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ORIGINAL/ORIGINAL

CMD: 20-H101

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A Licence Amendment

Une modification de permis

Cameco Corporation

Cameco Corporation

Key Lake Operation

**Établissement minier de
Key Lake**

**Financial Guarantee
Review and Licence
Modernization
Amendments**

**Examen de la garantie
financière et
modifications aux fins de
modernisation du permis**

Hearing in writing based solely on
written submissions

Audience fondée uniquement sur des
mémoires

Scheduled for:

Prévue pour :

June 2020

Juin 2020

Submitted by:

Présenté par :

CNSC Staff

Le personnel de la CCSN

Summary

This CMD presents information about the following matters of regulatory interest with respect to Cameco Corporation's Key Lake Operation:

- The revision of the financial guarantee for the Key Lake Operation.
- The amendment of Uranium Mill Licence (UMLOL-MILL-KEY.00/2023) to include standard licence conditions.

CNSC staff recommend the Commission take the following actions:

- Accept the proposed revised amount of the financial guarantee for the Key Lake Operation.
- Issue the proposed Uranium Mill Licence (UML-MILL-KEY.01/2023), which has been updated to the current CNSC standard licence format.
- Direct Cameco Corporation to submit to the Commission, within 90 days of the publication of a decision, revised financial instruments.

The following items are attached:

- Current licence UMLOL-MILL-KEY.00/2023
- Proposed amended licence UML-MILL-KEY.01/2023
- Draft Licence Conditions Handbook, Revision 3

Résumé

Le présent CMD fournit de l'information sur les questions d'intérêt réglementaire suivantes qui ont trait à l'établissement minier de Key Lake de Cameco Corporation:

- La révision de la garantie financière pour l'établissement minier de Key Lake.
- La modification du permis d'usine d'uranium (UMLOL-MILL-KEY.00/2023) afin d'y inclure les conditions de permis normalisées.

La Commission pourrait considérer prendre les mesures suivantes :

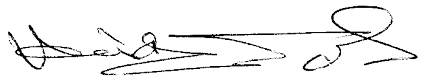
- Accepter le montant révisé proposé de la garantie financière pour l'établissement minier de Key Lake.
- Délivrer le permis d'usine d'uranium modifié (UML-MILL-KEY.01/2023) dans le format actualisé en ligne avec les permis normalisées de la CCSN.
- Demander à Cameco Corporation de fournir à la Commission, dans les 90 jours suivant la publication de la décision, les instruments financiers révisés.

Les pièces suivantes sont jointes :

- Le permis actuel, UMLOL-MILL-KEY.00/2023
- Le permis modifié proposé, UML-MILL-KEY.01/2023
- L'ébauche du Manuel des conditions de permis, Révision 3

Signed/signé le

17 April 2020



Haidy Tadros

Director General

Directorate of Nuclear Cycle and Facilities Regulation

Directrice générale de la

Direction de la réglementation du cycle et des installations nucléaires

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EXECUTIVE SUMMARY

In accordance with subsection 24(5) of the *Nuclear Safety and Control Act*, a licence may contain a condition that the applicant provide a financial guarantee in a form that is acceptable to the Commission. Accordingly, licence condition 12.3 of Cameco Corporation's current Key Lake Operation licence (UMLOL-MILL-KEY.00/2023) requires the licensee to maintain a financial guarantee acceptable to the Commission. The financial guarantee must be reviewed and updated every five years, or if there are material changes to the licensee's operational activities.

To fulfill the five-year update requirement, on October 11, 2019 Cameco Corporation (Cameco) submitted a request to the Canadian Nuclear Safety Commission (CNSC) to update their financial guarantee for the Key Lake Operation. This request included a proposed revision to the value of Cameco's financial guarantee from C\$218.3 million to C\$222.5 million, primarily to account for inflation. This change in the financial guarantee triggers an amendment to its licence (UMLOL-MILL-KEY.00/2023). The licence is also being updated to the standard licence conditions and licence conditions handbook format as part of this licence amendment request.

Cameco submitted its Preliminary Decommissioning Plan and Preliminary Decommissioning Cost Estimate. Following review by both the Saskatchewan Ministry of Environment and CNSC staff, the Preliminary Decommissioning Plan and Preliminary Decommissioning Cost Estimate were confirmed to be credible for future decommissioning of the Key Lake Operation. Staff also assessed the impact of the COVID-19 pandemic on the decommissioning plan, cost estimate and financial guarantee. Staff determined that the decommissioning activities, which take place in a staged manner over years, and the cost estimate, which includes contingency funds, are robust. Therefore the proposed financial guarantee remains sufficient to cover the decommissioning liabilities. In addition, the value of the proposed financial instrument remains constant and is not dependent on the market outcome. Based on CNSC staff's review and assessment of Cameco's submitted information, CNSC staff recommend that the Commission:

- accept the proposed revised amount of the financial guarantee for the Key Lake Operation;
- issue the proposed Uranium Mill Licence (UML-MILL-KEY.01/2023) which has been updated to the current CNSC standard licence format; and
- direct Cameco Corporation to submit to the Commission, within 90 days of the publication of a decision, revised financial instruments.

Referenced documents in this CMD are available to the public upon request, subject to confidential and proprietary considerations.

PART ONE

This Commission Member Document (CMD) is presented in two parts.

Part One includes:

1. An overview of the matter being presented.
2. General discussion pertaining to the matters for consideration that are relevant to this submission.
3. Discussion about other matters of regulatory interest.
4. Overall conclusions and recommendations.
5. Appendices A and B.

PART TWO

Part Two provides information pertaining directly to the current and proposed licence.

1. OVERVIEW

1.1 Background

Operated by Cameco Corporation (Cameco), the Key Lake Operation is located approximately 570 kilometres north of Saskatoon, Saskatchewan (figure 1). The operation began with two open-pit mines and a mill complex. The Gaertner open pit was mined from 1983 to 1987, followed by the Deilmann open pit until 1997. Milling of the stockpiled Deilmann ore continued until 1999, when the McArthur River Operation began supplying ore slurry to the Key Lake mill. The Key Lake Operation continues today as a mill operation that processes high grade McArthur River ore slurry, McArthur River mineralized rock (U_3O_8 content between 0.03% and 0.5%) as well as residual special waste rock (U_3O_8 content between 0.05% and 0.19%) from previous mining at Key Lake. The blending of the ore provides a target grade for the mill and reduces tailings.

Figure 1: Key Lake Operation – location map



The Deilmann open pit was comprised of an eastern and western pit. Mining in the eastern pit continued until 1995 and mining of the western pit continued until 1997. The Deilmann Tailings Management Facility (DTMF) began with the disposition of mill tailings within the eastern pit in 1995 and then within both the eastern and western pits in 1997. Mill tailings continue to be deposited into the

DTMF today. The general site layout of the Key Lake Operation is shown in appendix A of this Commission Member Document (CMD).

Following an October 2013 Commission hearing, the Commission renewed the Uranium Mill Licence: Cameco Corporation, Key Lake Operation (UMLOL-MILL-KEY.00/2023) which is valid to October 31, 2023. Subsequent to the hearing, Cameco completed minor revisions to the Preliminary Decommissioning Plan (PDP) and Preliminary Decommissioning Cost Estimate (PDCE) in response to Saskatchewan Ministry of Environment comments on specific items within the PDP and costs within PDCE. The revised PDP and PDCE (December 2013) [1] was reviewed by staff from the CNSC and the Saskatchewan Ministry of Environment (SMOE). The Commission accepted the revised financial guarantee in the amount of C\$218.3 million on January 15, 2015 [2] which is the current financial guarantee for the Key Lake Operation.

According to the five-year review cycle on PDPs, on August 10, 2018 Cameco submitted an updated draft PDP and PDCE for review by SMOE and CNSC staff. After addressing technical review comments from both agencies, a revised PDP and PDCE was submitted by Cameco on October 11, 2019. The PDP [3] outlines the end state of the operation, as described in section 2.1 of this CMD, and the steps the licensee will take to reach that end state. The PDCE [4] outlines the basis for the value of the financial guarantee and is based on the project end state as described in the PDP. CNSC specialists reviewed and assessed the PDP and PDCE against Canadian Standards Association (CSA) Group standard N294.0 and CNSC regulatory documents (appendix B.2) and confirmed that Cameco meets regulatory requirements.

Under *The Mineral Industry Environmental Protection Regulations, 1996*, SMOE requires that mining and milling operations prepare decommissioning plans and financial assurances. SMOE's independent review of the Key Lake Operation PDCE and financial assurance (equivalent to the term financial guarantee under the *Nuclear Safety and Control Act*) is complementary to CNSC staff's review.

A memorandum of understanding between the CNSC and the province of Saskatchewan on reclamation and financial guarantees guide the nature of the cooperation between the parties [5]. The memorandum of understanding stipulates that it is not intended to require owners and/or operators of uranium mining and milling facilities in Saskatchewan to provide separate and distinct financial guarantees to satisfy federal and provincial requirements. The CNSC and SMOE work closely in aligning and coordinating decommissioning and financial guarantee requirements. The SMOE is the owner of the lands, beneficiary of the financial guarantee for all operating and decommissioned uranium mines and mills in Saskatchewan, and provides conditional acceptance of the financial guarantee until approved by the Commission. The CNSC or SMOE can invoke the Commission-approved financial guarantee to ensure decommissioning is carried out under extenuating circumstances such as bankruptcy or a failure of the licensee to meet regulatory requirements.

1.2 Highlights

The following is a summary of the financial guarantee regulatory review:

- Cameco submitted an updated draft PDP and PDCE in August 2018 for review by CNSC and SMOE staff.
- Cameco revised the PDP and PDCE in response to CNSC and SMOE staff regulatory review comments and submitted a revised PDP and PDCE in October 2019.
- CNSC staff concluded the revised PDP and PDCE meet the criteria of CNSC regulatory guides and documents (appendix B).
- SMOE accepted the updated PDP and PDCE on January 21, 2020 [6].
- As part of the submission of the revised PDP and PDCE, Cameco formally requested the Commission approve the value of Cameco's Key Lake Operation financial guarantee and amend its Key Lake Operating Licence (UMLOL-MILL-KEY.00/2023) to a format that includes standard licence conditions.
- Based on CNSC staffs' technical assessment of the information submitted by Cameco, CNSC staff prepared a proposed amended licence, updated licence conditions handbook (LCH) and this CMD, including staff's conclusions and recommendations, for the Commission's consideration.

2. MATTERS FOR CONSIDERATION

2.1 Summary of Preliminary Decommissioning Plan Activities

In accordance with paragraph 3(a)(viii) of the *Uranium Mines and Mills Regulations*, Cameco is required to maintain a proposed plan to decommission the Key Lake Operation. Planning for decommissioning is an ongoing process, taking place throughout each stage of the licensed facility lifecycle. PDPs at operating uranium mines and mills are updated and submitted to CNSC and SMOE a minimum of every five years or as a result of material changes to operational activities. PDPs provide the basis for the cost estimate for decommissioning and establishing the value of the financial guarantee, under a decommission tomorrow principle. Cameco will develop a detailed decommissioning plan prior to being authorized by the CNSC to begin decommissioning.

As stated by Cameco in the PDP, the end state objective is to decommission and reclaim the site to an ecological and radiological condition that is as similar as is reasonably achievable to the pre-mining conditions at site and suitable for traditional land use. The PDP outlines the following activities for the decommissioning of infrastructure at the Key Lake Operation [7]:

Above-Ground Tailings Management Facility (AGTMF)

- Frozen tailings will be allowed to thaw and consolidate.
- AGTMF will be capped with an engineered cover system and seeded to promote development of vegetation.

Deilmann (In-Pit) Tailings Management Facility (DTMF)

- Tailings and any other contaminated material placed within the DTMF will be capped with an engineered cover system.
- The water level will be allowed to naturally return to pre-mining levels, establishing a water cover over the engineered cover.

Ore and waste rock storage areas

- Deilmann north waste rock pile (DNWRP) will be covered with an engineered cover system and seeded to promote the development of vegetation.
- Deilmann south waste rock pile and the Gaertner waste rock pile (GWRP) will be partially flattened, graded and contoured to promote drainage and vegetation.
- Contaminated waste rock, special waste pads construction material and contaminated material from beneath the liners of the special waste pads will be transported to the DTMF for disposal.
- Material on the ore storage pads and material used to construct the ore storage pads will be transported to the DTMF for disposal.

Surface buildings and facilities

- Contaminated surface infrastructure will be dismantled and disposed of within the AGTMF, DTMF or DNWRP.
- Non-contaminated surface infrastructure will be disassembled and placed in the Key Lake landfill within the GWRP.
- Hazardous substances (e.g., hydraulic oil, diesel fuel, gasoline, paint, engine coolant, etc.) will be transported off-site for recycling or disposal in accordance with applicable regulations.

Site roads and surface water diversion system

- Site roads will be decommissioned, contoured and seeded with native vegetation.
- Upon completion of water treatment, the surface water diversion system will be decommissioned and disposed of in the Key Lake landfill within the GWRP.

