Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

UNPROTECTED/NON PROTÉGÉ

SUPPLEMENTAL/COMPLÉMENTAIRE

CMD: 21-H105.A

Date signed/Signé le : 08 OCTOBER 2021

A Licence Renewal

Cameco Corporation

Application to Renew Licence for Cameco Fuel Manufacturing Inc.

Hearing in writing based solely on written submissions

Scheduled for:

December 2021

Submitted by:

CNSC Staff

Un renouvellement de permis

Cameco Corporation

Demande de renouvellement de permis pour Cameco Fuel Manufacturing Inc.

Audience par écrit fondée uniquement sur des mémoires

Prévue pour :

Décembre 2021

Soumis par :

Le personnel de la CCSN

e-Doc 6646825 (WORD)
e-Doc 6651308 (PDF)

Summary

The purpose of this supplemental Commission Member Document (CMD) is to provide a correction to information presented in CMD 21-H105.

The contents of this CMD do not impact CNSC staff's recommendation regarding Cameco Corporation's request to renew its Class IB nuclear fuel facility operating licence FFOL-3641.00/2022 for Cameco Fuel Manufacturing Inc., for a 1-year period, as presented in CMD 21-H105.

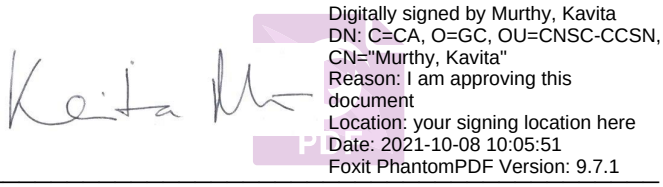
Résumé

Le présent document à l'intention des commissaires (CMD) supplémentaire vise à apporter une correction aux renseignements présentés dans le CMD 21-H105.

Le contenu du présent CMD n'a aucune incidence sur la recommandation du personnel de la CCSN au sujet de la demande de Cameco Corporation concernant le renouvellement, pour une période d'un an, du permis d'exploitation d'une installation de combustible nucléaire de catégorie IB, FFOL-3641.00/2022, délivré à son installation Cameco Fuel Manufacturing Inc., comme présenté dans le CMD 21-H105.

Signed/signé le

08 October 2021



Kavita Murthy

Director General

Directorate of Nuclear Cycle and Facilities Regulation

Directrice générale

Direction de la réglementation du cycle et des installations nucléaires

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EXECUTIVE SUMMARY

Cameco Corporation submitted an application for the renewal of its Class IB nuclear fuel facility operating licence for Cameco Fuel Manufacturing Inc. for a 1-year period. CMD 21-H105 presents CNSC staff's assessment, conclusions and recommendations, which will be reviewed by the Commission as a hearing in writing. This supplemental Commission Member Document provides corrections to 2 instances where incorrect information was identified in the proposed Licence Conditions Handbook that is included in CMD 21-H105. CNSC staff's conclusions and recommendations are not impacted by the information in this CMD and therefore remain as documented in CMD 21-H105.

1. OVERVIEW

This Commission Member Document (CMD) is supplemental to CMD-21-H105, *Submission from CNSC staff to consider an application from Cameco Corporation (Cameco) for a 1-year licence renewal for the Cameco Fuel Manufacturing Inc. (CFM) facility*.

The purpose of this supplemental CMD is to provide corrected information to what is provided in CMD 21-H105.

2. CORRECTIONS TO CMD 21-H105

The proposed Licence Conditions Handbook is included in part two of CMD 21-H105. CNSC staff have identified 2 instances where corrections are necessary. The corrections made are described below in 2.1 and 2.2 and are incorporated in the proposed Licence Conditions Handbook provided in appendix A of this CMD.

2.1 Licence Application Reference

On page 5 of the proposed Licence Conditions Handbook in CMD 21-H105, a table is presented which includes an incorrect reference to the licence application. The corrected table is shown below.

Licence Application

Submission Date	Document Title	e-Doc
December 2, 2020	Application for Renewal of the Cameco Fuel Manufacturing Inc. Operating Licence FFOL-3641.00/2022.	6437285
March 8, 2021	Supplemental Submission for Cameco Fuel Manufacturing One Year Licence Renewal.	6507835

2.2 Release Limits

The proposed release limits are presented in two sections of CMD 21-H105. The release limits included in section 3.2.2.2 of CMD 21-H105 are correct, and therefore no changes are required to this section. On page 28 of the proposed Licence Conditions Handbook, which is included in Part Two of CMD 21-H105, a table is presented which contains incorrect values for the proposed release limits. The table on page 28 of the Licence Conditions Handbook has been corrected to be consistent with section 3.2.2.2 of CMD 21-H105 as shown below.

Liquid Releases:

Release Source	Substance	Licence Limit	Frequency and Averaging Period
Releases to sewer	Uranium	1.7 mg/L	Twice Weekly, Composite Discharge

Air Releases:

Release Source	Substance	Licence Limit	Averaging Period
Process stacks and building ventilation emissions	Uranium	10.5 kg	Annual

3. CONCLUSION

CMD 21-H105 presents CNSC staff's assessment, conclusions and recommendations with respect to Cameco's application for the renewal of its Class IB nuclear fuel facility operating licence for the CFM facility for a 1-year period, and will be reviewed by the Commission as a hearing in writing.

In this CMD, CNSC staff provided corrections for 2 instances where incorrect information was documented in the proposed Licence Conditions Handbook included in CMD 21-H105.

CNSC staff's conclusions and recommendations remain unchanged and therefore recommend that the Commission (as documented in CMD 21-H105):

1. Conclude, pursuant to paragraph 24(4)(a) and (b) of the NSCA, that Cameco:
   i. is qualified to carry on the activities authorized by the licence
   ii. will make adequate provisions 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.
2. Issue the proposed 1-year licence for operation of the CFM facility FFL-3641.00/2023.
3. Accept the revised financial guarantee for the future decommissioning of the CFM facility as recommended in subsection 4.4 of CMD 21-H105.
4. Authorize the delegation of authority as set out in subsection 4.8 of CMD 21-H105.

A. PROPOSED LICENCE CONDITIONS HANDBOOK.

e-Doc 6597178 (WORD)

e-Doc 6625396 (PDF)

Canada's Nuclear Regulator

DRAFT

e-Doc 6597178 (Word)
e-Doc 6625396 (PDF)

LICENCE CONDITIONS HANDBOOK

CAMECO FUEL MANUFACTURING

Nuclear Fuel Facility Operating Licence

FFL-3641.00/2023

Revision 0

Canadian Nuclear Safety Commission
Commission canadienne de sûreté nucléaire

Canada

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Licence Conditions Handbook **Effective: March 01, 2022**

LCH-FFL-3641.00/2023
Cameco Fuel Manufacturing
Licence Type
FFL-3641.00/2023

SIGNED at OTTAWA this Xth day of February 2022

_____

Andrew McAllister, Director
Director
Nuclear Processing Facilities Division
Directorate of Nuclear Cycle and Facilities Regulation
CANADIAN NUCLEAR SAFETY COMMISSION

REVISION HISTORY:

Effective Date	Rev. #	LCH e-Doc #	Section(s) changed	Description of Changes
March 01, 2022	0	6597178	N/A	Original Document

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INTRODUCTION

The general purpose of the Licence Conditions Handbook (LCH) is to identify and clarify the relevant parts of the licensing basis for each licence condition (LC). This will help ensure that the licensee performs the licensed activities at the Cameco Fuel Manufacturing facility (CFM) in accordance with the licensing basis for CFM and the intent of the CFM licence. The LCH should be read in conjunction with the licence.

The LCH typically has three parts under each LC: the Preamble, Compliance Verification Criteria (CVC) and Guidance. The Preamble explains, as needed, the regulatory context, background and/or history related to the LC. CVC are criteria used by Canadian Nuclear Safety Commission (CNSC) staff to verify and oversee compliance with the LC. Guidance is non-mandatory information, on how the licensee may comply with the LC.

