



Record of Decision

DEC 23-H7

In the Matter of

Applicant Cameco Corporation

Subject Application to Renew the Uranium Mine and Mill
Licence for the Rabbit Lake Operation,
Saskatchewan

Public Hearing
Date June 7-8, 2023

Record of
Decision Date October 24, 2023

NOTICE :

This document was modified on February 26, 2024 to update reference links to CNSC documents and web pages that were moved as a result of an upgrade to the CNSC's web site.

RECORD OF DECISION – DEC 23-H7

Applicant: Cameco Corporation

Address/Location: 2121 – 11th Street West, Saskatoon, Saskatchewan, S7M 1J3

Purpose: Application to Renew the Uranium Mine and Mill Licence for the Rabbit Lake Operation, Saskatchewan

Application received: April 20, 2021, revised on November 4, 2022

Date of public hearing: June 7-8, 2023

Location: Hilton Garden Inn, 90 22nd Street E, Saskatoon, Saskatchewan, and virtually via Zoom

Members present: R. Velshi, President
T. Berube
V. Remenda

Registry Representatives: M. Bacon-Dussault
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Recording Secretary: C. Moreau

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Licence: Renewed

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1.0 INTRODUCTION

1. Cameco Corporation (Cameco) has applied to the Canadian Nuclear Safety Commission¹ (CNSC or the Commission), under subsection 24(2) of the [Nuclear Safety and Control Act](#)² (NSCA), for a 20-year renewal of the uranium mine and mill licence for its [Rabbit Lake Operation](#) (RLO). Cameco's current licence, UML-MINEMILL-RABBIT.01/2023, is valid until October 31, 2023. The licence authorizes Cameco to operate, modify and decommission a nuclear facility for the mining and milling of uranium ore. The RLO is located in the northern region of the province of Saskatchewan, approximately 750 km north of Saskatoon, Saskatchewan. The RLO is situated within Treaty 10 (1906) territory and the Homeland of the Métis, and is within the traditional territories of the Denesūliné, Cree, and Métis peoples.
2. The RLO site includes:
 - the Eagle Point underground mine and the Rabbit Lake mill, which have been in a state of care and maintenance since 2016
 - the Rabbit Lake in-pit tailings management facility
 - an above-ground tailings management facility which has not received tailings since 1985
3. Cameco's [initial licence renewal application](#) for the RLO was for an indefinite licence period. Subsequently, Cameco [revised its application](#) to request a 20-year period, with no changes to the current licensed activities. Cameco submitted concurrent applications for its [McArthur River Operation](#) and [Key Lake Operation](#) sites. These applications are dealt with in separate [Records of Decision](#).

Issues

4. The Commission is required to determine whether and what requirements the [Impact Assessment Act](#)³ (IAA) imposes in relation to the activities sought to be authorized in Cameco's application to renew the licence for the RLO uranium mine and mill. Satisfying any such requirements can be a prerequisite to licensing.
5. Pursuant to paragraphs 24(4)(a) and (b) of the NSCA, the Commission must be satisfied that:
 - a) Cameco is qualified to carry on the activity that the licence would authorize; and
 - b) in carrying on that activity, Cameco will make adequate provision for the protection of the environment, the health and safety of persons and the

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

² S.C. 1997, c. 9.

³ S.C. 2019, c. 28, s. 1.

maintenance of national security and measures required to implement international obligations to which Canada has agreed.

6. As an agent of the Crown, the Commission recognizes its role in fulfilling the Crown's constitutional obligations, along with advancing reconciliation with Canada's Indigenous peoples. The Commission's responsibilities include the duty to consult and, where appropriate, accommodate Indigenous interests where the Crown contemplates conduct which may adversely impact potential or established Aboriginal⁴ or treaty rights⁵. As such, the Commission must determine what engagement and consultation steps and accommodation measures are called for respecting Indigenous interests.

