facility Decommissioning Licence, Gentilly-1 Waste Facility*, WFDL-W4-331.00/2034 [1] to proceed with execution of decommissioning involving the removal of all buildings and structures from the Gentilly-1 Waste Facility (G1WF) site.

BACKGROUND INFORMATION

The Gentilly-1 Nuclear Generating Station (250 MWe) is a prototype CANada Deuterium Uranium (CANDU) Boiling Water Reactor located at the Gentilly site in Bécancour, Québec. The Gentilly-1 Nuclear Generating Station was owned and operated by Hydro-Québec and Atomic Energy of Canada Limited (AECL) under an Atomic Energy Control Board Operating Licence. This reactor was put into service in 1972. It was operated intermittently for a total of 183 effective full power days until 1978, when it was determined that certain modifications and considerable repairs would be required. The reactor was then put into a lay-up state in 1980, and the decision to decommission the reactor was made in 1983. In 1985, Hydro-Québec turned over the Gentilly-1 Nuclear Generating Station site to AECL after the spent fuel had been transferred to safe storage.

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2024 July 17

Page 2 of 25
61-CNNO-24-0008-L
KS-24-008

The safe shutdown state of the reactor was achieved in 1986. Since 1986, the Gentilly-1 site has been maintained in the Storage-with-Surveillance phase. In 1999, a Waste Management Facility Operating Licence was issued by Atomic Energy Control Board to the Gentilly-1 site, becoming the Gentilly-1 Waste Management Facility.

In 2014, the CNSC issued a 20-year Waste Facility Decommissioning Licence (WFDL) that included three prototype waste facilities (G1WF, Douglas Point Waste Facility, and Nuclear Power Demonstration Waste Facility) [2]. With the restructuring of AECL in 2015, the prototype waste facilities WFDL [2] was transferred to Canadian Nuclear Laboratories (CNL), which operates all facilities on behalf of AECL.

In 2018 July, CNL requested CNSC approval to divide the combined prototype waste facilities WFDL [2] into three separate licences, one for each prototype waste facility [3] as decommissioning strategies of these three prototype waste facilities are diverse and will be carried out under different timelines depending on the reactor characteristics, site characteristics, and the surrounding environment including interests of the respective communities. The CNSC issued a separate, new WFDL to G1WF in 2019 February [1], which is valid until 2034 December 31, authorizing only Storage-with-Surveillance activities.

CNL is now planning to execute decommissioning at the G1WF to remove all buildings and structures, which requires an amendment to the G1WF WFDL [1].

On 2023 February 14, CNL notified CNSC staff of its intention to submit an application to amend the G1WF WFDL [1] to proceed with the execution of decommissioning at the G1WF [4].

APPLICATION FOR LICENCE AMENDMENT

Pursuant to the *Nuclear Safety and Control Act* (hereafter – the Act) [5] and associated Regulations, CNL is requesting that the Commission, or a person authorized by the Commission, amend the G1WF WFDL [1] to authorize CNL to proceed with the execution of decommissioning as detailed in the *Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview* [6]. CNL is proposing that the amended licence be valid for a period of 15 years. This proposed licence period will allow CNL to complete decommissioning activities at the G1WF, with additional time considered for close out of the decommissioning project and submission of final regulatory documents. CNL will continue to ensure compliance with all licensing and regulatory requirements at the G1WF during the proposed 15 year licensing period and will report to the CNSC through Annual Compliance Monitoring Reports. CNL will also be available to respond to any questions from the Commission on decommissioning progress and safety performance at CNL's Regulatory Oversight Reports Commission Meeting.

This Licence Amendment Application, along with the *Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview* [6] and the *Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning* [7] constitutes the Licence Amendment Application Package as required in the Act [5] and associated Regulations' clauses applicable to the G1WF licence amendment. The *Gentilly-1 Waste Facility Detailed*

2024 July 17

Page 3 of 25
61-CNNO-24-0008-L
KS-24-008

Decommissioning Plan Volume 1: Program Overview [6] and the *Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning* [7] were previously submitted to CNSC staff in 2024 May [9][10].

The *Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview* [6] provides information about the scope and approach to decommissioning, end state, schedule, cost, funding, and CNL's Functional Support Areas that support decommissioning activities at the G1WF. The end state of the G1WF site is brownfield suitable for industrial reuse consistent with the rest of the Gentilly site owned by Hydro-Québec.