Throughout the licence, the statement "a person authorized by the Commission" reflects to whom the Commission may delegate certain authority (hence "consent") to CNSC staff. Unless otherwise indicated in the CVC of specific LCs in this LCH, the delegation of authority by the Commission to act as a "person authorized by the Commission" is only applied to the incumbents of the following positions (source: Record of Decision for licence renewal issued February 28, 2012):

- Director, Nuclear Processing Facilities Division (NPFD);
- Director General, Directorate of Nuclear Cycle and Facilities Regulation (DNCFR); and
- Executive Vice-President and Chief Regulatory Operations Officer, Regulatory Operations Branch

The documents referenced in the LCH by e-Access numbers are not publicly available. The links provided in the LCH are references to the internal CNSC electronic filing system, and those documents cannot be accessed from outside of the CNSC network.

Current versions of the licensing basis publications, licensee documents that require notification of change and guidance documents referenced in the LCH are tracked in the document *CFM-Written Notification Table (for licence FFOL-3641.00/2022)* (e-Doc 4685980). This document is controlled by the Nuclear Processing Facilities Division and is available to the licensee upon request.

Most CNSC documents referenced in the LCH are available through the CNSC website. Documents listed on CNSC website may contain prescribed information as defined by the *General Nuclear Safety and Control Regulations* (GNSCR). Information in these documents will be made available only to stakeholders with appropriate security clearance with a valid need to know.

The licensee documents referenced in the LCH are not publicly available; they contain proprietary information or prescribed information as defined by the GNSCR. The CNSC is required to protect the information under its control as per the *Access to Information Act*. As such, if a request for a Cameco document were received, CNSC staff would consult with Cameco for their direction on the release of any information, per the law.

Domestic and international standards (in particular consensus standards produced by the CSA Group) are an important component of the CNSC's regulatory framework. Standards support the regulatory requirements established through the *Nuclear Safety and Control Act* (NSCA), its regulations and licences by setting out the necessary elements for acceptable design and performance at a regulated facility or a regulated activity. Standards are one of the tools used by the CNSC to evaluate whether licensees are qualified to carry out licensed activities.

The CNSC offers complimentary access to the CSA Group suite of nuclear standards through the CNSC website. This access platform allows interested stakeholders to view these standards online through any device that can access the Internet. Standards applicable to the licensees are documented in the CVC or guidance as appropriate.

This LCH has 2 appendices:

- Appendix A: which provides definitions of terms and a list of acronyms used throughout the LCH.
- Appendix B: which provides lists of all documents referenced in the LCH

This licence authorizes the licensee to:

(i) operate its nuclear fuel facility for the production of nuclear fuel bundles from depleted, natural, and enriched uranium compounds, (hereinafter “the facility”) at 200 Dorset Street East, Port Hope, in the province of Ontario, as more particularly described in the Cameco Fuel Manufacturing Facility Licensed Area drawing 05C144 Rev 4 dated April 16, 2009;

(ii) possess, transfer, use, process, import, package, transport, manage store and dispose of the nuclear substances that are required for, associated with, or arise from the activities described in (i); and

(iii) possess and use prescribed equipment and prescribed information that are required for, associated with, or arise from the activities described in (i).

Cameco is authorized to operate the facility. The facility is located in the Municipality of the Town of Port Hope, Ontario. The plant layout drawings that describe the facility are written notification documents found under LC 6.1.

1. GENERAL

Licence Condition 1.1: Licensing Basis

The licensee shall conduct the activities described in Part IV of this licence in accordance with the licensing basis described in the LCH, unless otherwise permitted in this licence.

Preamble

The licensing basis is defined as:

(i) the regulatory requirements set out in the applicable laws and regulations;
(ii) the conditions and safety and control measures described in the facility's or activity's licence and the documents directly referenced in that licence;
(iii) the safety and control measures described in the licence application and the documents needed to support that licence application;

The licensing basis sets the boundary conditions for acceptable performance at a regulated facility or activity, and thus establishes the basis for the CNSC compliance program with respect of that regulated facility or activity. The degree to which the regulatory requirements are applied to Cameco facilities and activities will be in a graded manner commensurate with risk. With a graded approach, all requirements apply but to varying degrees depending upon the safety significance and complexity of the work being performed.

Where the LC requires the licensee to implement and maintain a particular program, the licensee documents that describe how these safety and control area requirements are implemented at the facility are part of the licensing basis.

Compliance Verification Criteria

Regulatory Role of the Licensing Basis

The licensing basis is established when the Commission renders its decision regarding the licence application. LC 1.1 requires the licensee to conduct the licensed activities in accordance with the licensing basis. For activities that are not in accordance with the licensing basis, the licensee shall take action as soon as practicable to return to a state consistent with the licensing basis, taking into account the risk significance of the situation.

The licensing basis is not intended to unduly inhibit the ongoing management and operation of the facility or the licensee’s ability to adapt to changing circumstances and continuously improve, in accordance with its management system.

Part (i) of the Licensing Basis

Part (i) of the licensing basis refers to applicable laws and regulations. There are many federal and provincial acts and regulations, and international laws, agreements, guidelines, etc., applicable to activities performed at CFM.

The laws, regulations and international agreements for which CNSC has a regulatory role include:

- *Nuclear Safety and Control Act* (NSCA) and its Regulations;
- *Impact Assessment Act* and its Regulations;
- *Canadian Environment Protection Act*;
- *Nuclear Liability and Compensation Act*;
- *Transportation of Dangerous Goods Act* and its Regulations;
- *Radiation Emitting Devices Act*;
- *Access to Information Act*;
- *Canada/IAEA Safeguards Agreements*;
- *Canada Labour Code, Part II*;
- *Ontario Ministry of the Environment, Conservation and Parks Acts and Regulations*; and
- *Environment and Climate Change Canada Acts and Regulations*.

Part (ii) of the Licensing Basis

Part (ii) of the licensing basis refers to the conditions and the safety and control measures included in the licence and in the documents directly referenced in the licence.

The licence requires the licensee to implement and maintain certain programs. There are no documents directly referenced in the CFM licence. For the purpose of licence requirement, a program may be a series of documented, coordinated activities, not necessarily a single document.

Part (iii) of the Licensing Basis

Part (iii) of the licensing basis consists of the safety and control measures described in the licence application and in the documents in support of that licence application. The safety and control measures include important aspects of that documentation, as well as important aspects of analysis, design, operation, etc. They may be found in high-level, programmatic licensee documents but might also be found in lower-level, supporting licensee documentation. LC 1.1 requires the licensee to conform to, and/or implement, all these safety and control measures.

Part (iii) of the licensing basis also includes the safety and control measures in the standards, codes and CNSC regulatory documents referenced in the application or in the licensee's supporting documentation. Note, however, this does not mean that all details in these referenced documents are part of the licensing basis; some of these documents may contain administrative, informative or guidance sections that are not considered to be part of the licensing basis.

Applicable licensee documents are listed in the LCH under the heading "Licensee Documents that Require Notification of Change". Applicable CNSC regulatory documents, CSA standards and other documents are listed in the LCH under the heading "Licensing Basis Publications". The documents listed in the LCH could cite other documents that also contain safety and control measures. Applicable licensing basis publications are listed in tables in this LCH under the most relevant LC. All "shall" or normative statements in licensing basis publications are considered CVC unless stated otherwise. If any "should" or informative statements in licensing basis publications are also considered CVC, this is also explained under the most relevant LC.

Details that are not directly relevant to safety and control measures for facilities or activities authorized by the licence are excluded from the licensing basis. Details that are relevant to a different safety and control area (i.e., not the one associated with the main document), are only part of the licensing basis to the extent they are consistent with the main requirements for both safety and control areas.

In the event of any perceived or real conflict or inconsistency between two elements of the licensing basis, the licensee shall consult CNSC staff to determine the approach to resolve the issue.

CNSC Staff's Approach to Assessing the Licensing Basis for CFM

In accordance with LC 1.2, Cameco will submit relevant documentation for CNSC staff review regarding proposed changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis. This includes, but is not limited to changes to equipment, processes, supporting activities, specific licensee documentation or any other item considered a safety or control measure under the licensing basis. There are specific licensee documents listed in the LCH, which require written notification every time a new version of the document is approved by Cameco. CNSC staff will review the information submitted by Cameco to confirm Cameco`s assessment that the proposed change remains within the licensing basis. CNSC staff assess a proposed change as being within the licensing basis based on changes or impact on the overall safety at the CFM. Cameco may proceed with the proposed initiatives if they are found to be within the licensing basis.