Public Hearing

7. On September 20, 2022, the Commission published a [Notice of Public Hearing and Participant Funding](#) for this matter. The Commission subsequently published a [Revised Notice of Public Hearing](#) on December 2, 2022 to announce the location of the hearing and to reflect a change in Cameco's application requesting that the licence for the RLO be renewed for a period of 20 years instead of an indefinite period.
8. Pursuant to section 22 of the NSCA, the President of the Commission established a Panel of the Commission over which she would preside, including Commission Members Dr. T. Berube and Dr. V. Remenda, to decide on the application. The Commission, in making its decision, considered all the information submitted for a public hearing held on June 7 and 8, 2023.⁶ The public hearing was conducted in accordance with the [Canadian Nuclear Safety Commission Rules of Procedure](#)⁷ (the Rules). During the public hearing, the Commission considered written submissions and heard oral presentations from Cameco ([CMD 23-H7.1](#), [CMD 23-H7.1A](#) and [CMD 23-H7.1B](#)) and CNSC staff ([CMD 23-H7](#), [CMD 23-H7.A](#), [CMD 23-H7.B](#) and [CMD 23-H7.C](#)). The Commission also considered oral and written submissions from 33 intervenors (see Appendix A for a list of interventions). The hearing was webcasted live via the CNSC website, and [video archives](#) are available on the CNSC's website.
9. Pursuant to section 12 of the *Rules*, Cameco requested that the Commission take measures to protect information in the following documents: the Preliminary

⁴ "Aboriginal" is the term used in this document when referring to the Crown's duty to consult as that is the term used in s. 35 of the *Constitution Act, 1982*. In all other cases, "Indigenous" is the preferred terminology and used accordingly.

⁵ *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73; *Taku River Tlingit First Nation v. British Columbia (Project Assessment Director)*, 2004 SCC 74.

⁶ The Commission initially decided to hold two public hearings for the three applications by Cameco Corporation: one hearing on the application to renew the uranium mine and mill licence for the Rabbit Lake Operation and another hearing on the applications to renew the uranium mine operating licence for the McArthur River Operation and the uranium mill operating licence for the Key Lake Operation. After reviewing the requests to intervene, it was decided to hear all three applications during the same public hearing as most interventions were identical for both proceedings and raised similar issues for all three applications.

⁷ SOR/2000-211.

Decommissioning Plan for RLO, the Preliminary Decommissioning Cost Estimate for RLO, the RLO Environmental Risk Assessment and the RLO Human Health and Ecological Risk Assessment. Cameco submitted that the information contained in these documents was of confidential financial, commercial, scientific, technical or personal nature. Cameco also provided non-confidential summary information related to these documents. The Commission considered Cameco's request for confidentiality and decided that the information will not be made public for the Commission hearing, pursuant to subrule 12(3) of the *Rules*.

Participant Funding Program

10. Pursuant to paragraph 21(1)(b.1) of the NSCA, the Commission has established a [Participant Funding Program](#) (PFP) to facilitate the participation of Indigenous Nations and communities, members of the public and interested parties in Commission proceedings. In [September 2022](#), up to \$75,000 in funding was made available through the CNSC's PFP to review Cameco's licence renewal application and associated documents, and to provide the Commission with value-added information through topic-specific interventions. A Funding Review Committee (FRC), independent of the CNSC, reviewed the funding applications received and [made recommendations on the allocation of funds](#). Based on the recommendations from the FRC, the CNSC awarded a total of \$117,235.70 to 6 applicants⁸:

- Birch Narrows Dene Nation – up to \$16,239.30
- Ya'thi Néné Lands and Resources Office – up to \$39,765
- Canadian Environmental Law Association – up to \$6,500
- Kineepik Métis Local #9 – up to \$12,750
- English River First Nation – up to \$22,356.40
- Métis Nation Saskatchewan – up to \$19,625

2.0 DECISION

11. Based on its consideration of the matter, as described in more detail in the following sections of this *Record of Decision*, the Commission concludes the following:
- the [Impact Assessment Act](#) does not impose any obligation upon the Commission in this matter
 - the contemplated activities do not present any novel adverse impact on any potential or established Aboriginal claim or right
 - the Commission's responsibility to uphold the honour of the Crown and its constitutional obligations with regard to engagement and consultation respecting Indigenous interests have been satisfied
 - Cameco is qualified to carry on the activity that the licence will authorize

⁸ Based on the value-added nature of the funding applications, the FCR was given flexibility to recommend funding beyond the \$75,000 allocated.