2.2 Preliminary Decommissioning Plan and Preliminary Decommissioning Cost Estimate Update

In accordance with the requirement to update the financial guarantee every five years, as specified under licence condition 12.3, on August 10, 2018 Cameco submitted to the CNSC and SMOE a revised draft PDP and PDCE for regulatory review. The regulatory review was completed and Cameco submitted a revised PDP and PDCE on October 11, 2019. There are no significant modifications or deviations from the previously accepted PDP and PDCE. The revised PDP and PDCE requires a slight increase in the value of the financial guarantee from C\$218.3 to C\$222.5 million, primarily to account for inflation. The PDP, based on a decommissioning tomorrow scenario, includes planned facilities and activities at the Key Lake Operation until the next financial guarantee update, which will be coordinated with the 2023 licence renewal.

On January 21, 2020 SMOE submitted a letter to Cameco [6] that confirmed the PDP and PDCE meet provincial regulatory requirements and are acceptable.

CNSC staff's review concluded the revised PDP and PDCE meet the requirements of:

- CNSC Regulatory Guide G-219, *Decommissioning Planning for Licenced Activities*; and
- CSA Group standard N294-09, *Decommissioning of facilities containing nuclear substances*.

CNSC staff conclude from their review of the PDP and PDCE that the proposed amount of C\$222.5 million is credible and acceptable for decommissioning the Key Lake Operation.

2.3 Financial Guarantee

Cameco continues to use letters of credit as financial guarantee instruments that meet the requirements of CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*.

The province of Saskatchewan is the beneficiary as specified on the letters of credit comprising the current financial guarantee. The cooperative relationship between the SMOE and CNSC in matters relating to the financial guarantee is outlined through a memorandum of understanding discussed in section 1.1 of this CMD. Orano Canada Inc. (previously AREVA Resources Canada Inc.), with 17 percent ownership of the Key Lake Operation, also contributes to the financial guarantee. Cameco and Orano submitted financial guarantee instruments in the form of letters of credit for the current licence that totalled C\$218.3 million. Should the Commission approve the amended financial guarantee amount of C\$222.5 million, Cameco and Orano will provide new financial guarantee instruments in the form of letters of credit, totaling the updated amounts, payable to SMOE. CNSC staff will confirm that the financial guarantee

instruments meet CNSC acceptance criteria for liquidity, certainty of value, adequacy of value, and continuity.

The current Key Lake Operation financial guarantee will remain in effect until the proposed financial guarantee amount is approved by the Commission and the new financial guarantee instruments are submitted.

2.4 Proposed Licence Standardization

In an effort to promote clarity and consistency of language, the CNSC is in the process of implementing standard licence conditions for all CNSC licences and standardized text for the uranium mines and mills LCHs. The implementation of the standardized licence conditions for operating uranium mine and/or mill sites started in 2017 with the McClean Lake Operation licence renewal and this process is continuing with Cameco's operations as part of the financial guarantee updates for all of their mine and/or mill sites. The implementation of the standardized licence conditions for the remaining Cameco sites are expected to be completed in 2020/2021.

The update will not have a material change on daily operations for the Key Lake Operation. A table summarizing the existing and proposed licence changes along with a copy of the existing licence (UMLOL-MILL-KEY.00/2023) and proposed amended licence (UML-MILL-KEY.01/2023) are provided in Part Two of this CMD.

In addition to updating the licence, the LCH has also been updated to reflect modern standard licence conditions and guidance. The LCH updates include references to CNSC regulatory documents and CSA documents which were published after the last update of the LCH. These documents include both guidance and compliance verification criteria. CNSC staff advised Cameco of the proposed revisions to the licence and LCH; Cameco concurs with the implementation timelines of the LCH documents.

The draft LCH (Revision 3) is also provided in Part Two of this CMD.

2.5 Environmental Assessment

CNSC staff reviewed Cameco's request under the *Nuclear Safety and Control Act* and have concluded that, given the nature of the proposed licence amendment, there are no impacts to the environment.

2.6 Other Matters of Regulatory Interest

The following table identifies other matters that are relevant to this CMD.

OTHER MATTERS OF REGULATORY INTEREST	
Area	Relevant to this CMD?
Indigenous Consultation	No
Other Consultation	No
Ongoing Public Engagement	Yes
Cost Recovery	No
Improvement Plans and Significant Future Activities	No
Licensees' Public Information Program	No
Nuclear Liability Insurance	No

The relevant “other matters” of regulatory interest are discussed in section 3.

2.7 Regulatory and Technical Basis

The regulatory and technical basis for the matters discussed in this CMD are provided in appendix B of this document.

The key requirements come directly from the *Nuclear Safety and Control Act*, *General Nuclear Safety and Control Regulations* and the *Uranium Mines and Mills Regulations* as well as applicable CNSC Regulatory Documents (REGDOCs) and CSA Group standards.

3. OTHER MATTERS OF REGULATORY INTEREST

3.1 Ongoing Public Engagement

As per the CNSC’s notification process for Commission proceedings, CNSC staff informed the public via the CNSC’s website, email subscription list and social media channels of this Commission hearing. The public have been invited to provide written interventions for the hearing.

Although not specific to this CMD, CNSC conduct ongoing engagement activities to inform the public and Indigenous groups of CNSC regulatory activities. On February 28, 2019 CNSC staff provided information to the Northern Saskatchewan Environmental Quality Committee (EQC) on the review status of all preliminary decommissioning plan submissions from Cameco. Cameco submitted updated PDPs for all its northern Saskatchewan facilities in fulfillment of the requirement to update these plans on a five-year basis. CNSC staff explained the status of each review as well as how the Commission hearing process would likely proceed.

As part of improving CNSC's outreach approach associated with the development and presentation of the annual Regulatory Oversight Report, CNSC staff met with the EQC on September 4, 2019 and with Indigenous leadership and representatives on September 5, 2019 to present and answer questions on CNSC-regulated uranium mines and mills, including the Key Lake Operation.

CNSC staff also presented information at an interactive workshop with representatives from communities that have signed collaboration agreements with Cameco and Orano. The June 6, 2018 workshop, conducted in Saskatoon Saskatchewan, was titled *Awareness of the Role of Community Involvement in Decommissioning – from the Beginning of Uranium Mining to the End of Uranium Mining*. CNSC staff provided presentations on the *Decommissioning of Licensed Facilities and Financial Guarantees*, an *Overview of the CNSC Regulatory Oversight Report* and *CNSC's Role in the Transfer of Decommissioned Mine and/or Mills Site to Institutional Control*. CNSC staff also regularly attend EQC meetings and licensee outreach sessions to present information and answer questions.

4. OVERALL CONCLUSIONS AND RECOMMENDATIONS

4.1 Overall Conclusions

CNSC staff conclude that:

- Cameco's revised PDP meets the requirements of CSA Group standard N294-09, *Decommissioning of facilities containing nuclear substances* and CNSC Regulatory Guide G-219, *Decommissioning Planning for Licensed Activities*;
- Cameco's revised PDCE meets the requirements of CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*;
- Cameco's revised PDCE is acceptable to meet the remaining detailed decommissioning activities described within the updated PDP; and
- with respect to paragraphs 24(4)(a) and (b) of the *Nuclear Safety and Control Act*, CNSC staff have concluded that the licensee:
 - is qualified to carry on the activities authorized by the licence; and
 - will, in carrying out 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.

4.2 Overall Recommendations

CNSC staff recommend the following to the Commission:

- accept the proposed revised amount of the financial guarantee for the Key Lake Operation;
- issue the proposed Uranium Mill Licence (UML-MILL-KEY.01/2023) which has been updated to the current CNSC standard licence format; and
- direct Cameco Corporation to submit to the Commission, within 90 days of the publication of a decision, revised financial instruments.

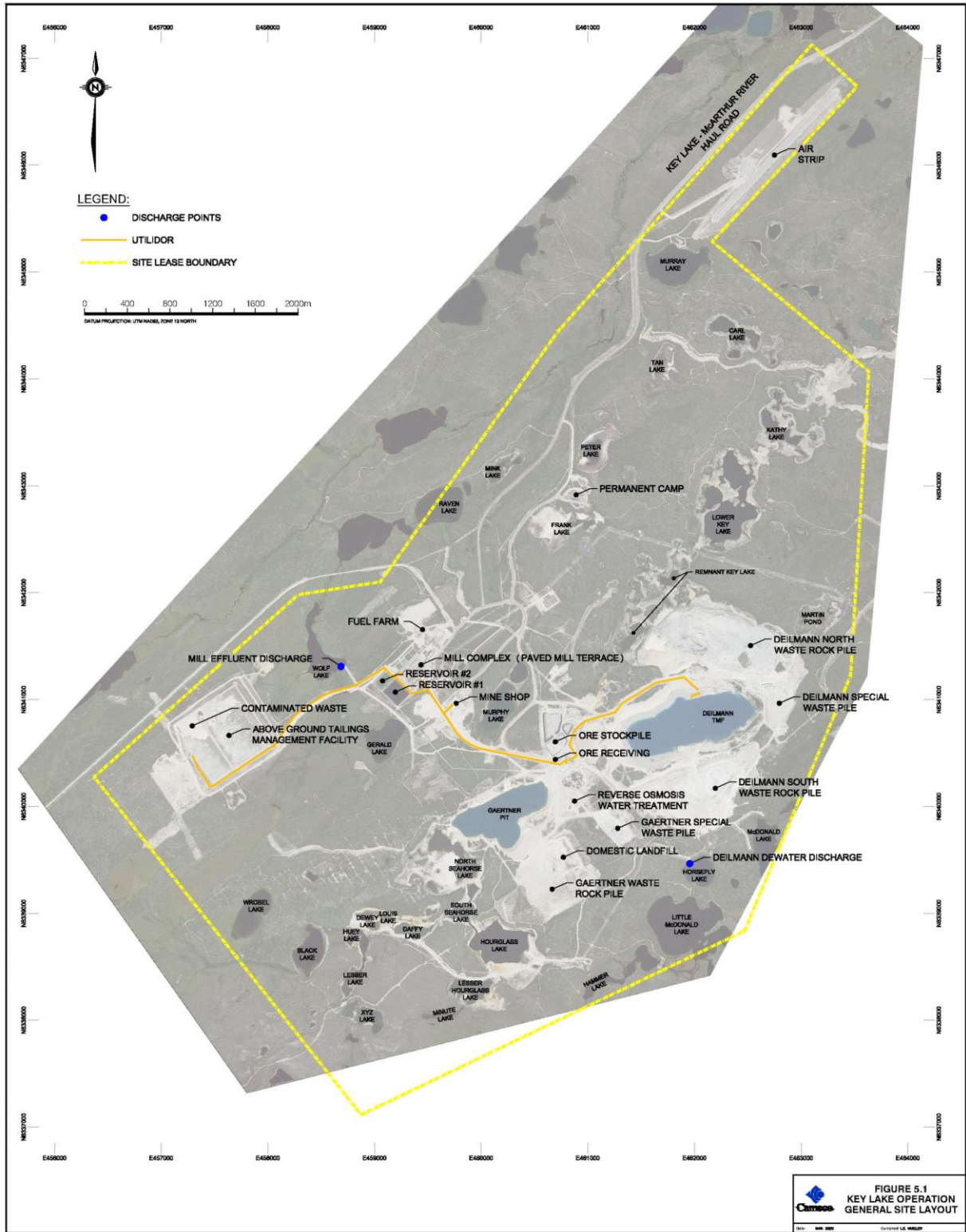
REFERENCES

1. Correspondence from Mr. K. Himbeault (Cameco) to Mr. Tom Gates (CNSC) and Mr. A. Merkowsky (SMOE), re: *Key Lake Operation – Final Preliminary Decommissioning Plan and Decommissioning Cost Estimate*, January 10, 2014 (e-Doc 4276754).
2. *Record of Proceedings, Including Reasons for Decision in the Matter of Cameco Corporation Application for Approval of Revised Preliminary Decommissioning Plan and Cost Estimate, and for Acceptance of Revisions to the Financial Guarantee for the Key Lake Operation*, Hearing Date January 15, 2015 (e-Doc 4620460).
3. Correspondence from Ms. D. McIntyre (Cameco) to Mr. R. Snider (CNSC) and Mr. G. Bihun (SMOE), re: *CONFIDENTIAL AND PROPRIETARY: Key Lake Operation Preliminary Decommissioning Plan and Cost Estimate*, October 11, 2019 (e-Doc 5609680).
4. Correspondence from Ms. D. McIntyre (Cameco) to Mr. R. Snider (CNSC) and Mr. G. Bihun (SMOE), re: *CONFIDENTIAL AND PROPRIETARY: Key Lake Operation Preliminary Decommissioning Plan and Cost Estimate*, October 11, 2019 (e-Doc 5609682).
5. *Memorandum of Understanding between the Atomic Energy Control Board and Saskatchewan Environment and Resource Management*, March 1996 (e-Doc 3816864).
6. Correspondence from Mr. T. Moulding (SMOE) to Mr. Robert Schwab (Cameco), re: *Key Lake Operation Preliminary Decommissioning Plan and Cost Estimate*, January 21, 2020 (e-Doc 6113844).
7. Technical Reports – Public Summary – Key Lake Operation. Cameco Corporation. <https://www.cameco.com/media/media-library/documents/preliminary-decommissioning-plan-summary-key-lake-operation>.