Any proposed activity, facility or other change, which CNSC staff consider to be outside the licensing basis, will be discussed with Cameco and should Cameco choose to proceed with the change, CNSC staff will submit the matter to the Commission for consideration. If the Commission grants approval to the change, it will become part of the licensing basis for CFM and reflected in updates to the LCH as appropriate.

Licence Application

Submission Date	Document Title	e-Doc
December 2, 2020	Application for Renewal of the Cameco Fuel Manufacturing Inc. Operating Licence FFOL-3641.00/2022.	6437285
March 8, 2021	Supplemental Submission for Cameco Fuel Manufacturing One Year Licence Renewal.	6507835

Guidance

Guidance Documents

Document Number	Document Title	Version
REGDOC- 3.5.3	Regulatory Fundamentals	2018

When the licensee becomes aware that a proposed change or activity might not be in accordance with the licensing basis, it should first seek direction from CNSC staff regarding the potential acceptability of this change or activity. The licensee should take into account that certain types of proposed changes might require significant lead times before CNSC staff can make recommendations and/or the Commission can properly consider them. Guidance for notifications to CNSC related to licensee changes are discussed under LC 1.2.

Licence Conditions 1.2, 1.3 and 1.4: Notification of Changes, Changes that Require Commission Approval, and In the Event of any Conflict or Inconsistency

1.2Changes to the safety and control measures described in the application and the documents needed to support that application are permitted provided that the objective of the licensing basis is met.

1.3 Changes that are outside of the licence conditions are not permitted without the prior written approval of the Canadian Nuclear Safety Commission (hereinafter "the Commission").

1.4 The licensee shall, in the event of any conflict or inconsistency between licence conditions, codes or standards or regulatory documents referenced in this licence, direct the conflict or inconsistency to the Commission, or a person authorized by the Commission.

Preamble

CNSC staff tracks the version history of licensee documents that require written notification of change in: *Cameco Fuel Manufacturing Written Notification Documents Tracking Sheet (Licence FFOL-3641.00/2022)* (e-Doc 4685980) (with the exception of security-related documents).

The objective of the licensing basis, as defined in the LCH under LC 1.1, is to set the boundary conditions for acceptable performance at the facility. The licensee is encouraged to make continuous improvements to their programs and documents throughout the licensing period as long as they remain within the licensing basis authorized by the Commission.

Compliance Verification Criteria

Written notification is a physical or electronic communication from a person authorized to act on behalf of the licensee to the CNSC.

Under the licensee's management system, a change control process requires justifying changes and the review of changes by relevant stakeholders. Proposed changes with the potential to negatively impact designs, operating conditions, policies, programs, methods, or other elements that are integral to the licensing basis, are documented and written notification of the change shall be provided to the CNSC. Written notifications shall include a summary description of the change, the rationale for the change, expected duration (if not a permanent change), and a summary explanation of how the licensee has concluded that the change remains in accordance with the licensing basis (e.g., an evaluation of the impact on health, safety, security, the environment and Canada's international obligations). A copy of the revised document shall accompany the notification. All written notifications shall be transmitted to CNSC per established communications protocols.

Many changes for which the licensee shall notify the CNSC are captured as changes to licensee documents under part (iii) of the licensing basis. The LCH identifies specific documents that require written notification under the most relevant LC. However, other documents identified in the application or in the licensee's supporting documentation may require notification of change if they describe safety and control measures applicable to the licensing basis. For example, if a licensee document in the CVC refers to another document, including a third-party document, without citing the revision # of that document, if that document changes and the licensee uses the revised version, the licensee shall determine if it is necessary to notify the CNSC of the change.

The documents needed to support the licence application may include documents produced by third parties (e.g., reports prepared by third party contractors). Changes to these documents require written notification to the CNSC only if the new version continues to form part of the licensing basis. That is, if the licensee implements a new version of a document prepared by a third party, it shall inform the CNSC of the change(s), per LC 1.2. On the other hand, if a third party has updated a certain document, but the licensee has not adopted the new version as part of its safety and control measures, the licensee is not required to inform the CNSC that the third party has changed the document.

Licensee documents listed in the LCH are subdivided into categories having different requirements for notifying the CNSC of potential changes:

Notification Category for Licensee Documents Listed in the LCH

Category	Definition
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 – The licensee shall submit the notice at the time of making the change

Notification of some proposed changes (i.e., engineered physical changes, new processes/activities for the facility) may not be best captured through an update to a licensee document. In these cases, a standalone submission may be made that includes the summary description of the change, the rationale for the change, expected duration (if not a permanent change), and a summary explanation of how the licensee has concluded that the change remains in accordance with the licensing basis.

Changes that are not clearly in the safe direction require further assessment of impact to determine if Commission approval is required in accordance with LC 1.1.

Guidance

For proposed changes that would not be in accordance with the licensing basis, the guidance for LC 1.1 applies.

2. SCA – MANAGEMENT SYSTEM

Licence Condition 2.1 and 2.7: Management System and Changes to Management System Program

2.1 The licensee shall implement and maintain a management system for the facility.

2.7 The licensee shall give written notification of any changes to the management system program document prepared to meet condition 2.1.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain information on the proposed quality assurance program for the activity to be licensed, including the measures to promote and support safety culture.

The GNSCR require that a licence application contain the applicant's organizational management structure, including the internal allocation of functions, responsibilities and authority.

CSA N286, *Management system requirements for nuclear facilities*, contains the requirements for a management system throughout the life cycle of a nuclear facility and extends to all safety and control areas.

CSA N286.0.1, *Commentary on N286-12, Management system requirements for nuclear facilities*, provides background information concerning certain clauses and requirements in CSA N286. This background information can help the user clarify the context of the CSA N286 requirements.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
CSA N286	Management system requirements for nuclear facilities*	2012 (R2017)
REGDOC- 2.1.2**	Safety Culture	2018

*This document is applicable to all LCs.

** REGDOC-2.1.2 is to be implemented by June 1, 2022.

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
CFM-MS	Management System Program Manual*	PN
FLM	Facility Licensing Manual*	PN
MSP 13-02	Change Control	NT

*This document is applicable to all LCs.

Guidance

Guidance Documents

Document Number	Document Title	Version
CSA N286.01	Commentary on N286-12, Management systems requirements for nuclear facilities	2021
REGDOC-2.1.1	Management System	2019

Licence Condition 2.2, 2.3, 2.4 and 2.5: Annual Compliance and Performance Report, Quarterly Compliance Report, Reporting Requirements and Exceedance of Release Limit

2.2 The licensee shall prepare an annual compliance and performance report.

2.3 The licensee shall prepare a quarterly compliance report for each calendar quarter.

2.4 The licensee shall implement and maintain a process for reporting to the Commission or a person authorized by the Commission that includes reporting of all events required by the *Nuclear Safety and Control Act* and its Regulations, and routine reports on the results of monitoring programs. The process shall define the frequency of the routine reports.

2.5 Where any release limit stipulated in Appendix A to this licence is exceeded, the licensee shall:

(a) notify the Commission, Environment Canada, the Ontario Ministry of the Environment and the Municipality of Port Hope within 24 hours of detecting the event;

(b) investigate the cause and the circumstances; and

(c) within a time approved by the Commission take corrective action to comply with the release limit stipulated in Appendix A to this licence.

Preamble

These LCs require the licensee to implement and maintain a program for reporting information to the Commission. This includes compliance monitoring and operational performance, responses to unusual events, and notifications of various types.

The NSCA and its applicable regulations describe reporting to the Commission or a person authorized by the Commission. Reporting requirements are found in sections 29 – 32 of the GNSCR and section 27 of the NSCA.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC- 3.1.2	Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills	2018

The annual compliance report and performance report covering the period January 1 to December 31 shall be submitted to CNSC staff by March 31 each year.

In addition to the requirements outlined in REGDOC-3.1.2, Cameco is also required to submit annually, a review of groundwater and surface water.

The licensee shall submit a quarterly compliance report within eight weeks of the end of each quarter, covering the following areas:

- Facility operations;
- Conventional health and safety;
- Radiation protection monitoring data;
- Environmental protection monitoring data; and
- Public information program summary.