- Cameco, in carrying on these activities, will make adequate provision for the protection of the environment, the health and safety of persons and the maintenance of national security and measures required to implement international obligations to which Canada has agreed

Therefore,

the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, renews the uranium mine and mill licence issued to Cameco Corporation for its Rabbit Lake Operation located in Northern Saskatchewan. The renewed licence, UML-MINEMILL-RABBIT.00/2038, is valid from November 1, 2023 to October 31, 2038, unless suspended, amended, revoked or replaced.

12. Regarding the licensing period, the Commission acknowledges the strong public interest in this hearing and the importance of providing regular opportunities for members of the public and Indigenous Nations and communities to voice their perspectives and concerns directly to the decision maker. The Commission also acknowledges that the RLO site is currently under a care and maintenance state, with a potential to return to operations in the future. Therefore, the Commission finds that a 15-year licence, with a comprehensive update to the Commission at the mid-point of the licence period, is appropriate.
13. The Commission includes in the licence the conditions as recommended by CNSC staff in Part 2 of [CMD 23-H7](#). The Commission delegates authority to CNSC staff with respect to the administration of licence condition 3.2 (Reporting Requirements) and licence condition 15.1 (Commissioning Report), as recommended by CNSC staff in section 5.6 of [CMD 23-H7](#). Licence conditions and the delegation of authority are further discussed in section 4.5 of this *Record of Decision*.
14. With this decision, the Commission directs CNSC staff to report on the performance of Cameco and the RLO as part of the periodic *Regulatory Oversight Report - Uranium Mines and Mills*. CNSC staff will present these reports at public proceedings of the Commission, where members of the public and Indigenous Nations and communities will be able to participate. The Commission directs CNSC staff to inform the Commission, as part of the *Regulatory Oversight Report*, of any changes made to the Licence Conditions Handbook. CNSC staff may bring any matter to the Commission's attention, at any time, as required.
15. The Commission further directs that Cameco provide a comprehensive review and update to the Commission on the conduct of its licensed activities at the RLO at the mid-point of the licence period, i.e., in 2030. The update will also include information on the Environmental Risk Assessment (ERA), Preliminary Decommissioning Plan (PDP), Environmental Performance Report (EPR), and the impact of climate change on the licenced activities. This update will be made at a public proceeding to be conducted in the community in proximity to the RLO and will allow for the participation, both orally and in writing, of members of the public and Indigenous Nations and

communities. For this update, CNSC staff will provide information respecting Cameco's performance during the licence period across all Safety and Control Areas (SCAs), consolidating relevant information from the *Regulatory Oversight Reports*, as well as a status update on the Environmental Protection Review Report (EPRR) and matters of regulatory importance to the Commission and to the community. The Commission intends that these public meetings will allow a meaningful opportunity to hear and discuss the views of members of the public and Indigenous Nations and communities.

3.0 APPLICABILITY OF THE *IMPACT ASSESSMENT ACT*

16. In coming to its decision, the Commission was first required to determine whether any requirement under the *Impact Assessment Act* (IAA) applied to the licence renewal application and whether an impact assessment was required.
17. Pursuant to the IAA and the [*Physical Activities Regulations*](#)⁹ made under it, impact assessments are to be conducted in respect of projects identified as having the greatest potential for adverse environmental effects in areas of federal jurisdiction. A licence renewal is not a project designated under the *Physical Activities Regulations*.
18. The Commission is satisfied that there is no requirement under the IAA¹⁰ for an impact assessment to be completed in order to renew this licence. The Commission is also satisfied that there are no other applicable requirements of the IAA to be addressed in this matter.¹¹ The Commission notes that the NSCA provides a strong regulatory framework for environmental protection and the health and safety of persons. Environmental protection is further discussed in section 4.2.9 of this *Record of Decision*.

4.0 ISSUES AND COMMISSION FINDINGS

19. In making its licensing decision, the Commission considered specific relevant issues and submissions relating to Cameco's qualification to carry on the licensed activities. The Commission also considered the adequacy of the proposed measures for protecting the environment, the health and safety of persons, national security and international obligations to which Canada has agreed.

⁹ SOR/2019-285.