GLOSSARY

AGTMF	Above Ground Tailings Management Facility
CNSC	Canadian Nuclear Safety Commission
CMD	Commission Member Document
CSA	Canadian Standards Association
DTMF	Deilmann (In-Pit) Tailings Management Facility
DNWRP	Deilmann North Waste Rock Pile
EQC	Environmental Quality Committee
GWRP	Gaertner Waste Rock Pile
LCH	Licence Conditions Handbook
MDMER	<i>Metal and Diamond Mining Effluent Regulations</i>
NSCA	<i>Nuclear Safety and Control Act</i>
PDP	Preliminary Decommissioning Plan
PDCE	Preliminary Decommissioning Cost Estimate
PDPCE	Preliminary Decommissioning Plan and Preliminary Decommissioning Cost Estimate
REGDOC	CNSC Regulatory Document
SMOE	Saskatchewan Ministry of Environment
U ₃ O ₈	Triuranium octoxide

A. KEY LAKE OPERATION - GENERAL SITE LAYOUT



B. BASIS FOR THE RECOMMENDATION(S)

B.1 Regulatory Basis

The regulatory basis for the CNSC staff recommendations presented in this CMD is as follows:

Nuclear Safety and Control Act

Paragraphs 24(2)(a) and (b) of the *Nuclear Safety Control Act* provide that 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; (b) containing the prescribed information and undertakings and accompanied by the prescribed documents.

Subsection 24(5) of the *Nuclear Safety Control Act* provides that 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 the Commission.

Subsection 24(6) of the *Nuclear Safety Control Act* provides that the Commission may authorize the application of the proceeds of any financial guarantee.

General Nuclear Safety and Control Regulations

The *General Nuclear Safety and Control Regulations* requires under paragraph 3(1)(l) that a licence application contains a description of any proposed financial guarantee relating to the activity to be licensed.

Uranium Mines and Mills Regulations

The *Uranium Mines and Mills Regulations* requires under subparagraph 3(a)(viii) the proposed plan for the decommissioning of the mine or mill.

B.2 Technical Basis

CNSC staff's recommendations to the Commission within this CMD are supported on a technical basis and comparison by the following documents:

- CNSC Regulatory Guide G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*;
- CNSC Regulatory Guide G-219, *Decommissioning Planning for Licensed Activities*;
and
- CSA Group standard N294-09, *Decommissioning of facilities containing nuclear substances*.

PART TWO

Part Two provides all relevant information pertaining directly to the licence, including:

1. The current Uranium Mill Licence UMLOL-MILL-KEY.00/2023.
2. Proposed licence changes.
3. The proposed Uranium Mill Licence UML-MILL-KEY.01/2023.
4. The draft Licence Conditions Handbook.

CURRENT LICENCE

e-Doc 4161286 (WORD)

e-Doc 4163687 (PDF)



Directorate of Nuclear Cycle
and Facilities Regulation

Our file Notre référence

2.04

**URANIUM MILL LICENCE
CAMECO CORPORATION
KEY LAKE OPERATION**

I) LICENCE NUMBER: UMLOL-MILL-KEY.00/2023

II) LICENSEE: Pursuant to section 24 of the *Nuclear Safety and Control Act*, this licence is issued to:

**Cameco Corporation
2121 – 11th Street West
Saskatoon, Saskatchewan S7M 1J3**

III) LICENCE PERIOD: This licence is valid from November 1, 2013 to October 31, 2023, unless otherwise suspended, amended, revoked, replaced or transferred.

IV) LICENSED ACTIVITIES:

This licence authorizes the licensee to:

- i) Prepare a site for, construct, operate, modify and decommission a nuclear facility (hereinafter “the facility”) for the milling of uranium ore at a site known as the Key Lake Operation in the Province of Saskatchewan as shown on the drawing referenced at Appendix A to this licence.
- ii) Produce a uranium concentrate.
- iii) Import, possess, use, store, transfer and dispose of nuclear substances and radiation devices that are required for or associated with laboratory studies, field studies, fixed gauge usage and borehole logging devices in relation to (i) and (ii).

V) EXPLANATORY NOTES:

- i) Nothing in this licence shall be construed to authorize non-compliance with any other applicable legal obligation or restriction.
- ii) Unless otherwise provided for in this licence, words and expressions used in this licence have the same meaning as in the *Nuclear Safety and Control Act* and its associated Regulations.
- iii) The UMLOL-MILL-KEY.00/2023 Licence Conditions Handbook (LCH) identifies the criteria that will be used by Canadian Nuclear Safety Commission (CNSC) staff to assess the licensee's compliance with the conditions listed in this licence. The LCH also provides information regarding delegation of authority and applicable version control of documents.

VI) CONDITIONS:**1. GENERAL**

- 1.1 The licensee shall conduct the activities described in Part IV of this licence in accordance with the objective of the licensing basis.
- 1.2 Changes to the facility, its operation, or safety and control measures described in the application and the documents needed to support that application are permitted provided that the objectives of the licensing basis is met.
- 1.3 The licensee shall give written notification to the Commission of any changes made to the documents needed to support the licence application.
- 1.4 The licensee shall, in the event of any conflict or inconsistency between licence conditions or any documents referenced in the LCH, direct the conflict or inconsistency to the Commission, or a person authorized by the Commission, for resolution.
- 1.5 The licensee shall implement and maintain a program for public information for the facility, including a public disclosure protocol.

2. MANAGEMENT SYSTEM

- 2.1 The licensee shall implement and maintain a management system.

- 2.2 The licensee shall ensure that every contractor working at the facility complies with the applicable conditions of this licence including those relating to the licensee's policies, programs, and procedures with respect to the protection of health, safety, and the environment, and to the maintenance of security.

3. *HUMAN PERFORMANCE MANAGEMENT*

- 3.1 The licensee shall implement and maintain a training program.

4. *OPERATING PERFORMANCE*

- 4.1 The licensee shall implement and maintain an operating program.
- 4.2 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.
- 4.3 The nuclear substances and radiation devices possessed by the licensee shall not exceed:
- a) The possession limit for unsealed sources; and
 - b) The maximum activity per sealed source or device;
- approved by the Commission or a person authorized by the Commission.

5. *SAFETY ANALYSIS*

- 5.1 The licensee shall implement and maintain a safety analysis program.

6. *PHYSICAL DESIGN*

- 6.1 The licensee shall implement and maintain a design program.

7. *FITNESS FOR SERVICE*

- 7.1 The licensee shall implement and maintain a maintenance program.

8. RADIATION PROTECTION

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

9. CONVENTIONAL HEALTH AND SAFETY

9.1 The licensee shall implement and maintain an occupational health and safety program.

10. ENVIRONMENTAL PROTECTION

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

10.2 The licensee shall where the effluent concentration reaches or exceeds the discharge limits in the *Metal Mining Effluent Regulations*, immediately take corrective action and investigate.

11. EMERGENCY MANAGEMENT AND FIRE PROTECTION

11.1 The licensee shall implement and maintain an emergency management and fire protection program.

12. WASTE MANAGEMENT

12.1 The licensee shall implement and maintain a waste management program.

12.2 The licensee shall maintain a preliminary decommissioning plan for the facility.

12.3 The licensee shall maintain a financial guarantee acceptable to the Commission. The financial guarantee shall be reviewed and updated every five years or if there are material changes.

13. SECURITY

13.1 The licensee shall implement and maintain a security program.

14. SAFEGUARDS AND NON-PROLIFERATION

14.1 The licensee shall implement and maintain a safeguards and non-proliferation program.

15. PACKAGING AND TRANSPORT

15.1 The licensee shall implement and maintain a packaging and transport program.

SIGNED at OTTAWA, this 29th day of October, 2013.

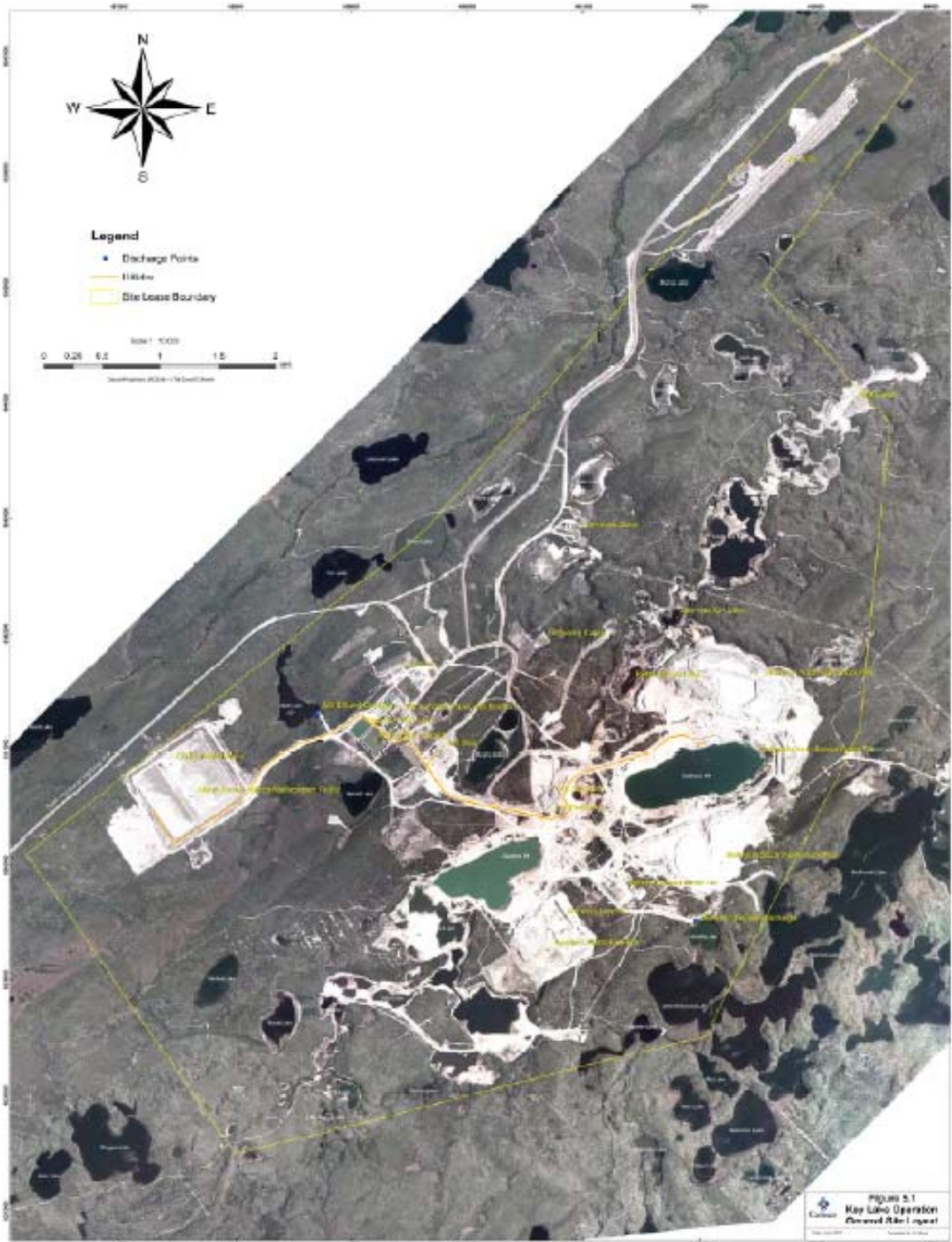


Michael Binder, President
on behalf of the Canadian Nuclear Safety Commission

APPENDIX A

LOCATION OF CAMECO'S OPERATION AT KEY LAKE

The location of the Cameco's Operation at Key Lake is shown on Figure 5.1 Key Lake General Site Layout dated June 2010, e-DOC 3625149.



PROPOSED LICENCE CHANGES

The table below shows the text in the current licence and the corresponding changes in the proposed licence. For each proposed change, CNSC staff have provided the rationale and comments supporting the change, in the right column, entitled rational or comments.