Guidance

None provided.

Licence Condition 2.6: Public Information and Disclosure Program

The licensee shall implement and maintain a public information program for the facility, including a public disclosure protocol.

Preamble

The *Class I Nuclear Facilities Regulations* require that an application for a licence contain 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.

The primary goal of a public information and disclosure program is to ensure that information related to the health, safety and security of persons and the environment, and other issues associated with the lifecycle of the nuclear facilities are effectively communicated to the public. In addition, the program shall include a commitment to a disclosure protocol for ongoing, timely communication of information related to the licensed facility during the course of the licence period.

This LC requires the licensee to implement and maintain a public information and disclosure program to improve the public's level of understanding about Cameco's facilities and activities.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC- 3.2.1	Public Information and Disclosure	2018

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
PIP	Public Information Program	NT

Guidance

None provided.

3. SCA – HUMAN PERFORMANCE MANAGEMENT – TRAINING

Licence Condition 3.1: Training Program

The licensee shall implement and maintain a program for training staff for the facility.

Preamble

This LC requires the licensee to develop and implement training programs for workers. It also provides the requirements regarding the program and processes necessary to support responsibilities, qualifications and requalification training of persons at the nuclear facility.

As defined by the GNSCR, a worker is a person who performs work that is referred to in a licence. This includes contractors and temporary employees. Training requirements apply equally to these types of workers as to the licensee's own employees. The GNSCR require that licensees ensure that there are a sufficient number of properly trained and qualified workers to safely conduct the licensed activities.

The *Class I Nuclear Facilities Regulations* require that licence applications include the proposed responsibilities of and qualification requirements and training program for workers, including the procedures for the requalification of workers; and the results that have been achieved in implementing the program for recruiting, training and qualifying workers in respect of the operation and maintenance of the nuclear facility.

The *Class I Nuclear Facilities Regulations* require every licensee to keep a record of the status of each worker's qualifications, requalification and training, including the results of all tests and examinations completed in accordance with the licence.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.2.2	Personnel Training, Version 2	2016

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
CFM-HR-01	Systematic Approach to Training Program	PN

Guidance

Guidance Documents

Document Number	Document Title	Version
REGDOC-2.2.5	Minimum Staff Complement	2019

4. SCA – OPERATING PERFORMANCE

Licence Conditions 4.1, 4.2 and 4.3: Operating Program and Records

4.1 The licensee shall implement and maintain a program for the safe operation of the facility.

4.2 The operating program shall provide direction for safely operating the facilities and shall reflect the safety analysis referred to in condition 5.1.

4.3 The licensee shall establish and maintain, in addition to any record required to be maintained pursuant to the *Nuclear Safety and Control Act* and its Regulations, full and accurate records to show:

(a) the acquisition of nuclear substances including the quantity received, the form of the substance, and the name of the vendor

(b) the inventory of all nuclear substances at the facility; and

(c) the disposition of all nuclear substances acquired for use or processed by the facility, including the name and address of the recipient, a copy of the recipient's licence (if applicable), the quantity of nuclear substance, and the date of shipment.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain the following information: the proposed measures, policies, methods and procedures for operating and maintaining the nuclear facility. The *Nuclear Substances and Radiation Devices Regulations* have requirements for records to be kept and retained for nuclear substances.

An operating program includes an up-to-date set of operating limits for the facility and activities authorized under the licence, including: production limits and limits for the possession, use, management, transfer, storage of nuclear substances, and an inventory of nuclear substances possessed under the licensees' operating licence.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
CFM-EP	Environmental Protection Program	PN
CFM-RP	Radiation Protection Program Manual	PN
HSI-048	Sealed	PN

Nuclear Substances and Radiation Device

The licensee shall ensure the sealed sources are controlled (by maintaining an inventory of sealed sources, and tracking and reporting their transfer) in order to achieve the objectives of REGDOC-2.12.3 *Security of Nuclear Substances: Sealed Sources*.

The licensee shall notify CNSC staff prior to possessing sources with aggregate activity levels which meet or exceed Category 3 sources as defined in REGDOC 2.12.3.

Annual Production Limits for the facility

The annual production for the facility shall not exceed the following limits:

- 125 Megagrams (Mg) of UO_2 as pellets during any calendar month
- The facility may possess natural, depleted and enriched uranium compounds for the purposes and under the conditions, stipulated in the licence.

Guidance

None provided.

Licence Conditions 4.4 and 4.5: Pressure Boundary Program and Authorized Inspection Agency Agreement

4.4 The licensee shall implement and maintain a pressure boundary program for the facility.

4.5 The licensee shall have a formal agreement with an Authorized Inspection Agency, designated by the Commission as authorized to register, pressure boundary designs and procedures, perform inspections, and perform other applicable functions at the licensed facility.

Preamble

A pressure boundary is a boundary of any pressure retaining vessel, system or component of a nuclear or non-nuclear system, where the vessel, system or component is registered or eligible for registration. This LC provides regulatory oversight with regards to the licensee's implementation of a pressure boundary program and holds the licensee responsible for all aspects of pressure boundary registration and inspections. A pressure boundary program is comprised of processes and procedures and associated controls that are required to ensure compliance with the requirements set out in CSA B51, *Boiler, pressure vessel, and pressure piping code*.

This LC also ensures that an Authorized Inspection Agency (AIA) will be subcontracted directly by the licensee. An AIA is an organization recognized by the CNSC as authorized to register designs and procedures, perform inspections, and other functions and activities as defined by CSA B51 and its applicable referenced publications.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Revision
CSA B51	Boiler Pressure Vessel and Pressure Piping Code	2019

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
N/A	Authorized Inspection Agency Services Agreement	NT*
MSP 27-16	Pressure Retaining Components	NT

* Termination of the agreement is considered a change that requires prior notification to CNSC.

Formal Agreement with an Authorized Inspection Agency

The licensee shall always have a valid AIA agreement, and shall adhere to the following:

(a) The licensee shall arrange for the AIA inspectors to have access to all areas of Cameco's facilities and records, and to the facilities and records of CFM's pressure boundary contractors and material organizations, as necessary for the purposes of performing inspections and other activities required by the standards;

(b) The licensee shall provide the inspectors of the AIA with: information, reasonable advance notice and time necessary to plan and perform inspections and other activities required by the standards;

Where a variance or deviation from the standard exists, the licensee shall submit the proposed resolution to the AIA for evaluation; and

(c) Design registration services shall be provided by an AIA legally entitled under the applicable provincial boilers and pressure vessels acts and regulations to register designs in the province of installation.

The licensee shall obtain AIA acceptance for implementation of the licensee's programs and procedures for:

(d) calibration, repair and maintenance of overpressure protection devices;

(e) repair and maintenance of mechanical joints; and

(f) periodic inspection of boilers and pressure vessels designed according to CSA B51.

The licensee shall provide a copy of the signed AIA agreement to the CNSC. The licensee shall notify the CNSC in writing of any change to the terms and conditions of the agreement, including termination of the Agreement.

For safety significant systems or components, the licensee shall submit a preliminary report immediately, and submit a full report within 21 days on the following:

- A pressure boundary failure, deformation, degradation or leak; and
- The degradation of an over-pressure protection device for the pressure boundary that prevented, or could have prevented, the proper functioning of that device.

Guidance

None provided.

5. SCA – SAFETY ANALYSIS

Licence Condition 5.1: Safety Analysis Program

The licensee shall implement and maintain a safety analysis for the facility.

Preamble

The GNSCR require that a licence application contains information that includes a description and the results of any test, analysis or calculation performed to substantiate the information included in the application. The *Class I Nuclear Facilities Regulations* require that a licence application contains information that includes a final safety analysis report demonstrating the adequacy of the design of the nuclear facility, and the proposed measures, policies, methods and procedures for operating and maintaining the nuclear facility.