¹⁰ On [October 13, 2023](#), the Supreme Court of Canada ruled on the constitutionality of the IAA (Reference re *Impact Assessment Act*, 2023 SCC 23). Since the RLO licence renewal application does not impose any requirements under the IAA, the Supreme Court of Canada's decision does not impact the Commission's decision discussed in this *Record of Decision*.

¹¹ The IAA can impose other requirements on federal authorities in respect of authorizing projects that are not designated as requiring an impact assessment, including projects that are to be carried out on federal lands, or projects outside of Canada. This licence renewal does not engage any such applicable IAA requirements.

20. The Commission's decision focuses in particular on the issues most relevant for this application, specifically:

- Assessment of the licence application
- Assessment of Cameco's safety and control measures for the RLO, including Cameco's performance in all [SCAs](#) over the past licence period
- Indigenous engagement and consultation
- Other matters of regulatory importance
- Licence length and conditions, including the delegation of authority

4.1 Assessment of Licence Application

21. Cameco submitted its licence renewal application on [April 20, 2021](#) followed by a revised application on [November 4, 2022](#). In its consideration of this matter, the Commission examined the completeness of the application and the adequacy of the information submitted by Cameco, as required by the NSCA, the [General Nuclear Safety and Control Regulations](#) (GNSCR),¹² and the [Uranium Mines and Mills Regulations](#) (UMMR),¹³ and other applicable regulations made under the NSCA, including the [Radiation Protection Regulations](#),¹⁴ the [Nuclear Security Regulations](#),¹⁵ and the [Packaging and Transport of Nuclear Substances Regulations, 2015](#).¹⁶

22. The GNSCR call on an applicant for a licence renewal to provide information regarding any changes in information to the CNSC as part of its application. Section 5 provides:

An application for the renewal of a licence shall contain

- (a) the information required to be contained in an application for that licence by the applicable regulations made under the Act; and
- (b) a statement identifying the changes in the information that was previously submitted.

Section 7 of the GSNCR provides that:

An application for a licence or for the renewal, suspension in whole or in part, amendment, revocation or replacement of a licence may incorporate by reference any information that is included in a valid, expired or revoked licence.

Additionally, sections 3 and 6 of the UMMR specify the application information required in respect of an operating licence in respect of a uranium mine and mill.

¹² SOR/2000-202.

¹³ SOR/2000-206.

¹⁴ SOR/2000-203.

¹⁵ SOR/2000-209.

¹⁶ SOR/2015-145.

23. In its application and further described in its CMD ([CMD 23-H7.1](#)), Cameco provided information to satisfy the requirements set out in each applicable clause of the NSCA and applicable regulations. As detailed in Appendix B.2 of [CMD 23-H7](#), CNSC staff stated that Cameco's application complies with regulatory requirements.
24. Based on the information presented on record, the Commission concludes that Cameco's licence renewal application is sufficient and complies with the regulatory requirements respecting an application for licence renewal set out in the GNSCR and the UMMR. Cameco's application and supporting documents identify how Cameco will meet regulatory requirements and CNSC staff's assessment demonstrates to the Commission's satisfaction how Cameco has adequately addressed the licence renewal application requirements.

4.2 Assessment of Cameco's Safety and Control Measures for the Rabbit Lake Operation

25. The Commission examined Cameco's safety and control measures for the RLO for the purpose of evaluating Cameco's licence renewal application. This evaluation includes consideration of CNSC staff's assessment Cameco's performance with respect to the CNSC's SCA framework. CNSC staff submitted information on Cameco's performance in all 14 SCAs. CNSC staff reported that Cameco has implemented and maintained programs as required by its licence, and that Cameco's performance in all SCAs remained "satisfactory" during the current licence period. CNSC staff based its conclusions on oversight activities which included compliance inspections, document reviews, and technical assessments.