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
	“Draft” is on the document.	Draft to be removed once approved by the Commission.
First page - File number and directorate name are at the top on the first page.	File number and directorate name are no longer in the header.	Information not necessary.
Page 2 and remaining pages: “Licence” on top right page of header.	Page 2 and remaining pages: Top right page of header: Licensee and Operation name on first line, title of licence on second line.	If pages are separated, apparent to which licence the page belongs to.
D) LICENCE NUMBER: UMLOL-MILL-KEY.00/2023	D) LICENCE NUMBER: UML-MILL-KEY.01/2023	New version of licence.
IV) LICENSED ACTIVITIES iii) Import, possess, use, store, transfer and dispose of nuclear substances and radiation devices that are required for or associated with laboratory studies, field studies, fixed gauge usage and borehole logging devices in relation to (i) and (ii).	IV) LICENSED ACTIVITIES c) possess, transfer, import, use, store, and dispose of nuclear substances d) possess, transfer, import, use, store prescribed equipment that is required for or associated with laboratory studies, field studies, fixed gauge usage and borehole logging devices in relation to (a) and (b).	Nuclear substances and prescribed equipment separated and activities brought in line with activities permitted under the NSCA for nuclear substances. Authorized activities listed in order of the NSCA.
V) EXPLANATORY NOTES: iii) The UMLOL-MILL-KEY.00/2023 Licence Conditions Handbook (LCH) identifies the criteria that will be used by Canadian Nuclear Safety Commission (CNSC) staff to assess the licensee’s compliance with the conditions listed in this licence. The LCH also provides information regarding delegation of authority and applicable version control of documents.	V) EXPLANATORY NOTES: c) The UML-MILL-KEY.01/2023 Licence Conditions Handbook (LCH) identifies the criteria that will be used by Canadian Nuclear Safety Commission staff to assess the licensee’s compliance with the conditions listed in this licence. The LCH also provides information regarding delegation of authority and applicable version control of documents comprising compliance verification criteria.	New version of licence and new standardized text.

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
VI) CONDITIONS: 1. GENERAL	VI) CONDITIONS: G. GENERAL	New standardized text.
1.1 The licensee shall conduct the activities described in Part IV of this licence in accordance with the objective of the licensing basis.	G.1 Licensing Basis for Licensed Activities The licensee shall conduct the activities described in Part IV of this licence in accordance with the licensing basis, 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 unless otherwise approved in writing by the Canadian Nuclear Safety Commission (hereinafter "the Commission").	New standardized text.
1.2 Changes to the facility, its operation, or safety and control measures described in the application and the documents needed to support that application are permitted provided that the objectives of the licensing basis is met. 1.3 The licensee shall give written notification to the Commission of any changes made to the documents needed to support the licence application.	G.2 Notification of Changes The licensee shall give written notification of changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis.	New standardized text.
1.4 The licensee shall, in the event of any conflict or inconsistency between licence conditions or any documents referenced in the LCH, direct the conflict or inconsistency to the Commission, or a person authorized by the Commission, for resolution.		Text removed.

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
1.5 The licensee shall implement and maintain a program for public information for the facility, including a public disclosure protocol.	G.4 Public Information and Disclosure The licensee shall implement and maintain a public information and disclosure program.	Standardized text.
2. MANAGEMENT SYSTEM 2.1 The licensee shall implement and maintain a management system. 2.2 The licensee shall ensure that every contractor working at the facility complies with the applicable conditions of this licence including those relating to the licensee's policies, programs, and procedures with respect to the protection of health, safety, and the environment, and to the maintenance of security.	1. MANAGEMENT SYSTEM 1.1 Management System The licensee shall implement and maintain a management system.	Condition 2.2 - not required as already covered in GNSCR 12(e). Not a standard condition.
3. HUMAN PERFORMANCE MANAGEMENT 3.1 The licensee shall implement and maintain a training program.	2. HUMAN PERFORMANCE MANAGEMENT 2.1 Training Program The licensee shall implement and maintain a training program.	Title added.
4. OPERATING PERFORMANCE 4.1 The licensee shall implement and maintain an operating program. 4.2 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 <i>Nuclear Safety and Control Act</i> and its Regulations. 4.3 The nuclear substances and radiation devices possessed by the licensee shall not exceed: <ul style="list-style-type: none"> a) The possession limit for unsealed sources; and b) The maximum activity per sealed source or device; approved by the Commission or a person authorized by the Commission. 	3. OPERATING PERFORMANCE 3.1 Operations Program The licensee shall implement and maintain an operating program, which includes a set of operating limits. 3.2 Reporting Requirements The licensee shall implement and maintain a program for reporting to the Commission or a person authorized by the Commission. 3.3 Nuclear Substances and Radiation Devices The licensee shall implement and maintain a program for nuclear substances and radiation devices.	Nuclear substance standard condition applies. Further information on expectations to meet licence conditions is provided in the LCH.

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
<p>5. SAFETY ANALYSIS 5.1 The licensee shall implement and maintain a safety analysis program.</p>	<p>4. SAFETY ANALYSIS 4.1 Safety Analysis Program The licensee shall implement and maintain a safety analysis program.</p>	Title added.
<p>6. PHYSICAL DESIGN 6.1 The licensee shall implement and maintain a design program.</p>	<p>5. PHYSICAL DESIGN 5.1 Design Program The licensee shall implement and maintain a design program.</p>	Title added.
<p>7. FITNESS FOR SERVICE 7.1 The licensee shall implement and maintain a maintenance program.</p>	<p>6. FITNESS FOR SERVICE 6.1 Fitness for Service Program The licensee shall implement and maintain a fitness for service program.</p>	Title added and minor change in text. Change in terminology has no impact on required submissions or content of submissions from licensees.
<p>8. RADIATION PROTECTION 8.1 The licensee shall implement and maintain a radiation protection program.</p>	<p>7. RADIATION PROTECTION 7.1 Radiation Protection Program The licensee shall implement and maintain a radiation protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.</p>	Title added and minor change to text. Licensee maintains a Radiation Code of Practice which includes a requirement to notify the Commission within 24 hours of triggering an action level.
<p>9. CONVENTIONAL HEALTH AND SAFETY 9.1 The licensee shall implement and maintain an occupational health and safety program.</p>	<p>8. CONVENTIONAL HEALTH AND SAFETY 8.1 Conventional Health and Safety Program The licensee shall implement and maintain a conventional health and safety program.</p>	Title added.
<p>10. ENVIRONMENTAL PROTECTION 10.1 The licensee shall implement and maintain an environmental protection program. 10.2 The licensee shall where the effluent concentration reaches or exceeds the discharge limits in</p>	<p>9. ENVIRONMENTAL PROTECTION 9.1 Environmental Protection Program The licensee shall implement and maintain an environmental protection program, which includes a set of action levels.</p>	Title added. Licensee maintains an Environmental Code of Practice which includes a requirement to notify the Commission within 24 hours of triggering an

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
the <i>Metal Mining Effluent Regulations</i> , immediately take corrective action and investigate.	When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.	action level. <i>Metal Mining Effluent Regulations</i> are now the <i>Metal and Diamond Mining Effluent Regulations</i> (MDMER). MDMER is a regulatory requirement which includes investigation and reporting requirements. A licence condition is not necessary.
<p>11. EMERGENCY MANAGEMENT AND FIRE PROTECTION</p> <p>11.1 The licensee shall implement and maintain an emergency management and fire protection program.</p>	<p>10. EMERGENCY MANAGEMENT AND FIRE PROTECTION</p> <p>10.1 Emergency Preparedness Program The licensee shall implement and maintain an emergency preparedness program.</p> <p>10.2 Fire Protection Program The licensee shall implement and maintain a fire protection program.</p>	<p>Titles added along with minor change to text.</p> <p>Licence conditions for Emergency Preparedness and Fire Protection Programs separated.</p>
<p>12. WASTE MANAGEMENT</p> <p>12.1 The licensee shall implement and maintain a waste management program.</p> <p>12.2 The licensee shall maintain a preliminary decommissioning plan for the facility.</p>	<p>11. WASTE MANAGEMENT</p> <p>11.1 Waste Management Program The licensee shall implement and maintain a waste management program.</p> <p>11.2 Decommissioning Plan The licensee shall maintain a decommissioning plan.</p>	<p>Titles added and minor changes to text.</p>
<p>12.3 The licensee shall maintain a financial guarantee acceptable to the Commission. The financial guarantee shall be reviewed and updated every five years or if there are material changes.</p>	<p>G.3 Financial Guarantee The licensee shall maintain a financial guarantee for decommissioning that is acceptable to the Commission.</p>	<p>Minor change to text.</p> <p>Five year requirement is specified in the LCH.</p>
<p>13. SECURITY</p> <p>13.1 The licensee shall implement and maintain a security program.</p>	<p>12. SECURITY</p> <p>12.1 Security Program The licensee shall implement and maintain a security</p>	<p>Title added.</p>

CURRENT LICENCE	PROPOSED LICENCE	RATIONAL OR COMMENTS
	program.	
<p>14. SAFEGUARDS AND NON-PROLIFERATION</p> <p>14.1 The licensee shall implement and maintain a safeguards and non-proliferation program.</p>	<p>13. SAFEGUARDS AND NON-PROLIFERATION</p> <p>13.1 Safeguards Program</p> <p>The licensee shall implement and maintain a safeguards program.</p>	Title added and minor change to text.
<p>15. PACKAGING AND TRANSPORT</p> <p>15.1 The licensee shall implement and maintain a packaging and transport program.</p>	<p>14. PACKAGING AND TRANSPORT</p> <p>14.1 Packaging and Transport Program</p> <p>The licensee shall implement and maintain a packaging and transport program.</p>	Title added.
Michael Binder, President on behalf of the Canadian Nuclear Safety Commission	Rumina Velshi, President on behalf of the Canadian Nuclear Safety Commission	New CNSC President.

PROPOSED LICENCE

e-Doc 6072249 (WORD)

e-Doc 6072253 (PDF)



DRAFT

**URANIUM MILL LICENCE
CAMECO CORPORATION
KEY LAKE OPERATION**

I) LICENCE NUMBER: UML-MILL-KEY.01/2023

II) LICENSEE: Pursuant to section 24 of the *Nuclear Safety and Control Act*, this licence is issued to:

**Cameco Corporation
2121 – 11th Street West
Saskatoon, Saskatchewan S7M 1J3
Corporate Number 332981-0**

III) LICENCE PERIOD:

This licence is valid from November 1, 2013 to October 31, 2023, unless otherwise suspended, amended, revoked or replaced.

IV) LICENSED ACTIVITIES:

This licence authorizes the licensee to:

- a) prepare a site for and construct, operate, modify and decommission a nuclear facility (hereinafter “the facility”) for the milling of uranium ore at a site known as the Key Lake Operation in the province of Saskatchewan as shown on the drawing referenced in appendix A to this licence;
- b) produce a uranium concentrate;
- c) possess, transfer, import, use, store, and dispose of nuclear substances; and
- d) possess, transfer, import, use prescribed equipment that is required for or associated with laboratory studies, field studies, fixed gauge usage and borehole logging devices in relation to (a) and (b).

V) EXPLANATORY NOTES:

- a) Nothing in this licence shall be construed to authorize non-compliance with any other applicable legal obligation or restriction.
- b) Unless otherwise provided for in this licence, words and expressions used in this licence have the same meaning as in the *Nuclear Safety and Control Act* and its associated Regulations.
- c) The UML-MILL-KEY.01/2023 Licence Conditions Handbook (LCH) identifies the criteria that will be used by Canadian Nuclear Safety Commission staff to assess the licensee's compliance with the conditions listed in this licence. The LCH also provides information regarding delegation of authority and applicable version control of documents comprising compliance verification criteria.

VI) CONDITIONS:

G. GENERAL

G.1 Licensing Basis for Licensed Activities

The licensee shall conduct the activities described in Part IV of this licence in accordance with the licensing basis, 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;

unless otherwise approved in writing by the Canadian Nuclear Safety Commission (hereinafter "the Commission").

G.2 Notification of Changes

The licensee shall give written notification of changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis.

G.3 Financial Guarantee

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

G.4 Public Information and Disclosure

The licensee shall implement and maintain a public information and disclosure program.

1. *MANAGEMENT SYSTEM*

1.1 Management System

The licensee shall implement and maintain a management system.

2. *HUMAN PERFORMANCE MANAGEMENT*

2.1 Training Program

The licensee shall implement and maintain a training program.

3. *OPERATING PERFORMANCE*

3.1 Operations Program

The licensee shall implement and maintain an operating program, which includes a set of operating limits.

3.2 Reporting Requirements

The licensee shall implement and maintain a program for reporting to the Commission or a person authorized by the Commission.

3.3 Nuclear Substances and Radiation Devices

The licensee shall implement and maintain a program for nuclear substances and radiation devices.

4. *SAFETY ANALYSIS*

4.1 Safety Analysis Program

The licensee shall implement and maintain a safety analysis program.

5. *PHYSICAL DESIGN*

5.1 Design Program

The licensee shall implement and maintain a design program.

6. *FITNESS FOR SERVICE*

6.1 Fitness for Service Program

The licensee shall implement and maintain a fitness for service program.

7. *RADIATION PROTECTION*

7.1 Radiation Protection Program

The licensee shall implement and maintain a radiation protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.

8. *CONVENTIONAL HEALTH AND SAFETY*

8.1 Conventional Health and Safety Program

The licensee shall implement and maintain a conventional health and safety program.