The implementation and maintenance of a safety analysis program includes a process to identify and assess hazards and risks on an ongoing basis. This includes identifying and evaluating new or unforeseen risks that were not considered at the planning and design stages and updating previous risk assessments by replacing important assumptions with performance data. The results of this process will be used to set objectives and targets and to develop preventative and protective measures.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
N/A	Safety Analysis Report for Cameco Fuel Manufacturing Inc. (Port Hope Facility)	PN

The licensee shall maintain the safety analysis report to ensure it adequately considers the hazards associated with the facility. The safety analysis shall be a systematic evaluation of the potential hazards associated with the conduct of a proposed activity or facility and consider the effectiveness of preventative measures and strategies in reducing the effects of such hazards.

The licensee shall establish and maintain a process to periodically review and revise existing risk assessments to ensure, at a minimum of every five years, new risks and lessons learned are incorporated into an updated safety analysis report. This report shall be provided to CNSC staff for review.

Guidance

The licensee should establish and maintain one or more safety committees at the facility to periodically assess safety issues related to the operation and modification of the facility. These committees should have among their membership the necessary breadth of knowledge and experience to conduct these assessments. The results of these assessments should feed into the safety analysis report.

Guidance Documents

Document Number	Document Title	Version
IAEA SSR-4	Safety of Nuclear Fuel Cycle Facilities	2017

Licence Condition 5.2: Operations with Enriched Uranium

The licensee shall ensure that all operations with fissionable materials will be carried out in accordance with the requirements set out in the CNSC document RD 327 Nuclear Criticality Safety.

Preamble

The licence authorizes the licensee to carry out certain activities with respect to enriched uranium.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.4.3	Nuclear Criticality Safety	2019

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
NCSPM	Nuclear Criticality Safety Program Manual	PN

CFM shall seek approval from CNSC staff before possessing enriched uranium in a quantity above 0.8 smallest critical mass. CNSC staff will review and accept any revised safety analysis and/or criticality monitoring program before providing approval.

Guidance

None provided.

6. SCA – PHYSICAL DESIGN

Licence Conditions 6.1 and 6.2: Physical Design Program and Design Change Control

6.1 The licensee shall implement and maintain a program for physical design for the facility.

6.2 The licensee shall not make any change to the design of, or equipment at the facility, that would introduce hazards different in nature or greater in probability than those considered by the safety analysis, without the prior written approval of the Commission or a person authorized by the Commission.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain the proposed measures, policies, methods and procedures to maintain the nuclear facility. The *Class I Nuclear Facilities Regulations* require that a licence application contain a description of the structures, systems and equipment, including the relevant design information for the facility.

A design program ensures that the design of the facility is managed using a well-defined systematic approach. LC 6.1 requires that the licensee implement and maintain a design program to confirm that safety-related systems, structures and components (SSCs) and any modifications to them continue to meet their design basis given new information arising over time and taking changes in the external environment into account. It also confirms that SSCs continue to be able to perform their safety functions.

LC 6.1 requires that the licensee implement and maintain a design control process to ensure that design outputs (both interim and final) are reviewed, verified and validated against the design inputs and performance requirements, and to ensure that the design inputs are selected such that safety, performance and dependability of the design item are achieved.

CSA N393, *Fire protection for facilities that process, handle, or store nuclear substances*, provides the minimum fire protection requirements for the design, construction, commissioning, operation, and decommissioning of facilities which process, handle, or store nuclear substances, and other hazardous substances that directly relate to the nuclear substances being regulated.

The *National Fire Code of Canada 2015* sets out technical provisions regulating:

(a) activities related to the construction, use or demolition of buildings and facilities;

(b) the condition of specific elements of buildings and facilities;

(c) the design or construction of specific elements of facilities related to certain hazards; and

(d) protection measures for the current or intended use of buildings.

The *National Building Code of Canada 2015*, sets out technical provisions for the design and construction of new buildings. It also applies to the alteration, change of use and demolition of existing buildings.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
NRCC 56190	National Building Code of Canada 2015	2015
NRCC 56192	National Fire Code of Canada 2015	2015
CSA N393	Fire protection for facilities that process, handle, or store nuclear substances	2013 (R2018)

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
MSP 13-02	Change Control	NT
05C144	Facility Licenced Area	PN
00A084	Site Map Property Layout	PN

Guidance

Guidance Documents

Document Number	Document Title	Version
REGDOC 2.5.1	General Design Considerations: Human Factors	2019

7. SCA – FITNESS FOR SERVICE

Licence Conditions 7.1 and 7.2: Maintenance Program and Periodic Inspection and Testing Program

7.1 The licensee shall implement and maintain a program for maintenance for the facility.

7.2 The licensee shall implement and maintain a program for periodic inspection and testing for the facility.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain information including the proposed measures, policies, methods and procedures for operating and maintaining the nuclear facility. It is expected that the licensee will conduct routine maintenance, inspection and testing to ensure that the availability, reliability and effectiveness of facilities and equipment that may impact the health, safety and protection of the environment.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
CSA N393	Fire Protection for Facilities that Process, Handle or Store Nuclear Substances	2013 (R2018)
NRCC 56192	National Fire Code of Canada	2015

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
AP 018	Preventative Maintenance Execution Management	NT

Guidance

None provided.

8. SCA – RADIATION PROTECTION

Licence Condition 8.1 and 8.2: Radiation Protection Program and Action Level Exceedance

8.1 The licensee shall implement and maintain a radiation protection program.

8.2 The licensee shall notify the Commission or a person authorized by the Commission within 24 hours of becoming aware that an action level has been exceeded and shall file a written report within 45 working days of becoming aware of the matter.

Preamble

The *Radiation Protection Regulations* require that the licensee implement a radiation protection program and also ascertain and record doses for each person who performs any duties in connection with any activity that is authorized by the NSCA or is present at a place where that activity is carried on. This program shall ensure that doses to workers do not exceed prescribed dose limits and are kept ALARA, social and economic factors being taken into account.

The regulatory dose limits are explicitly provided in the *Radiation Protection Regulations*.

Action levels (ALs) are designed to alert licensees before regulatory dose limits are reached. By definition, if an AL is reached, a loss of control of some part of the associated radiation protection program may have occurred, and specific action is required, as defined in the *Radiation Protection Regulations*. ALs are not intended to be static and are to reflect operating conditions in the facility.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC- 3.1.2	Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills	2018

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
CFM-RP	Radiation Protection Program Manual	PN

ALs for radiation protection are outlined below. In the event of a discrepancy between the table and the licensee documentation upon which they are based, the licensee documentation shall be considered the authoritative source considering that the licensee has followed its own change control process.

Radiation Protection Action Levels

Parameter	Period	Action Level
Whole body dose	Monthly Nuclear Energy Worker	1.6 mSv
	Quarterly Nuclear Energy Worker	1.0 mSv
	Quarterly Non-Nuclear Energy Worker	0.2 mSv
Skin dose	Monthly Nuclear Energy Worker	20.0 mSv
	Quarterly Nuclear Energy Worker	5.0 mSv
	Quarterly Non-Nuclear Energy Worker	2.0 mSv
Extremity Dose	Quarterly Nuclear Energy Worker	55.0 mSv
Urine Analysis	Bi-Weekly Urine Sample Nuclear Energy Worker	10 µg U/L
Lung Counting	Annually Nuclear Energy Worker	5 mSv

The licensee shall review and, if necessary, revise the ALs specified above at least once every five years in order to validate their effectiveness. The results of such reviews shall be provided to CNSC staff.

Guidance

Guidance Documents

Document Number	Document Title	Version
G-129	Keeping Radiation Exposures and Doses "As Low as Reasonably Achievable (ALARA)"	2004 (Revision 1)
G-228	Developing and Using Action Levels	2001

9. SCA – CONVENTIONAL HEALTH AND SAFETY

Licence Condition 9.1: Conventional Health and Safety Program

The licensee shall implement and maintain an occupational health and safety program for the facility.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain information including the proposed worker health and safety policies and procedures. As a federal regulated site, CFM is also subject to the requirements of Part II of the *Canada Labour Code* and *Canada Occupational Health and Safety Regulations*.

CSA Z94.4, *Selection, use, and care of respirators*, sets out requirements for the selection, use, and care of respirators and for the administration of an effective respiratory protection program in the workplace

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
CSA Z94.4	Selection, Use and Care of Respirators	2018

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
CFM-SH	Safety and Health Program	PN

Employment and Social Development Canada is mandated with overseeing and enforcing compliance with the *Canada Labour Code*, and its underlying regulations. CNSC staff monitor licensee compliance with its conventional health and safety program, and will take regulatory actions for any potential unsafe work practice situations.