4.2.1 Management System

26. The management system SCA covers the framework that establishes the processes and programs required to ensure that Cameco achieves its safety objectives, continuously monitors its performance against these objectives, and fosters a healthy safety culture. Subparagraph 3(b)(v) of the UMMR states that an application for a licence to operate a uranium mine or mill shall contain "the proposed management system for the activity, including measures to promote and support safety culture." Section 3 of the GNSCR contains requirements that form the basis of a management system.
27. CNSC regulatory document¹⁷ [REGDOC-2.1.1, Management System](#),¹⁸ addresses the development and implementation of sound management practices and controls, while

¹⁷ [REGDOCs](#) play a key role in the CNSC's regulatory framework. They explain to licensees and applicants what they must achieve in order to meet the requirements set out in the NSCA and the regulations made under the NSCA. When included in the licensing basis, REGDOC requirements are mandatory and must be met to obtain or renew a licence or to operate a nuclear facility.

¹⁸ REGDOC-2.1.1, *Management System*, CNSC, May 2019.

[REGDOC-2.1.2, *Safety Culture*](#)¹⁹ sets out requirements and guidance for fostering a healthy safety culture and conducting safety culture assessments. The Canadian Standards Association (CSA) Group standard CSA N286-12, *Management System Requirements for Nuclear Facilities*²⁰ provides an overall management framework and direction to develop and implement sound management practices and controls for the licensing basis.

28. In section 3.2 of CMD 23-H7.1, Cameco described its management system and provided information on how it ensures that licensed activities are conducted safely at the RLO. Cameco explained that its RLO management system is comprised of 14 programs and two codes of practice, along with supporting procedures, work instructions and forms. Cameco reported its commitment to maintaining and improving its management system in accordance with regulatory requirements. In section 3.9 of CMD 23-H7.1, Cameco reported that it conducts periodic safety culture assessments in accordance with REGDOC-2.1.2, to improve and strengthen safety culture at the RLO.
29. Cameco noted that its management system programs also include incident and contractor management. Cameco explained that it records incidents occurring at RLO through the Cameco Incident Reporting System (CIRS) and addresses them through its nonconformance and corrective action process. Cameco added that incidents recorded through CIRS are distributed throughout the company to share experience and facilitate collective improvement. Cameco also submitted that the volume of events reported are indicative of a strong reporting culture at RLO, while overall reporting since 2016 reflects the care and maintenance status of the operation (e.g., a maximum of 1504 events in 2015 down to 276 events in 2021).
30. In section 3.1 of CMD 23-H7, CNSC staff submitted that Cameco has implemented a management system that meets regulatory requirements, in accordance with CSA N286-12 and REGDOC-2.1.2. CNSC staff further submitted that it monitors implementation of the management system at the RLO through desktop reviews and planned compliance verification inspection activities. CNSC staff noted that, throughout the licence period, it verified the following areas:
 - maintenance
 - calibration
 - problem identification and resolution
 - change and design control
 - document and record control
 - internal audit program
 - annual management reviews

¹⁹ REGDOC-2.1.2, *Safety Culture*, CNSC, April 2018.

²⁰ CSA N286-12, *Management System Requirements for Nuclear Facilities*, CSA Group, 2012.

31. CNSC staff reported that, during the current licence period, it conducted 1 focused management system inspection and 8 general inspections that included management system criteria. CNSC staff noted that all inspection findings in this SCA over the licence period were of low safety significance.
32. CNSC staff noted that REGDOC-2.1.2 was added to the RLO licence conditions handbook, with full implementation by Cameco in June 2022. CNSC staff stated that it would verify Cameco's implementation of REGDOC-2.1.2 as part of ongoing compliance activities.
33. In relation to the intervention from PBN Construction ([CMD 23-H7.19](#)), the Commission enquired how Cameco ensures that a contractor's safety culture is aligned with its own. A Cameco representative responded that Cameco's management system includes a contractor management program that details Cameco's safety expectations. The Cameco representative explained that Cameco expects the same standards out of contractors as its own employees and noted that Cameco's oversight of contractors includes activities such as training confirmation.
34. Based on the information on record as described above, the Commission concludes that Cameco has the appropriate organization and management system in place to carry on the licensed activities. The Commission finds that:
 - Cameco has acceptable programs in place to ensure that it achieves its safety objectives and fosters a healthy safety culture at the RLO
 - Cameco has implemented and maintained a management system to operate the facility, and that the management system meets the requirements of CSA N286-12
 - Cameco has made a continued commitment to maintaining and improving its management system in accordance with regulatory requirements
 - Cameco has an acceptable safety culture and a process in place to monitor safety culture in the organization through different avenues, such as safety culture self assessments, in accordance with REGDOC-2.1.2