The *Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning* [7] was prepared on the presumption that an Environmental Effects Review is required for the execution of decommissioning pursuant to s.82 of the *Impact Assessment Act* [8]. The Environmental Effects Review [7] concluded that there is no predicted significant effect on air quality, wildlife, and species at risk due to the execution of decommissioning at the G1WF. The Environmental Effects Review [7] will be reviewed during the development of each Detailed Decommissioning Plan to ensure it continues to be applicable.

Attachment A describes how CNL meets the requirement to amend the G1WF Licence by providing a clause-by-clause statement for the relevant excerpts from the Act [5] and associated Regulations.

CNL looks forward to hearing from the CNSC with respect to this application. In the interim, should you require any further information, please contact me directly at 613-633-8157.

Sincerely,



Kristan Schruder
G1WF Site Licence Holder

KS/bc

Attachment (1)

2024 July 17

Page 4 of 25
61-CNNO-24-0008-L
KS-24-008**References:**

- [1] *Waste Facility Decommissioning Licence, Gentilly-1 Waste Facility, WFDL-W4--331.00/2034*, Expiry date: 2034 December 31.
- [2] *Waste Facility Decommissioning Licence – Prototype Waste Facilities, WDL-W4-332.00/2034*, 2014 July 16.
- [3] Letter, K. Kehler (CNL) to H. Tadros (CNSC), *Request to Separate the Waste Facility Decommissioning Licence, WFDL-W4-332.01/2034 to Three Separate Licences for Douglas Point, Gentilly-1, and Nuclear Power Demonstration Waste Facilities*, 140-CNNO-18-0003-L, 2018 July 11.
- [4] Letter, J. Therrien (CNL) to W. Islam (CNSC), *Canadian Nuclear Laboratories' Intention to Submit a Licence Amendment Application to Proceed with Execution of Decommissioning at the Gentilly-1 Waste Facility*, 61-CNNO-24-0001-L, 2023 February 14.
- [5] *Nuclear Safety and Control Act*, S.C. 1997, c. 9.
- [6] *Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview*, 61-508310-DDP-001817, Revision 1, 2024 May.
- [7] *Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning*, 61-03710-ENA-005514, Revision 0, 2024 May.
- [8] *Impact Assessment Act*, S.C. 2019, c. 28, s. 1.
- [9] Letter, J. Therrien (CNL) to P. Igric (CNSC), *Submission of Gentilly-1 Waste Facility Detailed Decommissioning Plan (DDP) Volume 1 – Program Overview Revision 1*, 61-CNNO-24-0007-L, 2024 May 31.
- [10] Letter, J. Therrien (CNL) to P. Igric (CNSC), *Submission of the Environmental Effects Review for the Gentilly-1 Waste Facility*, 61-CNNO-24-0004-L, 2024 May 16.

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2024 July 17

61-CNNO-24-0008-L

KS-24-008

ATTACHMENT A COMPLIANCE VERIFICATION FOR 2024 GENTILLY-1 WASTE FACILITY LICENCE AMENDMENT

Section	Requirement	CNL Response
Nuclear Safety and Control Act (the Act)		
24(2)	The Commission may issue, renew, suspend in whole or in part, amend, revoke, or replace a licence, or authorize its transfer on receipt of an application (a) in the prescribed form;	This attachment with cover letter provides the information required by the Act [A-1] and associated Regulations made pursuant to the Act and constitutes an application by Canadian Nuclear Laboratories (CNL) to amend the <i>Gentilly-1 Waste Facility (G1WF) Waste Facility Decommissioning Licence (WFDL)</i> [A-2].
	(b) containing the prescribed information and undertakings and accompanied by the prescribed documents; and	See response above under clause 24(2)(a).
	(c) accompanied by the prescribed fee.	CNL is in good standing with respect to the provision of the CNSC licensing fees and will provide any additional fees as and when required.
24(4)	No licence shall be issued, renewed, amended, or replaced — and no authorization to transfer one given — unless, in the opinion of the Commission, the applicant or, in the case of an application for authorization to transfer the licence, the transferee (a) is qualified to carry on the activity that the licence will authorize the licensee to carry on; and	CNL understands that qualification will be determined through consideration by the Commission of this application and the associated supporting material as well as deliberation through the Commission public hearing/meeting process.