9. *ENVIRONMENTAL PROTECTION*

9.1 Environmental Protection Program

The licensee shall implement and maintain an environmental protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.

10. EMERGENCY MANAGEMENT AND FIRE PROTECTION

10.1 Emergency Preparedness Program

The licensee shall implement and maintain an emergency preparedness program.

10.2 Fire Protection Program

The licensee shall implement and maintain a fire protection program.

11. WASTE MANAGEMENT

11.1 Waste Management Program

The licensee shall implement and maintain a waste management program.

11.2 Decommissioning Plan

The licensee shall maintain a decommissioning plan.

12. SECURITY

12.1 Security Program

The licensee shall implement and maintain a security program.

13. SAFEGUARDS AND NON-PROLIFERATION

13.1 Safeguards Program

The licensee shall implement and maintain a safeguards program.

14. PACKAGING AND TRANSPORT

14.1 Packaging and Transport Program

The licensee shall implement and maintain a packaging and transport program.

SIGNED at OTTAWA, this _____ day of _____, 2020.

Rumina Velshi, President
on behalf of the Canadian Nuclear Safety Commission

APPENDIX A

LOCATION OF CAMECO'S OPERATION AT KEY LAKE

The location of the Cameco's operation at Key Lake is shown on Figure 5.1 Key Lake General Site Layout dated March 2020 (e-Doc 6266416).

DRAFT

DRAFT LICENCE CONDITIONS HANDBOOK

e-Doc 6072286 (WORD)

e-Doc 6072290 (PDF)



DRAFT

e-Doc 6072286 (Word)

e-Doc 6072290 (PDF)

LICENCE CONDITIONS HANDBOOK

LCH-MILL-KEY.01/2023

KEY LAKE OPERATION URANIUM MILL LICENCE

UML-MILL-KEY.01/2023

Revision 3



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Licence Conditions Handbook
LCH-MILL-KEY.01/2023, Revision 3

Effective: August 1, 2020

Key Lake Operation
Uranium Mill Licence
UML-MILL-KEY.01/2023
(Effective: October 29, 2013)

SIGNED at OTTAWA this 1st day of August 2020

Peter Fundarek, Director
Uranium Mines and Mills Division
Directorate of Nuclear Cycle and Facilities Regulation
CANADIAN NUCLEAR SAFETY COMMISSION

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Revision History:

Effective Date	Revision	Section(s) Changed	Description of the Changes	DCR e-Doc
January 23, 2014	0	N/A	Original Document	4123572 (Word) 4164906 (PDF)
December 15, 2014	1		<p>1 Changes made to reflect the CNSC July 16, 2014 Record of Proceedings regarding the Environmental Assessment Report for the Key Lake Extension Project as follows:</p> <ul style="list-style-type: none"> ▶ Part 2, section 2.4 changed to authorize annual production of 9.6 million kilograms of uranium, and to update the environmental assessment paragraph, and to remove flex production amounts. ▶ New e-DOC numbers added for minor revisions to LIC-001- Mining Facility Licensing Manual, LIC-004 - Waste Management Program, and LIC-005 - Environmental Protection Program. ▶ Added the 2013 Key Lake Extension Project Environmental Impact Statement to Appendix C.2 <p>2. In LCH Part II Changed each section with <i>Documents that Require Version Control to Written Notification Documents</i>, and replaced each table that followed with a bulleted list of document titles. The only place that the current version is identified is in <i>Appendix C.1 Documents That Require Notification Changes</i>. This simplifies the change management.</p> <p>3. Appendix D Table D.2 –removed redundant document titled “Site Selection Threat and Risk Assessment” – SRP-2.01-SP e-Doc 3250457.</p>	Changes listed in 4484618 (Word)
June 23, 2015	2	Part II introduction, 8.1 and 12.3	Minor wording changes to Part II, added Regulatory Guide G-218 to Section 8.1, updated financial guarantee in Section 12.3	4780314 (Word) 4780335 (PDF)
August 1, 2020	3	All	Licence and LCH modernization: new standard licence conditions and updated LCH text and format. Revised financial guarantee value.	6072286 (Word) 6072290 (PDF)

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PART I - INTRODUCTION

The 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 will maintain facility operations in accordance with the licence and the intent of the licensing basis. The LCH also provides information regarding delegation of authority, document version control and conflict resolution. The LCH should be read in conjunction with the licence.

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

The statement “a person authorized by the Commission” in the LCs or the LCH indicates that the Commission may delegate certain authority to CNSC staff. Unless otherwise specified, the delegation of authority by the Commission to act as a person authorized by the Commission (Delegated Officer) is only applied to incumbents in the following positions:

- Director, Uranium Mines and Mills Division
- Director General, Directorate of Nuclear Cycle and Facilities Regulation
- Executive Vice-President and Chief Regulatory Operations Officer, Regulatory Operations Branch

INTRODUCTION

PART II – FRAMEWORK FOR EACH CONDITION

G. GENERAL

G.1 Licensing Basis for Licensed Activities

The licensee shall conduct the activities described in Part IV of this licence in accordance with the licensing basis, 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;

unless otherwise approved in writing by the Canadian Nuclear Safety Commission (hereinafter “the Commission”).

Preamble

Licence condition G.1 requires activities (defined in Section IV of the Licence) be conducted in accordance with the licensing basis. Further information on the licensing basis is available in CNSC regulatory document, REGDOC-3.5.3 *Regulatory Fundamentals*.

The licensing basis, established by the Commission at the time the licence is issued, sets the boundary conditions for a regulated activity, and establishes the basis for the CNSC’s compliance program for that regulated activity.

Part (i) of licence condition G.1 includes, but is not limited to, the following:

- *Nuclear Safety and Control Act*
- *Uranium Mines and Mills Regulations*
- *Radiation Protection Regulations*
- *Packaging and Transport of Nuclear Substances Regulations, 2015*
- *Nuclear Substances and Radiation Devices Regulations*
- *Metal and Diamond Mining Effluent Regulations*
- Canada/International Atomic Energy Agency (IAEA) Safeguards Agreements

GENERAL

The safety and control measures mentioned under Parts (ii) and (iii) of licence condition G.1 have the potential to affect the health and safety of people, the environment, security or international obligations to which Canada agrees. These measures may be found in high-level programmatic documents but might also be found in lower-level supporting documentation. Safety and control measures can also be found in licensing basis publications such as CNSC REGDOCs, CSA Group standards or licensee documentation submitted in support of a licence.

The CNSC licence authorizes Cameco Corporation to conduct the following undertakings at the Key Lake Operation, for which the CNSC provides regulatory oversight:

- operation and changes to the mill and associated site infrastructure within the objective of the licensing basis to produce up to a nominal annual production of 9.6 million kilograms of uranium
- receipt, storage and processing of ore slurry and mineralized rock
- receipt, storage and processing of recycle products from the Blind River and Port Hope Conversion Facilities
- disposal of tailings in the Deilmann tailings management facility
- operation of the above ground tailings management facility
- operation of the dewatering and water management systems
- operation of the water treatment plants
- storage of clean and special waste rock
- disposal of contaminated wastes
- authorized decommissioning and reclamation
- handling and storage of hazardous materials and disposal of hazardous wastes
- possession, storage, transfer, importation, use and disposal of nuclear substances and radiation devices

Environmental assessments carried out since 1979 evaluated the environmental effects from refining ore from the Key Lake and McArthur River Operations, and in 2013, effects from increased tailings capacity and expansion of facilities for increased uranium production. Cameco is required to provide to the CNSC prior notification before processing other ore sources or increasing the annual production rates so that it can be verified that the proposed activities meet CNSC requirements and remain within the licensing basis.

Compliance Verification Criteria

Licensing Basis Documents

Licensing basis documents are listed in Appendix B and C in addition to tables 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 provided under the most relevant LC.

GENERAL

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

For operational activities that are not in accordance with the licensing basis, the licensee shall take action as soon as practicable to return to a state that is compliant with the licensing basis, taking into account the risk significance of the situation. Reporting requirements are outlined in REGDOC-3.1.2, *Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills* and discussed under LC 3.2 of this LCH.

Changes to documentation or activities that result in operational activities not being in accordance with the licensing basis must be approved by the Commission prior to implementation.

Guidance

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 the CNSC related to licensee changes are discussed under LC G.2.

G.2 Notification of Changes

The licensee shall give written notification of changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis.

Preamble

During the course of licensed activities, it is expected that the licensee may make changes to implement improvements or to address changes in operational needs. While making these changes, it is imperative the licensee remains within the bounds of the licensing basis.

Appendix B provides a list of licensee documents that require notification of change. CNSC staff track the current version of these licensee documents in a document separate from the LCH (e-Doc 5482913).

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Changes to the design, operating conditions, policies, programs and methods that have the potential to be outside of the licensing basis require prior written notification to the CNSC. CNSC staff will confirm the change remains within the licensing basis and notify the licensee prior to implementation of the change by the licensee. 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. Regular communication between the CNSC and the licensee should ensure review timelines are established prior to submission of prior written notification. It remains the responsibility of the licensee to ensure that the Key Lake Operation continues to operate within the bounds of the licensing basis.

Prior written notification shall include:

- a summary description of the change
- the rationale for the change
- expected duration (if not a permanent change)
- a summary explanation from the licensee supporting the conclusion that the change remains in accordance with the licensing basis

Ongoing regular communication shall be maintained between the CNSC and licensee.

Guidance

A list of criteria to determine if a change would be in accordance with the licensing basis is provided in Appendix A of CNSC process document *Overview of: Assessing licensee changes to documents or operations* (e-Doc 4055483).

GENERAL

G.3 Financial Guarantee

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

Preamble

The licensee is responsible for all costs of implementing the proposed decommissioning plan (see LC 11.2) and providing an appropriate financial guarantee that is acceptable to the Commission (see LC G.3).

Cameco Corporation maintains a financial guarantee to cover the future decommissioning of the Key Lake Operation, and the long term management of radioactive waste generated during operation and decommissioning. The latest revision of the preliminary decommissioning plan (PDP) and estimation of the cost of decommissioning were finalized in Cameco’s *Preliminary Decommissioning Plan & Preliminary Cost Estimate*, October 2019.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CSA Group	Decommissioning of facilities containing nuclear substances	N294-09

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Preliminary Decommissioning Plan	5609680	Yes
Cameco	Preliminary Decommissioning Cost Estimate	5609682	Yes

The financial guarantee for decommissioning the Key Lake Operation shall be reviewed and revised by the licensee every five years, or when requested by the Commission. A review should also be conducted following a revision of the Preliminary Decommissioning Plan or Preliminary Cost Estimate that significantly impacts the financial guarantee.

The next financial guarantee update is expected during the licence renewal in 2023.

GENERAL

The licensee shall submit annually to the Commission, a written report confirming that the financial instruments for decommissioning costs continue to meet the guidance specified in guidance document G-206, *Financial Guarantees for the Decommissioning of Licensed Activities*. The licensee shall submit this report by the end of March of each year, or at the request of the Commission.

Guidance

Guidance Publications

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

G.4 Public Information and Disclosure

The licensee shall implement and maintain a public information and disclosure program.

Preamble

The public information and disclosure program ensures that information related to the health and safety of persons and the environment and other issues associated with the lifecycle of the nuclear facility is effectively communicated to the public. In addition, the program shall include a commitment to and protocol for ongoing timely communications regarding emissions, effluent releases, unplanned events and other incidents and activities related to the licensed facility that may be of interest to the public.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Public Information and Disclosure	RD/GD-99.3

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Public Information Program	4276652	Yes

Guidance

There is no guidance provided for this licence condition.

GENERAL

1. MANAGEMENT SYSTEM

Licence Condition 1.1

The licensee shall implement and maintain a management system.

Preamble

The “management system” safety and control area covers the framework which establishes the processes and programs required to ensure an organization achieves its safety objectives, continuously monitors its performance against these objectives and fosters a healthy safety culture.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CSA Group	Management system requirements for nuclear facilities (except sections identified under other license conditions)	N286-12
CNSC	Safety Culture* (section 2)	REGDOC-2.1.2

* Elements relating to security culture will not be implemented until 2022.

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Quality Management Program	4276632	Yes

Guidance

Guidance Publications

Source	Document Title	Document Number
CNSC	Safety Culture (excluding section 2)	REGDOC-2.1.2

MANAGEMENT SYSTEM

2. HUMAN PERFORMANCE MANAGEMENT

Licence Condition 2.1

The licensee shall implement and maintain a training program.