Guidance

Guidance Documents

Document Number	Document Title	Version
REGDOC-2.8.1	Conventional Health and Safety	2019

10. SCA – ENVIRONMENTAL PROTECTION

Licence Condition 10.1, 10.2, 10.3 and 10.4: Environmental Protection Program, Nuclear Substance Release Limits, Hazardous Substances and Action Level Exceedance

10.1 The licensee shall implement and maintain an environmental protection program for the facility.

10.2 The licensee shall control, monitor and record releases of nuclear substances to the environment from the facility such that the releases do not exceed the release limits specified in Appendix A.

10.3 The licensee shall control and monitor and record the releases of hazardous substances.

10.4 The licensee shall notify the Commission within 24 hours of becoming aware that an action level has been reached (or exceeded) and shall file a written report within 45 working days of becoming aware of the matter.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain the proposed environmental protection policies, procedures, effluent and environmental monitoring programs. The GNSCR require that every licensee take all reasonable precautions to protect the environment and the health and safety of persons and to maintain the security of nuclear facilities and of nuclear substances The *Radiation Protection Regulations* prescribe the radiation dose limits for the general public of 1 mSv per calendar year.

The release of hazardous substances is regulated by the CNSC as well as both the Ontario Ministry of the Environment, Conservation and Parks and Environment and Climate Change Canada through various acts and regulations.

CSA N288.1, Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities, provides guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities.

CSA N288.4, *Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills*, provides requirements for the design and implementation of an environmental monitoring program at nuclear facilities.

CSA N288.5, *Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills*, provides requirements for the design and implementation of an effluent monitoring program at nuclear facilities.

CSA N288.6, *Environmental risk assessments at Class I nuclear facilities and uranium mines and mills*, provides requirements for the performance and maintenance of an environmental risk assessment at nuclear facilities.

CSA N288.7, *Groundwater protection programs at Class I nuclear facilities and uranium mines and mills* provides requirements and guidance, which facilitate groundwater protection at nuclear facilities.

CSA N288.8, *Establishing and implementing action levels for releases to the environment from nuclear facilities*, provides requirements for establishing and implementing action levels at nuclear facilities.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.9.1	Environmental Protection: Environmental Protection Policies, Programs and Procedures	2020
REGDOC-3.1.2	Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills	2018
CSA N288.1	Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities	2014 (R2019)
CSA N288.4	Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills	2010 (R2015)
CSA N288.5	Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills	2011 (R2016)
CSA N288.6	Environmental risk assessments at Class I nuclear facilities and uranium mines and mills	2012 (R2017)
CSA N288.7	Groundwater protection programs at Class I nuclear facilities and uranium mines and mills	2015
CSA N288.8	Establishing and implementing action levels for releases to the environment from nuclear facilities	2017

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
FSD-PGR-EMS-001	FSD Environmental Management System	PN
CFM-EP	Environmental Protection Program	PN
N/A	Environmental Risk Assessment for the Cameco Fuel Manufacturing Facility	PN
N/A	Derived Release Limits Report	PN
N/A	Review of Environmental Action Levels to Support the Environmental Protection Program	PN

The licensee shall review and revise the ERA in accordance with CSA N288.6. The results of such reviews shall be provided to CNSC staff.

The licensee's environmental protection program shall ensure the control, monitoring and recording of environmental emissions from the facility such that the releases to the environment do not exceed licence limits for environmental releases as defined below and in Appendix A of the licence.

Release Limits

Liquid Releases:

Release Source	Substance	Licence Limit	Frequency and Averaging Period
Releases to sewer	Uranium	1.7 mg/L	Twice Weekly, Composite Discharge

Air Releases:

Release Source	Substance	Licence Limit	Averaging Period
Process stacks and building ventilation emissions	Uranium	10.5 kg	Annual

The licensee's environmental protection program shall have action levels for environmental emissions. The environmental emissions action levels are:

Source	Parameter	Action Level	Averaging Period
Stack emissions for each process stack	Uranium	2 µg/m^3	Daily
Building Ventilation	Uranium - PP2	0.4 g/hr	Daily
	Uranium - All other process areas	1.0 g/hr	Daily
Liquid Effluent	Uranium	0.1 mg/L	Twice Weekly Composite
	pH	$6.5 \leq pH \leq 9.0$	Twice Weekly Composite
Fenceline Gamma: Locations #1 and #2	Gamma	0.2 µSv/hr	Quarterly Monitoring Period
Fenceline Gamma: Locations #3 to #12	Gamma	1.0 µSv/hr	Quarterly Monitoring Period

The licensee shall review and, if necessary, revise ALs specified above at least once every five years in order to validate their effectiveness. The results of such reviews shall be provided to CNSC staff.

Guidance

None provided.

11. SCA – EMERGENCY MANAGEMENT AND FIRE PROTECTION

Licence Condition 11.1: Emergency Preparedness Program

The licensee shall implement and maintain a program for emergency preparedness to address on-site and off-site events which can affect the facility.

Preamble

The *Class I Nuclear Facilities Regulations* require 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 measures to assist, notify, report to off-site authorities including the testing of the implementation of these measures.

This LC requires the licensee to establish an emergency preparedness program to prepare for, to respond to, and to recover from the effects of accidental radiological/nuclear and/or hazardous substance release. As part of the emergency preparedness program, the licensee shall prepare an onsite emergency plan and establish the necessary organizational structure for clear allocation of responsibilities, authorities, and arrangements for coordinating onsite activities and cooperating with external response organizations throughout all phases of an emergency.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.10.1	Nuclear Emergency Preparedness and Response	2016

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
MSP 30-02	Emergency Preparedness Plan and Response Procedure	PN

Guidance

None provided.

Licence Condition 11.2: Fire Protection Program

The licensee shall implement and maintain a program for fire protection for the facility.

Preamble

Licensees require a comprehensive fire protection program (the set of planned, coordinated, controlled and documented activities) to ensure the licensed activities do not result in an unreasonable risk to the health and safety of persons and to the environment due to fire and to ensure that the licensee is able to efficiently and effectively respond to emergency fire situations.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
NRCC 56192	National Fire Code of Canada	2015
NRCC 56190	National Building Code of Canada	2015
CSA N393	Fire Protection for Facilities that Process, Handle or Store Nuclear Substances	2013 (R2018)

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
MSP 30-07	Fire Protection Program	PN
MSP 30-03	Fire Safety Plan	PN

Guidance

None provided.

12. SCA – WASTE MANAGEMENT

Licence Condition 12.1: Waste Management Program

The licensee shall implement and maintain a waste management program for the facility.

Preamble

The GNSCR require that a licence application contain information related to the in-plant management of radioactive waste or hazardous waste resulting from the licensed activities.

The *Class I Nuclear Facilities Regulations* require that a licence application contain the proposed procedures for handling, storing, loading and transporting nuclear substances and hazardous substances.

CSA N292.0 *General principles for the management of radioactive waste and irradiated fuel* specifies common requirements for the management of radioactive waste and irradiated fuel from generation to storage or disposal.

CSA N292.3 *Management of low- and intermediate-level radioactive waste* provides requirements specific to the management of low- and intermediate-level radioactive waste in solid, liquid, or gaseous states.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
CSA N292.0	General Principles for the Management of Radioactive Waste and Irradiated Fuel	2014
CSA N292.3	Management of Low- and Intermediate-Level Radioactive Waste	2014

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
FSD-PGR-WM-001	Fuel Services Division Waste Management Program	PN
CFM-EP-02	CFM Waste Management Plan	PN

Guidance

Guidance Documents

Document Number	Document Title	Version
P-290	Managing Radioactive Waste	2004

Licence Condition 12.2: Preliminary Decommissioning Plan (PDP)

The licensee shall maintain a preliminary decommissioning plan (PDP) for decommissioning the facility. This PDP shall be reviewed every five years or when requested by the Commission, or a person authorized by the Commission.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain information including the proposed plan for the decommissioning of the nuclear facility or of the site. This LC requires that the licensee maintain a decommissioning strategy.