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(b) will, in carrying on that activity, 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.	CNL understands that adequate provision will be determined through consideration by the Commission of this application and the associated supporting material as well as deliberation through the Commission public hearing/meeting process.
24(5)	A licence may contain any term or condition that the Commission considers necessary for the purposes of this Act, including a condition that the applicant provide a financial guarantee in a form that is acceptable to the Commission.	CNL understands the requirement for an acceptable financial guarantee. While ownership of CNL has transferred to the Canadian National Energy Alliance, Atomic Energy Canada, Limited (AECL) retains ownership of the lands (except G1WF site), assets, and liabilities associated with CNL's licences. These liabilities have been officially recognized by the Minister of Natural Resources in a letter dated 2015 October 01 [A-3] and reaffirmed by AECL to CNL on 2020 August 12 [A-4].
25	The Commission may, on its own motion, renew, suspend in whole or in part, amend, revoke, or replace a licence under the prescribed conditions	CNL understands the clause, and no response is required.
26	Subject to the regulations, no person shall, except in accordance with a licence, (e) prepare a site for, construct, operate, modify, decommission, or abandon a nuclear facility;	CNL understands the clause, and no response is required.

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
General Nuclear Safety and Control Regulations		
3(1)	An application for a licence shall contain the following information: (a) the applicant's name and business address;	Applicant's Name: Canadian Nuclear Laboratories Ltd. Business Address: Chalk River Laboratories 286 Plant Road Chalk River, Ontario K0J 1J0 Contact Person, Signing Authority, and Licence Holder: Kristan Schruder Deputy VP, Decommissioning & Site Operations Environmental Remediation Management Canadian Nuclear Laboratories Ltd. Telephone: 613-633-8157
	(b) the activity to be licensed and its purpose;	CNL plans to proceed with execution of decommissioning of the G1WF as described in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5]. CNL requests to amend the G1WF WFDL [A-2] to allow CNL to proceed with execution of decommissioning at the G1WF while continuing with Storage-with-Surveillance activities.
	(c) the name, maximum quantity, and form of any nuclear substance to be encompassed by the licence;	The G1WF WFDL [A-2] encompasses the spent fuel stored in the concrete canisters and other stored waste. The stored waste information is reported in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and updated annually through the Annual Compliance Monitoring Report (ACMR). CNL is consolidating the G1WF spent fuel inventory under the G1WF WFDL [A-2] at the Chalk River Laboratories Waste

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		Management Area. Therefore, maximum quantities of nuclear substances stored at the G1WF site will be substantially reduced. The fuel consolidation activities are scheduled to be completed in 2025 (prior to licence amendment).
	(d) a description of any nuclear facility, prescribed equipment or prescribed information to be encompassed by the licence;	The current configuration of G1WF is described in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(e) the proposed measures to ensure compliance with the Radiation Protection Regulations, the Nuclear Security Regulation, and the Packaging and Transport of Nuclear Substances Regulations	<p>Compliance with the <i>Radiation Protection Regulations</i> [A-6] at the G1WF is ensured by the implementation of the following CNL Functional Support Areas (FSAs):</p> <ul style="list-style-type: none"> • Radiation Protection, through the documents referenced in SCA – Radiation Protection, Licence Condition 9.1: Radiation Protection Program of the G1WF Licence Conditions Handbook (LCH) [A-7]. • Environmental Protection, through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7]. <p>Compliance with the <i>Nuclear Security Regulations</i> [A-8] at the G1WF is ensured by the implementation of the CNL Security FSA and the Nuclear Cyber Security FSA through the documents referenced in SCA – Security, Licence Conditions 14.1: Security Program and 14.2: Security Arrangements for Decommissioning of the G1WF LCH [A-7].</p> <p>Compliance with the <i>Packaging and Transport of Nuclear Substances Regulations</i> [A-9] at the G1WF is ensured by the implementation of the CNL Transportation of Dangerous Goods FSA, through the documents referenced in SCA Packaging and</p>