Preamble

The “human performance management” safety and control area covers activities that enable effective human performance through the development and implementation of processes that ensure a sufficient number of licensee workers are in all relevant job areas and have the necessary knowledge, skills, procedures and tools in place to safely perform their duties.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Training Program	4276621	Yes

The human performance management program will be evaluated against the following principles:

- 2.1.1 A training system is implemented and maintained to ensure that training programs are systematically defined, designed, developed, implemented, evaluated, recorded and managed.
- 2.1.2 A training system is implemented and maintained to provide a logical progression from an analysis of the training requirements and identification of the qualifications and competencies required for performing a job, to the design, development, implementation, evaluation and management of training. This includes the respective training materials, and the subsequent evaluation and continuous improvement of the training courses and training programs.
- 2.1.3 All performance requirements of a capability, job or duty are identified by conducting a job analysis to determine all of the tasks, subtasks and task elements involved.
- 2.1.4 The necessary general worker training, initial job training and continuing training requirements for workers, based on a task analysis of the knowledge, skills, abilities and attitudes required to perform the duties of their position are defined and documented.

HUMAN PERFORMANCE MANAGEMENT

- 2.1.5 Appropriate training is designed, developed and implemented to meet the qualification and competency requirements.
- 2.1.6 Trainers meet and maintain documented qualification and competency requirements, particularly in the areas of subject matter expertise and instructional skills.
- 2.1.7 Formal evaluations confirm and document that each trained worker is qualified and competent to perform the duties of his or her position.
- 2.1.8 The change management process identifies required training and modifications to the training programs.
- 2.1.9 Continuing training that includes updates to training programs stemming from the change management process is provided to workers.
- 2.1.10 The results of periodic training program evaluations are incorporated into training program improvements.
- 2.1.11 Workers are trained in current procedures and in relevant system and equipment configurations and are competent to perform the duties of their position.
- 2.1.12 Workers training and qualifications records are established and maintained.
- 2.1.13 Workers have a level of training related to nuclear safety including but not limited to radiation safety, on-site emergency arrangements, conventional health and safety and environmental protection corresponding to the duties of their position and employment.

Guidance

There is no guidance provided for this licence condition.

3. OPERATING PERFORMANCE

Licence Condition 3.1

The licensee shall implement and maintain an operating program, which includes a set of operating limits.

Preamble

The “operating performance” safety and control area includes an overall review of the conduct of the licensed activities and the activities that enable effective performance.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CSA Group	Management system requirements for nuclear facilities	N286-12

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Quality Management Program	4276632	Yes
Cameco	Environmental Code of Practice (Appendix A of the Environmental Protection Program – Code of Practice)	4521449	Yes
Cameco	Radiation Code of Practice (Appendix 4 of Radiation Protection Program – Code of Practice)	4276568	Yes
Cameco	Waste Management Program	4521453	Yes
Cameco	Facilities Program	4276481	Yes

Guidance

There is no guidance provided for this licence condition.

OPERATING PERFORMANCE

Licence Condition 3.2

The licensee shall implement and maintain a program for reporting to the Commission or a person authorized by the Commission.

Preamble

This LC requires the licensee to implement and maintain a process for reporting information to the CNSC. This includes monitoring results, changes to facilities or approved activities, performance assessments and the occurrence of unusual events. Sections 29 and 30 of the *General Nuclear Safety and Control Regulations*, section 38 of the *Nuclear Substances and Radiation Devices Regulations* and section 16 of the *Radiation Protection Regulations* provides further insight into reportable events.

Compliance Verification Criteria

Licensing Basis Publications

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

The licensee shall report effluent concentrations that reach or exceed the discharge limits in the *Metal and Diamond Mining Effluent Regulations* in addition to requirements outlined in REGDOC-3.1.2.

The licensee shall submit to the CNSC within 90 days after the end of each quarter of a calendar year, the results of the:

- radiation monitoring program
- environmental monitoring program

Results from the above monitoring programs are also to include quality assurance and quality control information. More frequent reporting may be requested on a case-by-case basis.

The licensee shall issue worker radiation dose records within 90 days after the end of each quarter of a calendar year, to:

- the worker
- the CNSC
- the National Dose Registry (NDR)

The licensee shall submit to the CNSC an annual compliance report by March 31 of each year, covering the operation for the 12-month period from January 1 to December 31 of the previous year.

OPERATING PERFORMANCE

Guidance

Guidance Publications

Source	Document Title	CNSC e-Access Document Number
CNSC/SK	CNSC – Saskatchewan Harmonized Annual Reporting Requirements, August 2010	3678482

OPERATING PERFORMANCE

Licence Condition 3.3

The licensee shall implement and maintain a program for nuclear substances and radiation devices.

Preamble

Licensees must receive CNSC approval before the import, possession, use, storage, transfer, or disposal of nuclear substances and radiation devices.

The possession limits for unsealed nuclear substances does not apply to natural uranium and its decay products which originate in the mining or ore-treatment streams.

It is also important to note that there is no possession limit on the number of sealed nuclear sources or radiation devices.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Licence Application Guide Nuclear Substances and Devices (excluding section 2)	REGDOC-1.6.1

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Radiation Protection Program (Appendix 3 – Authorized Nuclear Substance List)	4271453	Yes

The authorized possession limits for unsealed nuclear substances are:

Nuclear Substance	Maximum Total Quantity in Possession
Americium-241	1 MBq
Barium-133	10 MBq
Lead-210	400 kBq
Polonium-208	10 kBq
Polonium-210	400 kBq
Radium-226	1 MBq
Thorium-228	5 MBq
Thorium-234	40 MBq

OPERATING PERFORMANCE

The maximum authorized quantity of nuclear substances per sealed source is:

Nuclear Substance	Maximum Quantity per Sealed Source
Americium-241	200 kBq
Bismuth-210	1 kBq
Cesium-137	370 GBq
Curium-244	7 kBq
Plutonium-239	7 kBq
Radium-226	20 kBq
Strontium-90	1 kBq
Technetium-99	1 kBq
Thorium-230	1 kBq
Thorium-232	1 kBq
Uranium-238	1 kBq

The authorized make and model of radiation devices and the maximum quantity of nuclear substance per each device are:

Radiation Device Make and Model	Nuclear Substance	Maximum Quantity per Radiation Device
Ronan Engineering - SA-1	Cesium-137	370 GBq
Ronan Engineering - SA-8	Cesium-137	19 GBq

Note: Includes provision for replacement sources for these radiation devices.

The management of nuclear substances and radiation devices will be evaluated against:

- 3.3.1 A radioisotope safety poster approved by the Commission or a person authorized by the Commission, which corresponds to the classification of the area, room or enclosure is posted, in a readily visible location in areas, rooms or enclosures where these listed nuclear substances are handled.
- 3.3.2 When in storage, radioactive nuclear substances or radiation devices are accessible only to persons authorized by the licensee; the dose rate at any occupied location outside the storage area, room or enclosure resulting from the substances or devices in storage does not exceed 2.5 mSv/h and measures are in place to ensure that the dose limits in the *Radiation Protection Regulations* are not exceeded as a result of the substances or devices in storage.

Guidance

There is no guidance provided for this licence condition.

OPERATING PERFORMANCE

4. SAFETY ANALYSIS

Licence Condition 4.1

The licensee shall implement and maintain a safety analysis program.

Preamble

The “safety analysis” safety and control area includes the systematic evaluation of the potential hazards associated with the proposed activity or facility and considers the effectiveness of preventative measures and strategies in reducing the effects of such hazards.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Environmental Protection Program	4521449	Yes
Cameco	Waste Management Program	4521453	Yes
Cameco	Occupational Health and Safety Program	4276580	Yes

The safety analysis program will be evaluated against the following principles:

- 4.1.1 A process has been implemented and maintained to identify, assess, and eliminate or control health and safety and environmental risks associated with existing and new processes or changes to work procedures, equipment, organizational structure, staffing, products, services and suppliers.
- 4.1.2 Risks to health, safety and the environment have been identified, assessed, eliminated or controlled for existing and new processes or for changes to work procedures, equipment, organizational structure, staffing, products, services and suppliers.
- 4.1.3 Appropriate methodologies are used to identify potential hazards and consider the effectiveness of preventative measures and strategies in reducing the effects of such hazards.
- 4.1.4 Modeling is regularly updated using measured values to replace important assumptions and to increase the certainty of predicted long-term behaviour of contaminants.

Job hazard assessments conducted when planning non-routine and complex work activities are discussed under operating performance.

SAFETY ANALYSIS

Guidance

There is no guidance provided for this licence condition.

5. PHYSICAL DESIGN

Licence Condition 5.1

The licensee shall implement and maintain a design program.

Preamble

The “physical design” safety and control area relates to activities that impact the ability of structures, systems and components to meet and maintain their design basis given new information arising over time and taking changes in the external environment into account.

The design basis is the range of conditions and events taken into account in the design of structures, systems and components of a facility according to established criteria, such that the facility can withstand them without exceeding authorized limits for the planned operation of safety systems.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Design of Uranium Mines and Mills: Ventilation Systems*	REGDOC-2.5.4
CSA Group	Management system requirements for nuclear facilities	N286-12

* Applicable when applying for a CNSC licence to prepare a site for and construct, operate or decommission a uranium mine or mill.

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Facilities Program	4276481	Yes
Cameco	Quality Management Program	4276632	Yes

Guidance

There is no guidance provided for this licence condition.

6. FITNESS FOR SERVICE

Licence Condition 6.1

The licensee shall implement and maintain a fitness for service program.

Preamble

The “fitness for service” safety and control area covers activities that impact the physical condition of structures, systems and components to ensure that they remain effective over time. This area includes programs that ensure equipment is available to perform its intended design function when called upon to do so.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CSA Group	Management system requirements for nuclear facilities	N286-12

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Maintenance Program	4276511	Yes

The fitness for service program will also be assessed against:

- 6.1.1 Systems, equipment, and devices are maintained in good working order such that they can perform their design function.
- 6.1.2 Instruments, controls and associated indicators are maintained operational and in calibration. Method and interval of calibrations are defined, and records of calibrations are kept.
- 6.1.3 Preventative and corrective maintenance processes and systems have been implemented and are maintained.
- 6.1.4 Regular inspection and testing of critical infrastructure and equipment are carried out.
- 6.1.5 A process has been implemented to identify, plan and schedule maintenance activities.

FITNESS FOR SERVICE

- 6.1.6 Maintenance, testing, surveillance and inspection backlogs are monitored and minimized.
- 6.1.7 Methods are used to show the current acceptance and operating status, and to prevent the use of systems, equipment or devices that are inaccurate, uncalibrated or not in working order.
- 6.1.8 When deviations beyond accuracy limits are found or suspected, their consequence on past results, and on present performance is evaluated.
- 6.1.9 A process exists to verify that changes to calibration, testing and maintenance requirements due to system and equipment modifications and replacements are implemented.

Guidance

There is no guidance provided for this licence condition.

7. RADIATION PROTECTION

Licence Condition 7.1

The licensee shall implement and maintain a radiation protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.

Preamble

The “radiation protection” safety and control area covers the implementation of a radiation protection program in accordance with the *Radiation Protection Regulations*. This program must ensure that contamination and radiation doses received are monitored, controlled, kept as low as reasonably achievable (ALARA), and social and economic factors are being taken into account.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Radiation Protection Program	4276568	Yes

The radiation protection (RP) program will be assessed against the following principles:

- 7.1.1 Radiological conditions are monitored and sources of internal and external radiation exposures are controlled. Access and work in radiological areas are controlled so that collective and individual radiation exposures are kept in accordance with the ALARA principle.
- 7.1.2 RP instrumentation and equipment are calibrated, maintained and used so that radiation levels are accurately determined. Uncalibrated equipment is removed from use.
- 7.1.3 The personal dosimetry program ensures that external and internal radiation doses to individuals are accurately determined and recorded.
- 7.1.4 Appropriate contamination control measures are implemented to control and minimize the contamination of areas, equipment and personnel.
- 7.1.5 Effective decontamination control measures are implemented to control and prevent the contamination of areas, equipment and personnel.

RADIATION PROTECTION

Action levels (AL) are designed to alert licensees before regulatory dose limits are reached. By definition, if an AL referred to in a licence is reached, a loss of control of some part of the associated RP program may have occurred and specific action is required, as defined in the *Radiation Protection Regulations*, the licence and the applicable code of practice.

Action Level	Dose (mSv)
Weekly Action Level	1
Quarterly Action Level	5

The weekly AL is assessed against official dosimetry results or engineering monitoring data. The quarterly AL is assessed against official dosimetry results. The licensee is expected to 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 should be provided to the CNSC.

Guidance

Guidance Publications

Source	Document Title	Document Number
CNSC	Measuring Airborne Radon Progeny at Uranium Mines and Mills	G-4
CNSC	Ascertaining and Recording Radiation Doses to Individuals	G-91
CNSC	Keeping Radiation Exposures and Doses "As Low As Reasonably Achievable (ALARA)"	G-129
CNSC	Preparing Codes of Practice to Control Radiation Doses at Uranium Mines and Mills	G-218
CNSC	Developing and Using Action Levels	G-228
CNSC	Technical and Quality Assurance Requirements for Dosimetry Services	S-106
CNSC	Making Changes to Dose-Related Information Filed with the National Dose Registry	S-260

8. CONVENTIONAL HEALTH AND SAFETY

Licence Condition 8.1

The licensee shall implement and maintain a conventional health and safety program.