A decommissioning strategy provides an overview of the proposed decommissioning approach that is sufficiently detailed to assure that the proposed approach is, in the light of existing knowledge, technically and financially feasible and appropriate in the interests of health, safety, security and the protection of the environment. The decommissioning strategy defines areas to be decommissioned and the general structure and sequence of the principle work packages. The decommissioning strategy forms the basis for establishing and maintaining a financial arrangement (financial guarantee) that will assure adequate funding of the decommissioning plan.

CSA N294 *Decommissioning of facilities containing nuclear substances* specifies requirements for the decommissioning of licensed facilities and other locations where nuclear substances are managed, possessed, or stored.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
CSA N294	Decommissioning of facilities containing nuclear substances	2019

The decommissioning plan for CFM is documented in the comprehensive PDP and the associated cost estimate. It is expected that the PDP will be revised as the conditions at the facility change. When the PDP is revised, the cost of decommissioning shall be reviewed. At a minimum, the PDP shall be reassessed every five years.

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
N/A	Preliminary Decommissioning Plan	PN

Guidance

Guidance Documents

Document Number	Document Title	Version
G-219	Decommissioning Planning for Licensed Activities	2000
G-206	Financial Guarantees for the Decommissioning of Licensed Activities	2000

13. SCA – SECURITY

Licence Condition 13.1: Security Program

The licensee shall implement and maintain a program for nuclear security at the facility.

Preamble

The GNSCR require that a licence application contain information including the proposed measures to control access to the site of the activity to be licensed and the nuclear substance, prescribed equipment or prescribed information.

The *Class I Nuclear Facilities Regulations* require that a licence application contain information including the proposed measures to prevent acts of sabotage or attempted sabotage at the nuclear facility, including measures to alert the licensee to such acts.

The *Nuclear Security Regulations* describe the application of Part 2 of these regulations which is relevant to this licensee.

Compliance Verification Criteria

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.12.3	Security of Nuclear Substances: Sealed Sources	2020 v2.1

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
MSP 30-01	Security Plan	PN

Guidance

None provided.

14. SCA – SAFEGUARDS AND NON-PROLIFERATION

Licence Condition 14.1 and 14.2: Safeguards Program and Changes that Affect Implementation of Safeguards

14.1 The licensee shall implement and maintain a safeguards program and undertake all measures required to ensure safeguards implementation at the facility.

14.2 The licensee shall not make changes to operations, equipment or procedures that would affect the implementation of safeguards measures, except with the prior written approval of the Commission, or a person authorized by the Commission.

Preamble

The GNSCR require the licensee to take all necessary measures to facilitate Canada's compliance with any applicable safeguards agreement, and defines reporting requirements for safeguards events.

The *Class I Nuclear Facilities Regulations* require that a licence application contain information on the licensee's proposed measures to facilitate Canada's compliance with any applicable safeguards agreement.

This LC requires that the licensee implement and maintain a safeguards program. Safeguards is a system of inspection and other verification activities undertaken by the IAEA in order to evaluate a Member State's compliance with its obligations pursuant to its safeguards agreements with the IAEA.

Canada has entered into a Safeguards Agreement and an Additional Protocol (hereinafter referred to as "safeguards agreements") with the IAEA pursuant to its obligations under the *Treaty on the Non-Proliferation of Nuclear Weapons* (INFCIRC/140). The objective of the Canada-IAEA safeguards agreements is for the IAEA to provide assurance on an annual basis to Canada and to the international community that all declared nuclear materials are in peaceful, non-explosive uses and that there is no indication of undeclared nuclear materials or activities. This conclusion confirms that Canada is in compliance with its obligations under the following Canada-IAEA safeguards agreements:

(i) *Agreement between the Government of Canada and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*; and

(ii) *Protocol Additional to the Agreement between Canada and the International Atomic Energy Agency for the Application of Safeguards in Connection with the Treaty on the Non-Proliferation of Nuclear Weapons*.

These are reproduced in information circulars INFCIRC/164 and INFCIRC/164/Add.1.

In addition, the import and export of controlled nuclear substances, equipment and information identified in the *Nuclear Non-proliferation Import and Export Control Regulations* require separate authorization from the CNSC, consistent with subsection 3(2) of the GNSCR.

Compliance Verification Criteria

CFM shall request prior written approval of the Commission, or a person authorized by the Commission, for any changes to operation, equipment or procedures requested by the licensee that would affect the implementation of safeguards measures.

Delegation of authority by the Commission to give written permission applies to the following staff with respect to licence condition 14.2:

- Director, International Safeguards Division – All Safeguards matters,
- Director General, Directorate of Security and Safeguards, and
- Vice-President, Technical Support Branch

The Director of NPFD shall be included in all correspondence related to licence condition 14.2.

Licensing Basis Publications

Document Number	Document Title	Version
REGDOC-2.13.1	Safeguards and Nuclear Material Accountancy	2018

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
FSD-PGR-SG-01	FSD Safeguards Program	PN

Guidance

None provided.

15. SCA – PACKAGING AND TRANSPORT

Licence Condition 15.1: Packaging and Transport Program

The licensee shall implement and maintain a program for the facility for the receipt, packaging and transport of nuclear and hazardous substances.

Preamble

The *Class I Nuclear Facilities Regulations* require that a licence application contain information on the proposed procedures for handling, storing, loading and transporting nuclear substances.

The transport of nuclear substances or hazardous substances shall be done in accordance with the requirements of the *Packaging and Transport of Nuclear Substances Regulations, 2015*, (PTNSR) and *Transportation of Dangerous Goods Regulations* (TDGR) set out by Transport Canada.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
FSD-PGR-TRN-001	FSD Packaging and Transportation	PN

The licensee shall implement and maintain a packaging and transport program that will be in compliance with all the regulatory requirements set out in the PTNSR and in the TDGR.

Every person who transports or causes to be transported nuclear substances (included in Class 7 of the Schedule to the *Transportation of Dangerous Goods Act*) shall act in accordance with the requirements of the TDGR set out by Transport Canada.

The PTNSR provide specific requirements for the design of transport packages, the packaging, marking and labeling of packages and the handling and transport of nuclear substances.

Guidance

Guidance Documents

Document Number	Document Title	Version
REGDOC-2.14.1	Information Incorporated by Reference in Canada's Packaging and Transport of Nuclear Substances Regulations, 2015	2016

16. FACILITY SPECIFIC

This section contains the specific requirements for licence conditions that are not associated with the Safety and Control Areas.

Licence Condition 16.1: Financial Guarantee

The licensee shall maintain, in effect, a financial guarantee for decommissioning that is acceptable to the Commission.

Preamble

The GNSCR require that a licence application contain a description of any proposed financial guarantee relating to the activity to be licensed. The licensee is responsible for all costs of decommissioning at the facility. All such costs are included in the licensee's decommissioning cost estimates and are covered by the licensee's financial guarantee for decommissioning.

The licensee's decommissioning cost estimate is provided in the facility's preliminary decommissioning plan. The facility's current financial guarantee is covered by a letter of credit for the full value of the estimated decommissioning cost.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Document Number	Document Title	Notification
N/A	Preliminary Decommissioning Plan	PN

Guidance

Guidance Documents

Document Number	Document Title	Version
G-206	Financial Guarantee for the Decommissioning of Licensed Activities	2000

Licence Condition 16.2: Nuclear Liability Insurance

The licensee shall maintain nuclear installation liability insurance.

Preamble

None provided.

Compliance Verification Criteria

CFM is required to maintain nuclear installation liability insurance and to ensure it remains valid and in effect for as long as the facility is designated as a nuclear installation.

Guidance

None provided.

APPENDIX A: DEFINITIONS AND ACRONYMS

A.1. Definitions

The following is a list of definitions of words or expressions used in the LCH that may need clarification; they are defined for the purpose of the LCH only. All other terms and expressions used in the LCH are consistent with the definitions provided in the NSCA, the regulations made pursuant to the NSCA, or in the CNSC regulatory document REGDOC-3.6, *Glossary of CNSC Terminology*.

Accept/ed/able/ance – meets regulatory requirements, which mean it is in compliance with the documents referenced in the LCH.