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		Transport, Licence Condition 16.1: Packaging and Transport Program of the G1WF LCH [A-7].
	(f) any proposed action level for the purpose of Section 6 of the Radiation Protection Regulations;	Compliance with the radiation action levels at the G1WF is ensured by the implementation of the CNL Radiation Protection FSA, through the documents and actions levels referenced in SCA – Radiation Protection, Licence Condition 9.2: Radiation Protection of the G1WF LCH [A-7].
	(g) the proposed measures to control access to the site of the activity to be licensed and the nuclear substance, prescribed equipment or prescribed information;	Compliance with the <i>Nuclear Security Regulations</i> [A-8] at the G1WF is ensured by the implementation of the CNL Security FSA and the Nuclear Cyber Security FSA, through the documents referenced in SCA – Security Licence Conditions 14.1: Security Program and 14.2: Security Arrangements for Decommissioning of the G1WF LCH [A-7].
	(h) the proposed measures to prevent loss or illegal use, possession or removal of the nuclear substance, prescribed equipment or prescribed information	Compliance with the <i>Nuclear Security Regulations</i> [A-8] at the G1WF is ensured by the implementation of the CNL Security FSA and the Nuclear Cyber Security FSA, through the documents referenced in SCA – Security Licence Conditions 14.1: Security Program and 14.2: Security Arrangements for Decommissioning of the G1WF LCH [A-7].
	(i) a description and results of any test, analysis or calculation performed to substantiate the information included in the application;	Compliance with this requirement at the G1WF is demonstrated by the implementation of annual reporting requirements as defined in SCA – Operating Performance, Licence Condition 5.1: Reporting Requirements of the G1WF LCH [A-7].
	(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,	The information about current stored waste and the decommissioning waste is documented in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	processed or disposed of at the site of the activity to be licensed, and the proposed method for managing and disposing of that waste;	<p>Specific information on radioactive waste and hazardous waste is reported annually through the ACMR, to meet the requirements of SCA – Operating Performance, Licence Condition 5.1: Reporting Requirements of the G1WF LCH [A-7].</p> <p>Relevant requirements for managing and disposing of radioactive waste and hazardous waste at the G1WF site are defined in the CNL Waste Management FSA and implemented through the documents referenced in SCA – Waste Management, Licence Condition 13.1: Waste Management Program of the G1WF LCH [A-7].</p>
	(k) the applicant's organizational management structure insofar as it may bear on the applicant's compliance with the Act and the regulations made under the Act, including the internal allocation of functions, responsibility and authority;	<p>CNL's senior management organizational structure is documented in the <i>CNL Management System Manual</i> [A-10], which also defines functions, responsibility, and authority.</p> <p>Further relevant information regarding the internal allocation of functions, responsibilities, and authority at the G1WF is provided in the <i>Site Licences, Certificates, Permits, Building/Facility Contacts, & Licence Representatives</i> [A-11].</p>
	(l) a description of any proposed financial guarantee relating to the activity to be licensed; and	<p>While ownership of CNL has transferred to Canadian National Energy Alliance, AECL retains ownership of the lands (except G1WF site), assets and liabilities associated with CNL's licences. These liabilities have been officially recognized by the Minister of Natural Resources in a letter dated 2015 October 01 [A-3], and reaffirmed by AECL to CNL on 2020 August 12 [A-4] to comply with the SCA – Decommissioning, Licence Condition 2.2: Financial Guarantee of the G1WF LCH [A-7].</p>