Preamble

The “conventional health and safety” safety and control area covers the implementation of a program to manage workplace safety hazards and to protect personnel and equipment.

The regulation of non-radiological health and safety at uranium mines and mills is governed by the *Canada Labour Code Part II*, which is administered by Employment and Social Development Canada (ESDC). However, the *Saskatchewan Uranium Mines and Mills Exclusion Regulations* (SOR/2001-115) defer the regulation of occupational health and safety in Saskatchewan uranium mines and mills to the province of Saskatchewan in accordance with the requirements of *The Mines Regulations, 2018 Part II Revised Regulations of Saskatchewan*.

The CNSC also has regulatory responsibilities for the oversight of the protection of the health and safety of workers. The CNSC harmonizes the oversight of conventional health and safety with the Saskatchewan Ministry of Labour Relations and Workplace Safety.

Compliance Verification Criteria

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Notification Requirements
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Occupational Health and Safety Program	4276580	Yes

The conventional health and safety program will be assessed against the following principles:

- 8.1.1 Housekeeping standards have been identified and are enforced to ensure that work areas are kept clean and organized.
- 8.1.2 Facilities, processes and procedures have been implemented to ensure the safe management of hazardous materials.
- 8.1.3 Employees and contractors actively participate in the management of conventional health and safety.
- 8.1.4 Management verifies that employees and contractors actively participate in the management of health and safety in their workplace.
- 8.1.5 A process has been established and maintained to monitor, measure and record conventional health and safety performance and the effectiveness of the occupational health and safety program on a regular basis.

CONVENTIONAL HEALTH AND SAFETY

- 8.1.6 Routine inspections are performed by workers, supervisors, senior staff and/or safety professionals to identify any potential safety issues.
- 8.1.7 Processes and procedures are established and maintained to investigate accidents and incidents, to identify root causes, to implement corrective actions and to verify that corrective actions have been completed and will effectively prevent recurrence.
- 8.1.8 Procedures have been implemented and maintained for reporting work-related injuries, illnesses, fatalities and conventional health and safety incidents including near misses.
- 8.1.9 The causes of injuries are investigated, corrective actions implemented, and the effectiveness of corrective actions verified.
- 8.1.10 A preventative and corrective action procedure has been established and maintained to address non-conformances and inadequately controlled risks.

Guidance

There is no guidance provided for this licence condition.

9. ENVIRONMENTAL PROTECTION

Licence Condition 9.1

The licensee shall implement and maintain an environmental protection program, which includes a set of action levels. When the licensee becomes aware that an action level has been reached, the licensee shall notify the Commission within 24 hours.

Preamble

The “environmental protection” safety and control area covers programs that identify, control and monitor all releases of radioactive and hazardous substances and effects on the environment from facilities or as the result of licensed activities.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Environmental Protection: Environmental Protection Policies, Programs and Procedures	RD-2.9.1
CSA Group	Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills	N288.4-10
CSA Group	Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills	N288.5-11
CSA Group	Environmental risk assessments at Class I nuclear facilities and uranium mines and mills	N288.6-12
CSA Group	Groundwater protection programs at Class I nuclear facilities and uranium mines and mills	N288.7-15
CSA Group	Establishing and implementing action levels for releases to the environment from nuclear facilities	N288.8-17

ENVIRONMENTAL PROTECTION

Licence Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Environmental Protection Program	4521449	Yes
Cameco	Waste Management Program	4521453	Yes
Cameco	Key Lake Operation Environmental Performance Report 2010 to 2014	4906956	Yes

To ensure the applicable environmental protection measures have been established, implemented and maintained, the environmental protection program will also be assessed against:

- 9.1.1 Action levels specified in the environmental code of practice. When the licensee becomes aware that an action level has been triggered, the licensee shall notify the Commission within 24 hours and take specific action as defined in the *Uranium Mines and Mills Regulations* and the environmental code of practice.
- 9.1.2 The authorized release limits as specified below. When the licensee becomes aware that an authorized release limit has been reached or exceeded, the licensee shall immediately notify the Commission, investigate and take corrective action to ensure that the releases are maintained below the authorized release limits.

The authorized liquid effluent release limits until May 31, 2021 are:

Deleterious Substance	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic (mg/L)	0.50	0.75	1.00
Copper (mg/L)	0.30	0.45	0.60
Lead (mg/L)	0.20	0.30	0.40
Nickel (mg/L)	0.50	0.75	1.00
Zinc (mg/L)	0.50	0.75	1.00
Total Suspended Solids (mg/L)	15.00	22.50	30.00
Radium-226 (Bq/L)	0.37	0.74	1.11

Acid balance (as H ₃ O ⁺) reported as pH	In a range of 6.0 to 9.5
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Acutely Lethal Effluent	0%
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Note: In accordance with the *Metal and Diamond Mining Effluent Regulations*, these are the current limits for the Key Lake Operation until May 31, 2021.

ENVIRONMENTAL PROTECTION

The authorized liquid effluent release limits after May 31, 2021 are:

Deleterious Substance	Maximum Authorized Monthly Mean Concentration	Maximum Authorized Concentration in a Composite Sample	Maximum Authorized Concentration in a Grab Sample
Arsenic (mg/L)	0.30	0.45	0.60
Copper (mg/L)	0.30	0.45	0.60
Lead (mg/L)	0.10	0.15	0.20
Nickel (mg/L)	0.50	0.75	1.00
Zinc (mg/L)	0.50	0.75	1.00
Un-ionized ammonia (mg/L)	0.50	N/A	1.00
Total Suspended Solids (mg/L)	15.00	22.50	30.00
Radium-226 (Bq/L)	0.37	0.74	1.11
Acid balance (as H ₃ O ⁺) reported as pH	In a range of 6.0 to 9.5		
Acutely Lethal Effluent	0%		

Note: In accordance with the *Metal and Diamond Mining Effluent Regulations*, these limits will come into effect on June 1, 2021.

Notes:

- 1) Authorized release limits have been harmonized, where available, with those required under the *Metal and Diamond Mining Effluent Regulations* (MDMER).
- 2) Definition of Units: mg/L = milligrams per litre
Bq/L = becquerels per litre
- 3) All concentrations and activities are total values.
- 4) “Monthly mean concentration” means the average value of the concentrations measured in all composite or grab samples collected from the final discharge point during each month when liquid effluent is released.
- 5) “Composite sample” means:
 - i) a quantity of effluent consisting of not less than three equal volumes or three volumes proportionate to flow that have been collected at approximately equal time intervals over a period of not less than seven hours and not more than 24 hours; or
 - ii) a quantity of effluent collected continuously at a constant rate or at a rate proportionate to the rate of flow of the effluent over a sampling period of not less than seven hours and not more than 24 hours.
- 6) “Grab sample” means a quantity of undiluted effluent collected at any given time.
- 7) “Acutely lethal effluent” means an effluent at 100 percent concentration that kills more than 50 percent of the rainbow trout subjected to it over a 96-hour period when tested in accordance with the acute lethality test.

ENVIRONMENTAL PROTECTION

Guidance

Guidance Publications

Source	Document Title	Document Number
CSA Group	Environmental management systems – requirements with guidance for use	ISO 14001:2015

10. EMERGENCY MANAGEMENT AND FIRE PROTECTION

Licence Condition 10.1

The licensee shall implement and maintain an emergency preparedness program.

Preamble

The “emergency management and fire protection” safety and control area covers emergency plans and emergency preparedness programs which exist for emergencies and for non-routine conditions. It also includes any results of exercise participation.

Licenses are required to continually maintain and enhance their emergency management programs.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Nuclear Emergency Preparedness and Response, Volume 2*	REGDOC-2.10.1

* Off-site reporting timelines accepted by CNSC staff for Saskatchewan uranium mine and mill sites are described in January 30, 2020 letter from Cameco to the CNSC (L. Mooney to H. Tadros, e-doc 6109667).

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Emergency Preparedness and Response Program	4276606	Yes

The emergency management and fire protection program will be assessed against the following principles:

- 10.1.1 Potential emergency situations are identified.
- 10.1.2 Pre-incident plans for response to emergencies are developed and are maintained.
- 10.1.3 Resources, including facilities and equipment required to respond to emergencies are identified and maintained.
- 10.1.4 Emergency communication protocols are established and understood.
- 10.1.5 Organization and responsibilities are identified.

EMERGENCY MANAGEMENT AND FIRE PROTECTION

- 10.1.6 Workers are trained to fulfill duties and responsibilities with respect to emergency management and fire plans and procedures.
- 10.1.7 Procedures are implemented and maintained to prevent, prepare for, and respond to emergencies.
- 10.1.8 Response plans are periodically tested.

Guidance

There is no guidance provided for this licence condition.

Licence Condition 10.2

The licensee shall implement and maintain a fire protection program.

Preamble

Licenses are required to implement and maintain a fire protection program (a set of planned, coordinated, controlled and documented activities) to ensure that 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

Licence Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Fire Protection Program	4276659	Yes

Guidance

There is no guidance provided for this licence condition.

11. WASTE MANAGEMENT

Licence Condition 11.1

The licensee shall implement and maintain a waste management program.

Preamble

The “waste management” safety and control area covers internal waste-related programs that form part of the facility’s operations up to the point where the waste is removed from the facility to a separate waste management facility.

Waste management facilities at the Key Lake Operation include:

- Deilmann special waste pad
- Gaertner special waste pad
- Gaertner, Deilmann North, and Deilmann South waste rock piles
- ore/cobble ore and mineralized waste pads
- Gaertner Pond
- water treatment plants - dewatering collection, reverse osmosis treatment and discharge, contaminated water handling and storage, mill effluent treatment and discharge
- tailings preparation circuit and Deilmann tailings management facility
- above ground tailings management facility with contaminated waste disposal
- hazardous substance or waste dangerous goods storage facilities
- site run-off containment systems and ponds
- contaminated industrial waste storage
- storage and recycling facilities for hazardous wastes
- landfill for uncontaminated industrial and domestic waste
- domestic sewage treatment

WASTE MANAGEMENT

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CNSC	Waste Management, Volume II: Management of Uranium Mine Waste Rock and Mill Tailings*	REGDOC-2.11.1

* Applicable to new uranium mine or mill projects and/or of new waste management facilities at existing uranium mines and mills.

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Waste Management Program	4521453	Yes

The waste management program will be assessed against the following principles:

- 11.1.1 A radioactive waste management program is implemented to control and minimize the volume of radioactive waste.
- 11.1.2 The volume of waste is minimized by applying the “reduce, reuse, recycle and recover” principle.
- 11.1.3 Work is carried out in a manner that minimizes waste and prevents pollution.
- 11.1.4 Waste is stored or disposed of in the appropriate manner.
- 11.1.5 Wastes are managed in a manner that does not compromise reclamation or decommissioning plans.
- 11.1.6 The effectiveness of waste management practices is monitored, measured and recorded on a regular basis.
- 11.1.7 Routine inspections are performed to identify any potential waste management issues and to verify the condition of containment structures and waste management facilities.
- 11.1.8 The safety of embankments/dams is inspected and evaluated.
- 11.1.9 Records are kept of the quantities and types of waste generated and the method of disposal or management.
- 11.1.10 Wastes are managed to control the present and future releases of contaminants to the environment.
- 11.1.11 Surface water is managed to prevent or minimize the volume that is contaminated.

WASTE MANAGEMENT

Guidance

Guidance Publications

Source	Document Title	Document Number
Canadian Dam Association	Canadian Dam Association, Canadian Dam Safety Guidelines	N/A

Licence Condition 11.2

The licensee shall maintain a decommissioning plan.

Preamble

This LC requires that the licensee maintain a preliminary decommissioning plan (PDP).

A PDP 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 PDP defines areas to be decommissioned and the general structure and sequence of the principle work packages. The PDP forms the basis for establishing and maintaining a financial arrangement (financial guarantee) that will assure adequate funding of the decommissioning plan.

Compliance Verification Criteria

Licensing Basis Publications

Source	Document Title	Document Number
CSA Group	Decommissioning of facilities containing nuclear substances	N294-09

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Preliminary Decommissioning Plan	5609680	Yes
Cameco	Preliminary Decommissioning Cost Estimate	5609682	Yes

The PDP is to be revised at a minimum every five years or when required by the Commission; however, is to be kept current to reflect any changes in the site or nuclear facility. The Key Lake Operation PDP was last revised and submitted to the CNSC in 2019 and is next scheduled for submission to the CNSC in 2023, at which time it will be reviewed against the current version of the CSA Standard.

Guidance

Guidance Publications

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

12. SECURITY

Licence Condition 12.1

The licensee shall implement and maintain a security program.

Preamble

The “security” safety and control area covers the programs required to implement and support the security requirements stipulated in the regulations, the licence, orders, or expectations for the facility or activity.