4.2.2 *Human Performance Management*

35. Human performance management encompasses activities to ensure that Cameco workers are sufficient in number in all relevant job areas, and have the necessary knowledge, skills, procedures, and tools in place to safely carry out their duties.
36. Paragraphs 12(1)(a) and 12(1)(b) of the GNSCR establish requirements for a licensee to have sufficient qualified workers and to train workers to carry on the licensed activity in accordance with the NSCA, its regulations and the licence. Paragraphs 3(d), 10(b), and section 15 of the UMMR also establish requirements with respect to a licensee's training program. [REGDOC-2.2.2, Personnel Training, Version 2](#)²¹ sets out

²¹ REGDOC-2.2.2, *Performance Training*, Version 2, CNSC, December 2016.

requirements and guidance for the analysis, design, development, implementation, evaluation, documentation and management of training at nuclear facilities within Canada, including the essential principles and elements of an effective training system.

37. In section 3.3 of CMD 23-H7.1, Cameco submitted information on its human performance programs, including details on its training development program. Cameco submitted that, in accordance with the requirements of REGDOC-2.2.2, it has implemented a systematic approach to training (SAT) to ensure that workers are competent based on appropriate education, skills, experience, and behaviours. Cameco also noted its focus on standardizing training across the company, which helped the RLO transition from production to care and maintenance with minimal safety and radiation incidents.
38. In section 3.2 of CMD 23-H7, CNSC staff submitted that Cameco has implemented and maintained a SAT-based training program that satisfies regulatory requirements, including the requirements set out in REGDOC-2.2.2. CNSC staff added that Cameco met its regulatory requirements respecting the implementation of a satisfactory human performance management program at the RLO.
39. CNSC staff reported that, during the licence period, it conducted 1 focused inspection and 4 general inspections to verify the implementation and effectiveness of Cameco's training program, including the SAT, as well as worker training and qualification. CNSC staff noted that all inspection findings were of low-risk significance.
40. The Commission enquired about the staff reductions at the RLO since 2017, after the RLO transitioned to care and maintenance and its mine and mill operations stopped. A Cameco representative responded that the number of staff reflected the transition of the RLO into a safe state of care and maintenance, when the mine and mill operations stopped. The Cameco representative also noted that, from 2017 to 2022, the baseline numbers reduced due to attrition as well as the reduction in work activities. CNSC staff noted that, although staffing numbers were reduced, Cameco has been cross-training employees to ensure that core operations are covered and the licensee has been bringing in trained personnel from other Cameco sites on an as-needed basis. CNSC staff informed the Commission that it did not observe any impact on safety or emergency response at the RLO site due to the staffing reduction.
41. Based on the information on record as described above, the Commission concludes that Cameco has adequate measures in place to manage human performance for the conduct of licensed activities at the RLO. The Commission finds that:
 - Cameco's employees are appropriately trained and qualified to carry on the licensed activities
 - Cameco has a SAT-based training program in place that meets regulatory requirements, including REGDOC-2.2.2
 - Cameco has implemented and maintained a satisfactory human performance management program