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(m) any other information required by the Act, or the regulations made under the Act for the activity to be licensed and the nuclear substance, nuclear facility, prescribed equipment, or prescribed information to be encompassed by the licence.	CNL understands this requirement and will provide any other additional information upon request.
3(1.1)	The Commission or a designated officer authorized under paragraph 37(2)(c) of the Act may require any other information that is necessary to enable the Commission or the designated officer to determine whether the applicant	CNL understands this requirement and will provide any other additional information upon request.
	(a) is qualified to carry on the activity to be licensed; or	The framework for CNL to carry out licensed activities is covered in the <i>CNL Management System Manual</i> [A-10] which describes the relevant statutory, regulatory, contractual, and corporate frameworks within which CNL exists and operates.
	(b) will, in carrying on that activity, 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.	<p>CNL understands this requirement and will provide any other additional information upon request.</p> <p>Compliance with this requirement at the G1WF is demonstrated by the implementation of the following CNL FSAs:</p> <ul style="list-style-type: none"> • Cleanup through the documents referenced in SCA – Decommissioning Licence Conditions 2.1: Decommissioning Plans and 2.2: Financial Guarantees and SCA – Waste Management, Licence Condition 13.2: Decommissioning Plan of the G1WF LCH [A-7]. • Radiation Protection, through the documents referenced in SCA – Radiation Protection, Licence Conditions 9.1: Radiation Protection Program and 9.2: Radiation Protection Action Level Reporting, of the G1WF LCH [A-7].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		<ul style="list-style-type: none"> • Environmental Protection, through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7]. • Occupational Safety and Health, through the documents referenced in SCA – Conventional Health and Safety, Licence Condition 10.1: Conventional Health and Safety Program of the G1WF LCH [A-7]. • Nuclear Materials and Safeguards Management, through the documents referenced in SCA – Safeguards and Non-Proliferation, Licence Condition 15.1: Safeguards Program of the G1WF LCH [A-7].
3(2)	<p>Subsection (1) does not apply in respect of an application for a licence to import or export for which the information requirements are prescribed by the Nuclear Non-Proliferation Import and Export Control Regulations. Or in respect of an application for a licence to transport while in transit for which the information requirements are prescribed by the Packaging and Transport of Nuclear Substances Regulations, 2015.</p>	<p>CNL understands this requirement and will provide any other additional information upon request.</p> <p>Compliance with this requirement at the G1WF is demonstrated by the implementation of the following CNL FSAs:</p> <ul style="list-style-type: none"> • Nuclear Materials and Safeguards Management, through the documents referenced in SCA – Safeguards and Non-Proliferation Licence Condition 15.1: Safeguards Program of the G1WF LCH [A-7]. • Transportation of Dangerous Goods through the documents referenced in SCA – Packaging and Transport, Licence Condition 16.1: Packaging and Transport Program of the G1WF LCH [A-7].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
6	<p>An application for the amendment, revocation or replacement of a licence shall contain the following information:</p> <p>(a) a description of the amendment, revocation or replacement and of the measures that will be taken and methods and procedures that will be used to implement it;</p>	<p>CNL is applying for this licence amendment to authorize the execution of decommissioning involving the removal of all buildings and structures from the G1WF site to achieve a brownfield end state for industrial reuse consistent with the Gentilly site end state. The details about the execution of decommissioning are documented in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5]. The decommissioning work will be performed in compliance with Cleanup FSA through the documents referenced in:</p> <ul style="list-style-type: none"> • SCA – Decommissioning, Licence Conditions 2.1: Decommissioning Plans and 2.2: Financial Guarantee, and • SCA– Waste Management, Licence Condition 13.2: Decommissioning Plan of the G1WF LCH [A-7].
	<p>(b) a statement identifying the changes in the information contained in the most recent application for the licence;</p>	<p>CNL's decommissioning approach and end-state for G1WF have not been changed and include the transfer of all wastes (spent fuel, radioactive wastes/components, and hazardous waste) to licensed storage/or disposal facilities, followed by the decommissioning and demolition of all buildings and structures. This decommissioning approach ensures that CNL responsibly manages Canadian nuclear legacy liabilities. The details of the decommissioning approach are documented in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].</p> <p>The maximum quantities of nuclear substances stored at the G1WF site will be substantially reduced due to fuel consolidation activities scheduled to be completed in 2025 (prior to the licence amendment). Due to the transfer of spent fuel, there will no</p>