Approval – Commission's permission to proceed, for situations or changes where the licensee would be:

- not compliant with a regulatory requirements set out in applicable laws and regulations;
- not compliant with a licence condition; and
- not in the safe direction but the objective of the licensing basis is met.

Boundary Conditions – procedural, administrative rules and operating limits for ensuring safe operation of the facility based on safety analyses and any applicable regulatory requirements.

Compliance Verification Criteria – regulatory criteria used by CNSC staff to verify compliance with the licence conditions.

Design Basis – the entire range of conditions for which the nuclear facility is designed, in accordance with established design criteria, and for which damage to the fuel and/or the release of radioactive material is kept within authorized limits.

Guidance – guidance in the LCH is non-mandatory information, including direction, on how to comply with the licence condition.

Notification Document – a document which is submitted to the CNSC at the time of implementing the change.

Prior Notification Document – a document which is submitted to the CNSC prior to implementing the change.

Program(s) – a documented group of planned activities, procedures, processes, standards and instructions coordinated to meet a specific purpose.

Qualified Staff – trained licensee staff, deemed competent and qualified to carry out tasks associated with their respective positions.

Safe Direction – changes in facility safety levels that would not result in:

(a) a reduction in safety margins;

(b) a breakdown of barrier;

(c) an increase (in certain parameters) above accepted limits;

(d) an increase in risk;

(e) impairment(s) of safety systems;

(f) an increase in the risk of radioactive releases or spills of hazardous substances;

(g) injuries to workers or members of the public;

(h) introduction of a new hazard;

(i) reduction of the defence-in-depth provisions;

(j) causing hazards or risks different in nature or greater in probability or magnitude than those stated in the safety analysis of the nuclear facility.

Safety and Control Measures – measures or provisions which demonstrate that the applicant:

(i) is qualified to carry on the licensed activities; and

(ii) has made adequate provision for the protection of the environment, the health and safety of persons, the maintenance of national security and any measures required to implement international obligations to which Canada has agreed.

Written Notification – a physical or electronic communication between CNSC staff and a person authorized to act on behalf of the licensee.

A.2. Acronyms List

Acronym	Definition
AIA	Authorized Inspection Agency
ALARA	As Low As Reasonably Achievable
AL	Action Level
CFM	Cameco Fuel Manufacturing
CNSC	Canadian Nuclear Safety Commission
CSA	Canadian Standards Association
CVC	Compliance Verification Criteria
FFOL	Nuclear Fuel Facility Operating Licence
FSD	Fuel Services Division
GNSCR	*General Nuclear Safety and Control Regulations*
IAEA	International Atomic Energy Agency
LC	Licence Condition
LCH	Licence Conditions Handbook
mSv	Millisievert
N/A	Not Applicable
NEW	Nuclear Energy Worker
NPFD	Nuclear Processing Facilities Division
NSCA	*Nuclear Safety and Control Act*
NT	Notification
PDP	Preliminary Decommissioning Plan
PN	Prior Notification
PTNSR	*Packaging and Transport of Nuclear Substances Regulations*
SCA	Safety and Control Area
SSCs	Systems, Structures and Components
TDGR	*Transportation of Dangerous Goods Regulations*
µg	Microgram
µSv	Microsievert
U	Uranium
UO_2	Uranium dioxide

APPENDIX B – LIST OF VERSION CONTROLLED DOCUMENTS

B.1 Codes, Standards and Regulatory Documents

Document	Document Title	Revision
CSA B51	Boiler and Pressure Vessel and Pressure Piping Code	2019
CSA N286	Management systems requirements for nuclear facilities	2012 (R2017)
CSA N286.0.1	Commentary on N286-12, Management systems requirements for nuclear facilities	2021
CSA N288.1	Guidelines for calculating derived release limits for radioactive material in airborne and liquid effluents for normal operation of nuclear facilities	2014 (R2019)
CSA N288.4	Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills	2010 (R2015)
CSA N288.5	Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills	2011 (R2016)
CSA N288.6	Environmental risk assessments at Class I nuclear facilities and uranium mines and mills	2012 (R2017)
CSA N288.7	Groundwater protection programs at Class I nuclear facilities and uranium mines and mills	2015
CSA N288.8	Establishing and implementing action levels for releases to the environment from nuclear facilities	2017
CSA N292.0	General principles for the management of radioactive waste and irradiated fuel	2014
CSA N292.3	Management of low- and intermediate-level radioactive waste	2014
CSA N294	Decommissioning of facilities containing nuclear substances	2019
CSA N393	Fire protection for facilities that process, handle, or store nuclear substances	2013 (R2018)
CSA Z94.4	Selection, use and care of respirators	2018
G-129	Keeping Radiation Exposures and Doses “As Low as Reasonably Achievable (ALARA)”	2004 Revision 1
G-206	Financial Guarantee for the Decommissioning of Licensed Activities	2000
G-219	Decommissioning Planning for Licensed Activities	2000
G-228	Developing and Using Action Levels	2001
IAEA SSR-4	Safety of Nuclear Fuel Cycle Facilities	2017
NRCC 56190	National Building Code of Canada 2015	2015

Document	Document Title	Revision
NRCC 56192	National Fire Code of Canada 2015	2015
P-290	Managing Radioactive Waste	2004
REGDOC-2.1.1	Management System	2019
REGDOC-2.1.2	Safety Culture	2018
REGDOC-2.2.2	Personnel Training, Version 2	2016
REGDOC-2.2.5	Minimum Staff Complement	2019
REGDOC-2.4.3	Nuclear Criticality Safety	2019
REGDOC-2.5.1	General Design Considerations: Human Factors	2019
REGDOC-2.8.1	Conventional Health and Safety	2019
REGDOC-2.9.1	Environmental Protection: Environmental Protection Policies, Programs and Procedures	2013
REGDOC-2.10.1	Nuclear Emergency Preparedness and Response	2016
REGDOC-2.12.3	Security of Nuclear Substances Sealed Sources	2020 v2.1
REGDOC-2.13.1	Safeguards and Nuclear Material Accountancy	2018
REGDOC-2.14.1	Information Incorporated by Reference in Canada's Packaging and Transport of Nuclear Substances Regulations, 2015	2016
REGDOC-3.1.2	Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills	2018
REGDOC-3.2.1	Public Information and Disclosure	2018
REGDOC-3.5.3	Regulatory Fundamentals	2018
REGDOC-3.6	Glossary of CNSC Terminology	2016

B.2 Licensee Documents

Document #	Document Title	Notification
AP 018	Preventative Maintenance Execution Management	NT
CFM-EP	Environmental Protection Program	PN
CFM-EP-02	CFM Waste Management Plan	PN
CFM-HR-01	Systematic Approach to Training Program	PN
CFM-MS	Management System Program Manual	PN
CFM-RP	Radiation Protection Program Manual	PN
CFM-SH	Safety and Health Program	PN

Document #	Document Title	Notification
FLM	Facility Licensing Manual	PN
FSD-EMS-001	FSD Environmental Management System	PN
FSD-PGR-SG-01	FSD Safeguards Program	PN
FSD-PGR-TRN-001	FSD Packaging and Transportation	PN
FSD-PGR-WM-001	Fuel Services Division Waste Management Program	PN
HSI-048	Sealed Source	PN
MSP 13-02	Change Control	NT
MSP 27-16	Pressure Retaining Components	NT
MSP 30-01	Security Plan	PN
MSP 30-02	Emergency Preparedness Plan and Response Procedure	PN
MSP 30-03	Fire Safety Plan	PN
MSP 30-07	Fire Protection Program	PN
NCSPM	Nuclear Criticality Safety Program Manual	PN
PIP	Public Information Program	NT
05C144	Facility Licenced Area	PN
00A084	Site Map Property Layout	PN
N/A	Authorized Inspection Agency Services Agreement	NT
N/A	Safety Analysis Report for Cameco Fuel Manufacturing Inc. (Port Hope Facility)	PN
N/A	Environmental Risk Assessment for the Cameco Fuel Manufacturing Facility	PN
N/A	Derived Release Limits Report	PN
N/A	Review of Environmental Action Levels to Support the Environmental Protection Program	PN
N/A	Preliminary Decommissioning Plan	PN