Compliance Verification Criteria

Licence Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Security Program	4276686	Yes

The security program will be assessed against the following principles:

- 12.1.1 The security program addresses the risks identified in an industrial security threat and risk assessment.
- 12.1.2 Measures are implemented and maintained to prevent the loss of nuclear substances or prevent acts of sabotage at the facility.
- 12.1.3 Measures are taken to prevent unauthorized access to the mining facility and to areas within the facility where nuclear substances are stored.
- 12.1.4 The industrial security threat and risk assessment is periodically reviewed and updated.

Guidance

Guidance Publications

Source	Document Title	Document Number
CNSC	Security of Nuclear Substances: Sealed Sources	REGDOC-2.12.3

SECURITY

13. SAFEGUARDS AND NON-PROLIFERATION

Licence Condition 13.1

The licensee shall implement and maintain a safeguards program.

Preamble

The “safeguards and non-proliferation” safety and control area covers the programs and activities required for the successful implementation of the obligations arising from the Canada/International Atomic Energy Agency (IAEA) safeguards agreements, as well as all other measures arising from the *Treaty on the Non-Proliferation of Nuclear Weapons*.

Compliance Verification Criteria

Source	Document Title	Document Number
CNSC	Safeguards and Nuclear Material Accountancy	REGDOC-2.13.1

Licensee Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Security Program	4276686	Yes

The safeguards and non-proliferation program will be assessed against REGDOC-2.13.1, *Safeguards and Nuclear Material Accountancy*, and the following principles:

- 13.1.1 Reasonable services and assistance are provided to the IAEA to enable the IAEA to carry out its duties and functions.
- 13.1.2 Prompt access to all locations at the facility is granted to the IAEA at all reasonable times where such access is required for the purposes of carrying on an activity pursuant to a safeguards agreement. Health and safety services and escorts are provided as required in order to facilitate activities.
- 13.1.3 Records that must be kept or any reports that are required to be made under a safeguards agreement are disclosed to the CNSC and the IAEA.
- 13.1.4 Reasonable assistance is provided to the IAEA to enable sampling and removal or shipment of samples.
- 13.1.5 Reasonable assistance is provided to the IAEA to enable measurements, tests and removal or shipment of equipment.

SAFEGUARDS AND NON-PROLIFERATION

- 13.1.6 Measures are implemented to prevent damage to, or the theft, loss or sabotage of samples collected pursuant to a safeguards agreement or the illegal use, possession or removal of such samples.
- 13.1.7 Reports and information, that is required to facilitate Canada's compliance with any applicable safeguards agreement, is provided to the Commission.

Guidance

There is no guidance provided for this licence condition.

14. PACKAGING AND TRANSPORT

Licence Condition 14.1

The licensee shall implement and maintain a packaging and transport program.

Preamble

The “packaging and transport” safety and control area covers the safe packaging and transport of nuclear substances and radiation devices to and from the licensed facility.

Every person who transports radioactive material, or requires it to be transported, shall act in accordance with the requirements of the *Transportation of Dangerous Goods Regulations* and the *Packaging and the Transport of Nuclear Substances Regulations, 2015*.

The *Packaging and Transport of Nuclear Substances Regulations, 2015* and the *Transportation of Dangerous Goods Regulations* provides specific requirements for the design of transport packages, the packaging, marking and labeling of packages and the handling and transport of nuclear substances.

Compliance Verification Criteria

Licence Documents that Require Notification of Change

Source	Document Title	CNSC e-Access Document Number	Prior Notification Required
Cameco	Mining Facility Licensing Manual	4521378	Yes
Cameco	Transportation Program	4276641	Yes

The licensee shall implement and maintain a packaging and transport program that will ensure compliance with the requirements set out in the *Transportation of Dangerous Goods Regulations* and in the *Packaging and Transport of Nuclear Substances Regulations, 2015*.

Guidance

There is no guidance provided for this licence condition.

15. FACILITY SPECIFIC

There are no facility-specific licence conditions.

APPENDIX A CHANGE CONTROL PROCESS

A.1 Change Control Process

A change control process is applied to the LCH to ensure that:

- preparation and use of the LCH are properly controlled
- all referenced documents are correctly identified and maintained
- procedures for modifying the LCH are followed.

A request to change this LCH can be initiated by either CNSC staff or the licensee. The licensee will be consulted on any changes to the LCH that are proposed by CNSC staff.

CNSC staff will take the following steps to update the LCH:

1. the CNSC receives or initiates written notification of proposed change
2. initiate a change request using the Change Request Form
3. complete a technical review of the proposed change, if required
4. consult the licensee and in case of disagreement on the proposed change, the dispute resolution process outlined in section A.3 will apply
5. obtain consent and signature from a Delegated Officer
6. update the LCH in accordance with the Change Request Form and send the updated document to the parties identified on the distribution list (section A.5).

Change Request Form

1. GENERAL INFORMATION				
File Plan #		e-Doc #(s) for Change Request Form		
Licensee	Licence Number	LCH #, Rev/Version	Request Date	
Licensing Officer				
2. CHANGE(S) TO THE LCH				
#	Description and Purpose	Proposed Change	References	
1	<initiator, nature, reason for change, e.g. administrative, change to a licensee doc, etc.>	<identify modifications, such as by track changes, highlighting, etc.>	<LC, page, section #, etc.>	
2				
3. ASSESSMENT (text and/or e-Doc #s)				
#	Division/Org	Comment	Disposition	
1	<division>			
	<division>			
	<licensee>			
	<division>			
2	etc.			
4. CONSENT TO MODIFY				
#	Agreed	Comment		
1				
2				
Name		Title	Signature	Date
5. LCH DOCUMENTATION AND DISTRIBUTION				
New LCH Number		LCH Effective Date	e-Doc # (include version number)	
CNSC Outgoing Notification			e-Doc #	Date Sent

APPENDIX A

A.2 Review Criteria for Proposed Changes to Licensing Basis Documents

The licensee must provide the CNSC with written notification of a proposed significant change to key licensee documents before the licensee implements the change. The notification must be accompanied by sufficient information to demonstrate that the change is within the intent of the licensing basis. Written notification of minor or administrative changes may be made in batches after the changes have been implemented.

The following criteria will be used by CNSC staff to determine if the proposed change is acceptable:

1. The submission includes the appropriate level and quality of information with regards to:
 - a) The description of the proposed change including:
 - a summary of the change, including the purpose or need for the change
 - a preliminary finding of whether this proposal or notification is required under the NSCA, a regulation made under the Act or the licence, or has implications under the *Impact Assessment Act*, or whether a licence amendment or other licensing action would likely be required
 - where applicable, the alternatives evaluated and the reasons for selection of the chosen option
 - any changes to the inventories of nuclear substances on site related to the proposed change
 - the construction, commissioning and operating schedule for the proposed change including hold points or progress reports for regulatory review and approval (as appropriate)
 - expected impacts, if any, on the proposed decommissioning or closure plans
 - results of any risk analysis or hazard operability studies performed, and a summary of the identified hazards and the mitigation measures identified to control potential hazards
 - b) The description of the design control, operating specifications and criteria including:
 - the design basis and criteria, and performance specifications
 - the design drawings such as the general arrangement, process and instrumentation diagrams, and process flow sheets
 - the quality management program for the various key stages of the change (e.g., design, construction, commissioning, etc.)

- c) The assessment of both the short and long term impacts with the mitigation measures in place on:
 - worker’s health and safety, including potential radiological and non-radiological exposures
 - the environment
 - security
 - Canada’s international obligations
 - d) The planned administrative controls including:
 - changes to the organization, roles and responsibilities
 - changes to applicable programs and procedures
 - a description of the proposed monitoring, inspection and test plans, including locations and frequency proposed to evaluate both positive and negative results
 - e) Changes to contingency plans including “full-stop measures”
 - f) Evidence that the licensee’s internal reviews and approvals have been completed, including meeting the requirements of the licensee’s change management procedure and consultation with the onsite occupational health and environmental committees, where applicable
 - g) Identification of the documents and training programs that may require revision when the proposed change is implemented
2. The effects of the proposed change or action remain within the licensing basis.
 3. Following the implementation of the change the licensee will remain in compliance with the requirements set out in the applicable acts, regulations, and LCs.

A.3 Dispute Resolution

In case of a dispute between the licensee and CNSC staff regarding changes to the LCH, both parties will meet to discuss the dispute and reach a decision on the path forward. The decision, including its rationale will be documented. If any party is not satisfied with the decision, the resolution process will proceed up to the Director, Director General or Executive Vice-President and Chief Regulatory Operations Officer level. If any party is still not satisfied with the decision, the issue will be brought to the attention of the Commission at a Commission meeting. The decision made by the Commission will be final.

A.4 Records Management

In order to track changes to the LCH, the document change request and accompanying documentation will be archived in records and referenced in the revision history of the LCH. Electronic communication related to the change, such as comments from reviewers will be stored in the CNSC information management system.

APPENDIX A

A.5 Distribution

A copy of the updated version of the LCH will be distributed to the following parties:

- Uranium Mines and Mills Division, CNSC
- Cameco Corporation

A.6 Reporting to the Commission

CNSC staff will report on the changes made to the LCH during the previous year in their annual report to the Commission.

APPENDIX A

APPENDIX B LICENSEE DOCUMENTS THAT REQUIRE NOTIFICATION OF CHANGE

Document Title	e-Doc
Key Lake Operation Environmental Performance Report 2010 to 2014	4906956
Mining Facility Licensing Manual	4521378
Facilities Program	4276481
Maintenance Program	4276511
Environmental Protection Program	4521449
Waste Management Program	4521453
Radiation Protection Program	4276568
Occupational Health and Safety Program	4276580
Security Program	4276686
Emergency Preparedness and Response Program	4276606
Quality Management Program	4276632
Training Program	4276621
Public Information Program	4276652
Transportation Program	4276641
Fire Protection Program	4276659
Preliminary Decommissioning Plan	5609680
Preliminary Decommissioning Cost Estimate	5609682

APPENDIX B

APPENDIX C LIST OF DOCUMENTS USED AS GUIDANCE OR COMPLIANCE VERIFICATION CRITERIA

Document	Document Title	Document Number
Canadian Dam Association	Canadian Dam Association, Canadian Dam Safety Guidelines	N/A
CNSC	Change Control Process	19-318-07
CNSC	Measuring Airborne Radon Progeny at Uranium Mines and Mills	G-4
CNSC	Ascertaining and Recording Radiation Doses to Individuals	G-91
CNSC	Keeping Radiation Exposures and Doses "As Low As Reasonably Achievable (ALARA)"	G-129
CNSC	Financial Guarantees for the Decommissioning of Licensed Activities	G-206
CNSC	Preparing Codes of Practice to Control Radiation Doses at Uranium Mines and Mills	G-218
CNSC	Decommissioning Planning for Licensed Activities	G-219
CNSC	Developing and Using Action Levels	G-228
CNSC	Environmental Protection: Environmental Protection Policies, Programs and Procedures	RD-2.9.1
CNSC	Nuclear Emergency Preparedness and Response, Volume 2	REGDOC-2.10.1
CNSC	Safeguards and Nuclear Material Accountancy	REGDOC-2.13.1
CNSC	Public Information and Disclosure	RD/GD-99.3
CNSC	Licence Application Guide Nuclear Substances and Radiation Devices	REGDOC-1.6.1
CNSC	Safety Culture	REGDOC-2.1.2
CNSC	Design of Uranium Mines and Mills: Ventilation Systems	REGDOC-2.5.4
CNSC	Waste Management, Volume II: Management of Uranium Mine Waste Rock and Mill Tailings	REGDOC-2.11.1
CNSC	Security of Nuclear Substances: Sealed Sources	REGDOC-2.12.3
CNSC	Reporting Requirements, Volume I: Non-Power Reactor Class I Nuclear Facilities and Uranium Mines and Mills	REGDOC-3.1.2

APPENDIX C

Document	Document Title	Document Number
CNSC	Regulatory Fundamentals	REGDOC-3.5.3
CNSC	Technical and Quality Assurance Requirements for Dosimetry Services	S-106
CNSC	Making Changes to Dose-Related Information Filed with the National Dose Registry	S-260
CNSC/SK	CNSC – Saskatchewan Harmonized Annual Reporting Requirements, August 2010	e-Doc 3678482
CSA Group	Management system requirements for nuclear facilities	N286-12
CSA Group	Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills	N288.4-10
CSA Group	Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills	N288.5-11
CSA Group	Environmental risk assessments at Class I nuclear facilities and uranium mines and mills	N288.6-12
CSA Group	Groundwater protection programs at Class I nuclear facilities and uranium mines and mills	N288.7-15
CSA Group	Establishing and implementing action levels for releases to the environment from nuclear facilities	N288.8-17
CSA Group	Decommissioning of facilities containing nuclear substances	N294-09
CSA Group	Environmental management systems – requirements with guidance for use	ISO 14001:2015

Note: For CNSC documents, the most recent version of a referenced document shall be implemented following review and agreement between Cameco and the Canadian Nuclear Safety Commission.

APPENDIX C