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		longer be any categorized nuclear material (as defined by the <i>Nuclear Security Regulations</i>) at the G1WF.
	(c) a description of the nuclear substances, land, areas, buildings, structures, components, equipment, and systems that will be affected by the amendment, revocation or replacement of the manner in which they will be affected; and	The current configuration and description of building removals that will take place to reach the defined end state of the G1WF is described in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(d) the proposed starting date and the expected completion date of any modification encompassed by the application.	The proposed start date for execution of decommissioning at the G1WF is 2026, and the proposed completion date is 2035 [A-5]. CNL is proposing that the amended licence be valid for a period of 15 years, with additional time considered for close out of the decommissioning project and submission of final regulatory documents.
7	An application for a licence or for the renewal, suspension in whole or in part, amendment, revocation or replacement of a licence may incorporate by reference any information that is included in a valid, expired or revoked licence.	CNL understands this clause, and no response is required.
15	Every applicant for a licence and every licensee shall notify the Commission of (a) the persons who have the authority to act for them in their dealings with the Commission;	Persons with authority to act on behalf of CNL in dealings with the Commission are documented in <i>Site Licences, Certificates, Permits, Building/Facility Contacts, & Licence Representatives</i> [A-11].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(b) the names and position titles of the persons who are responsible for the management and control of the licensed activity and the nuclear substance, nuclear facility, prescribed equipment or prescribed information encompassed by the licence; and	Names and position titles of responsible personnel are documented in <i>Site Licences, Certificates, Permits, Building/Facility Contacts, & Licence Representatives</i> [A-11].
	(c) any change in the information referred to in paragraphs (a) and (b), within 15 days after the change occurs.	CNL will comply with the 15 days notification requirement.
Class I Nuclear Facilities Regulations		
3	An application for a licence in respect of a Class I nuclear facility, other than a licence to abandon, shall contain the following information in addition to the information required by section 3 of the General Nuclear Safety and Control Regulations: (a) a description of the site of the activity to be licensed, including the location of any exclusion zone and any structures within that zone;	The current configuration of the G1WF is described in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(b) plans showing the location, perimeter, areas, structures and systems of the nuclear facility;	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(c) evidence that the applicant is the owner of the site or has authority from the owner of the site to carry on the activity to be licensed;	AECL maintains ownership of the G1WF site and authorizes CNL to conduct the licensed activities at the G1WF site [A-12].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(d) the proposed management system for the activity to be licensed, including measures to promote and support safety culture;	The <i>CNL Management System Manual</i> [A-10] is applicable to the G1WF and includes measures to promote and support a safety culture.
	(d.1) the proposed human performance program for the activity to be licensed, including measures to ensure workers' fitness for duty;	The G1WF implements the human performance program defined in the CNL Performance Assurance FSA. Workers' fitness for duty measures are implemented through <i>Fitness for Duty</i> [A-13].
	(e) the name, form, characteristics and quantity of any hazardous substances that may be on the site while the activity to be licensed is carried on;	Comprehensive information on name, form, characteristics, and quantity of hazardous substances which are present at the G1WF is described in the following G1WF documents: <ul style="list-style-type: none"> • <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] • <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14]
	(f) the proposed worker health and safety policies and procedures;	Compliance with this requirement at the G1WF is demonstrated by the implementation of the CNL Occupational Safety and Health FSA through the documents referenced in SCA – Conventional Health and Safety, Licence Condition 10.1: Conventional Health and Safety Program of the G1WF LCH [A-7] and the Safety and Health Policy [A-15].
	(g) the proposed environmental protection policies and procedures;	Compliance with this requirement at the G1WF is demonstrated by the implementation of the CNL Environmental Protection FSA through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7] and the Environment Policy [A-16].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(h) the proposed effluent and environmental monitoring programs;	Compliance with this requirement at the G1WF is demonstrated by the implementation of the CNL Environmental Protection FSA through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7]. The environmental monitoring program at the G1WF is limited to effluent monitoring [A-17].
	(i) if the application is in respect of a nuclear facility referred to in paragraph 2(b) of the Nuclear Security Regulations, the information required by section 3 of those Regulations;	G1WF stores Category II materials. The relevant information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and the <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14].
	(j) the proposed program to inform persons living in the vicinity of the site of the general nature and characteristics of the anticipated effects on the environment and the health and safety of persons that may result from the activity to be licensed; and	Compliance with this requirement at the G1WF is demonstrated by the implementation of the CNL Public Information Program through the documents referenced in Licence Condition 1.6: Public Information and Disclosure Program of the G1WF LCH [A-7].
	(k) the proposed plan for the decommissioning of the nuclear facility or of the site.	The proposed decommissioning plan of the G1WF is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
7	An application for a licence to decommission a Class I nuclear facility shall contain the following information in addition to the information required by Section 3: (a) a description of and the proposed schedule for the decommissioning, including the proposed starting date and the expected completion date	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5]. The proposed start date for execution of decommissioning at the G1WF is 2026, and the proposed completion date is 2035. CNL is proposing that the amended licence be valid for a period of 15 years, with additional time considered for close out of the decommissioning project and submission of final regulatory

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	of the decommissioning and the rationale of the schedule;	documents.
	(b) the nuclear substances, hazardous substances, land, buildings, structures, systems, and equipment that will be affected by the decommissioning.	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and the <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14].
	(c) the proposed measures, methods, and procedures for carrying on the decommissioning;	The measures, methods, and procedures for decommissioning activities are defined by the CNL Cleanup FSA and implemented through the documents listed in SCA – Decommissioning, Licence Condition 2.1: Decommissioning Plans and SCA – Waste Management, Licence Condition 13.2: Decommissioning Plan of the G1WF LCH [A-7].
	(d) the proposed measures to facilitate Canada's compliance with any applicable safeguard agreement;	Compliance with this requirement at the G1WF is demonstrated by the implementation of the CNL Nuclear Materials and Safeguards Management FSA through the documents referenced in SCA – Safeguards and Non-Proliferation, Licence Condition 15.1: Safeguards Program of the G1WF LCH [A-7].
	(e) the nature and extent of any radioactive contamination at the nuclear facility;	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(f) the effects on the environment and the health and safety of persons that may result from the decommissioning, and the measures that will be taken to prevent or mitigate those effects;	<p>This information is provided in the <i>Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning</i> [A-18] and the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].</p> <p>Compliance with this requirement at the G1WF is demonstrated by the implementation of the following CNL FSAs:</p>

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		<ul style="list-style-type: none"> • Environmental Protection, through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7]. • Occupational Safety and Health, through the documents referenced in SCA – Conventional Health and Safety, Licence Condition 10.1: Conventional Health and Safety of the G1WF LCH [A-7]. • Radiation Protection, through the documents referenced in SCA – Radiation Protection, Licence Conditions 9.1: Radiation Protection Program and 9.2: Radiation Protection Action Level Reporting, of the G1WF LCH [A-7]
	(g) the proposed location of points of release, the proposed maximum quantities and concentrations, and the anticipated volume and flow rate of releases of nuclear substances and hazardous substances into the environment, including their physical, chemical, and radiological characteristics;	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and reported annually through the ACMR.
	(h) the proposed measures to control the release of nuclear substances and hazardous substances into the environment;	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and the <i>Environmental Effects Review for Gentilly-1 Waste Facility – Phase 3 Decommissioning</i> [A-18].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(i) the proposed measures to prevent or mitigate the effects of accidental releases of nuclear substances and hazardous substances on the environment, the health and safety of persons and the maintenance of national security, including an emergency response plan;	<p>Compliance with this requirement at the G1WF is demonstrated by the implementation of the following CNL FSAs:</p> <ul style="list-style-type: none"> • Environmental Protection, through the documents referenced in SCA – Environmental Protection, Licence Condition 11.1: Environmental Protection Program of the G1WF LCH [A-7]. • Occupational Safety and Health, through the documents referenced in SCA – Conventional Health and Safety, Licence Condition 10.1: Conventional Health and Safety Program of the G1WF LCH [A-7]. • Radiation Protection, through documents referenced in SCA – Radiation Protection, Licence Conditions 9.1: Radiation Protection Program and 9.2: Radiation Protection Action Level Reporting of the G1WF LCH [A-7] • Nuclear Materials and Safeguards Management, through the documents referenced in SCA – Safeguards and Non-Proliferation, Licence Condition 15.1: Safeguards Program of the G1WF LCH [A-7]. • Emergency Preparedness, through the documents referenced in SCA – Emergency Management and Fire Protection, Licence Conditions 12.1: Emergency Preparedness Program and 12.2: Fire Protection Program of the G1WF LCH [A-7]. • Safety Analysis, through the documents referenced in SCA – Safety Analysis, Licence Condition 6.1: Safety Analysis Program of the G1WF LCH [A-7].

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(j) the proposed qualification requirements and training program for workers; and	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
	(k) a description of the planned state of the site on completion of the decommissioning.	This information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5].
Nuclear Security Regulations		
3	An application for a licence in respect of Category I or II nuclear material, other than a licence to transport, and an application for a licence in respect of a nuclear facility referred to in paragraph 2(b) shall contain the following information in addition to the information required by section 3 of the Nuclear Substances and Radiation Devices Regulations or sections 3 to 8 of the Class I Nuclear Facilities Regulations, as applicable:	The G1WF stores Category II nuclear materials. The relevant information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and the <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14]. Compliance with the requirements of Category II nuclear materials is ensured through the CNL Security FSA and the Nuclear Cyber Security FSA through the documents referenced in SCA – Security, Licence Conditions 14.1: Security Program and 14.2: Security Arrangements for Decommissioning of the G1WF LCH [A-7].
	(a) a copy of the arrangements referred to in section 35;	This information is provided in the <i>Service agreement between Hydro Quebec and Canadian Nuclear Laboratories Ltd.</i> [A-19]. Update about the security arrangements at the G1WF during and after fuel transfer will be provided to the CNSC through the ACMR. CNL will also be available to respond to any questions from the Commission regarding security arrangements at the CNL's Regulatory Oversight Reports Commission Meeting.
	(b) the site plan referred to in section 16;	A description of the G1WF site plan is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1:</i>

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
		<i>Program Overview</i> [A-5] and in the <i>Gentilly One (G1) Site Security Report</i> [A-20].
	(c) a description of the proposed security equipment, systems, and procedures;	This information is presented in the following documents: <ul style="list-style-type: none"> • <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] • <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14] • <i>Service agreement between Hydro Quebec and Canadian Nuclear Laboratories Ltd.</i> [A-19] • <i>Gentilly One (G1) Site Security Report</i> [A-20]
	(d) a description of the proposed on-site and off-site communications equipment, systems, and procedures;	
	(e) a description of the proposed structure and organization of the nuclear security officer service, including the duties, responsibilities, and training of nuclear security officers;	
	(f) the proposed plan and procedures to assess and respond to breaches of security; and	This information is documented in the <i>Service agreement between Hydro Quebec and Canadian Nuclear Laboratories Ltd.</i> [A-19].
	(g) the current threat and risk assessment.	This information is documented in the <i>Threat & Risk Assessment</i> [A-21].
16	Every licensee shall maintain a site plan that indicates the location and includes a description of the following, if applicable:	This information is provided in the following documents: <ul style="list-style-type: none"> • <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] • <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14] • <i>Gentilly One (G1) Site Security Report</i> [A-20]
	(a) the perimeter of the lands on which a high-security site is located;	
	(b) the barrier enclosing every protected area	
	(c) the protected areas;	
	(d) the unobstructed areas that meet the requirements set out in section 10;	

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	(e) the structure or barrier enclosing every inner area;	
	(f) the inner areas; and	
	(g) the vital areas.	
35(1)	Every licensee shall make or cause to be made written arrangements with an off-site response force to provide for the protection of a facility at which it carries on licensed activities.	<p>This information is provided in the following documents:</p> <ul style="list-style-type: none"> • <i>Service agreement between Hydro Quebec and Canadian Nuclear Laboratories Ltd.</i> [A-19] • <i>Gentilly One (G1) Site Security Report</i> [A-20] • <i>Schéma de couverture de risques révisé</i> [A-22]
35(2)	The arrangement shall include provisions	
	(a) to ensure that there is capability at all times for immediate communication among the security monitoring room, the on-site nuclear response force, and the off-site response force;	
	(b) to ensure that the off-site response force can support the onsite nuclear response force in making an effective intervention when requested to do so by the licensee;	
	(c) for the installation of a two-way radio referred to in subparagraph 15(2)(c)(i) and an alarm device referred to in subparagraph 15(2)(c)(ii);	
	(d) for annual familiarization visits to the facility by members of the off-site response force; and	
	(e) for consultation between the licensee and the off-site response force regarding the arrangements, the resources and the equipment	

2024 July 17

61-CNNO-24-0008-L

KS-24-008

Section	Requirement	CNL Response
	available to the licensee and the off-site response force, and any other matter relating to the security of the facility.	
41	An application for a licence in respect of a nuclear facility shall contain, in addition to the information required by sections 3 to 8 of the Class I Nuclear Facilities Regulations, a description of the physical protection measures to be taken to ensure compliance with sections 42 to 48.	The relevant information is provided in the <i>Gentilly-1 Waste Facility Detailed Decommissioning Plan Volume 1: Program Overview</i> [A-5] and the <i>Safety Analysis Report for the Gentilly-1 Waste Facility</i> [A-14].

2024 July 17

Page 25 of 25
 61-CNNO-24-0008-L
 KS-24-008

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- [A-6] *Radiation Protection Regulations*, SOR/2000-203.
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- [A-8] *Nuclear Security Regulations*, SOR/2000-209.
- [A-9] *Packaging and Transport of Nuclear Substances Regulations*, SOR/2015-145.
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- [A-16] *Environment*, 900-509200-POL-001, Revision 3.1, 2023 November.
- [A-17] *Gentilly-1 Waste Facility Effluent Monitoring Plan*, 61-509200-PLA-001, Revision 1, 2021 October.
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