4.2.3 Operating Performance

42. Operating performance includes an overall review of the conduct of the licensed activities and the activities that enable effective performance at the RLO, as well as improvement plans and significant future activities.
43. Paragraphs 6(1)(c) and 6(2)(c) of the UMMR provide that an application for a licence to operate a uranium mine or mill must include information on the proposed measures, policies, methods and procedures for operating and maintaining the mine. Paragraph 6(1)(d) of the UMMR requires that an application to operate a uranium mine contain the proposed methods for handling, storing, loading and transporting nuclear substances and hazardous substances. Paragraph 6(2)(d) of the UMMR requires that an application to operate a uranium mill contain the proposed methods for handling, storing, and loading concentrates and uranium-bearing material, both solid and liquid. Additionally, [REGDOC-3.1.2, Reporting Requirements, Volume I: Non-Power Reactor Class I Facilities and Uranium Mines and Mills, Version 1.1](#)²² sets out requirements and guidance for reports and notifications that licensees of uranium mines and mills must submit to the CNSC.
44. In section 3.4 of CMD 23-H7.1, Cameco provided information on the processes it has implemented and how it ensures that licensed activities are conducted safely at the RLO. Cameco submitted information about its management of operating limits, that must meet the requirements of the RLO *Radiation Code of Practice and Environmental Code of Practice*, as well as its *Rabbit Lake Eagle Point Mine Program* and *Rabbit Lake Mill Operations Program*.
45. Cameco submitted that, during the current licence, the RLO produced uranium concentrate from milling of the Eagle Point mine from 2013 to 2016. Cameco noted that in April 2016, it suspended production at RLO due to uranium market conditions, and it transitioned the RLO to a safe state of care and maintenance. Cameco submitted that there is no decision to resume production at the RLO until market conditions improve. Cameco further submitted that, should the decision to transition the operation back to production be made, it would utilize experience gained from previously transitioning RLO as well as the recent transitions back to operations at the Key Lake Operation and McArthur River Operation.
46. In section 3.3 of CMD 23-H7, CNSC staff submitted that Cameco has operated the RLO in compliance with CNSC regulatory requirements. CNSC staff reported that, during the current licence period, it conducted 15 general inspections and 1 focused inspection related to the operating performance SCA. CNSC staff noted that Cameco implemented appropriate corrective actions in a timely manner.
47. CNSC staff further submitted that, for reportable events, Cameco submitted detailed reports in accordance with REGDOC-3.1.2. CNSC staff noted that it reviewed all

²² REGDOC-3.1.2, *Reporting Requirements, Volume I: Non-Power Reactor Class I Facilities and Uranium Mines and Mills*, Version 1.1, CNSC, July 2022.

reported events and reported significant events at public meetings of the Commission with details on each in the *Regulatory Oversight Report - Uranium Mines and Mills* for the year in which the event occurred. CNSC staff added that Cameco proactively disclosed reportable events in accordance with CNSC's [REGDOC-3.2.1, Public Information and Disclosure](#).²³ CNSC staff found that Cameco conducted investigations into the reported events to determine probable causes and took the necessary corrective actions to prevent reoccurrences.

48. In section 5.5 of CMD 23-H7, CNSC staff submitted that a return to production of the RLO would require commissioning reports and assessments by Cameco to clearly demonstrate that it has ensured safety through the transition back to operations. Further information on changes to operation can be found in section 4.5.1, *Licence Period*.
49. Based on the information on record as described above, the Commission concludes that Cameco has appropriate programs and measures in place to conduct the licensed activities at the RLO in a manner that will adequately provide for the protection of the health and safety of persons and the environment. The Commission finds that:
 - Cameco operated the RLO in accordance with regulatory requirements over the licence period
 - Cameco's programs and procedures for operating the RLO meet regulatory requirements, including a program for reporting that conforms with REGDOC-3.1.2
 - mechanisms are in place for Cameco to demonstrate that it can safely carry out the transition from care and maintenance to operation, should it decide to
 - Cameco reported and implemented corrective actions for events

4.2.4 Safety Analysis

50. Safety analysis, which supports the overall safety case for a facility, includes a systematic evaluation of the potential hazards associated with the conduct of the licensed activity or the operation of a facility. Safety analysis also considers the effectiveness of preventive measures and strategies in reducing the effects of such hazards.
51. Paragraph 3(1)(i) of the GNSCR provides that an application for a licence shall contain a description and the results of any test, analysis or calculation performed to substantiate the information included in the application.
52. In section 3.5 of CMD 23-H7.1, Cameco submitted that it systematically assesses risk using risk analysis tools, such as hazards and operability assessments, job hazard analyses, and field level risk assessments, to ensure sustainable and safe operation. Cameco submitted that these analyses ensure that changes to the RLO are controlled and that risks posed are acceptable. Cameco also reported that it completed a risk

²³ REGDOC-3.2.1, *Public Information and Disclosure*, CNSC, May 2018.

assessment to evaluate the likelihood and consequence of a wildland fire directly impacting the RLO.

53. Specific to the tailings management facilities at the RLO, Cameco reported that a third-party subject matter expert conducted a dam safety review in 2020, in accordance with [Canadian Dam Association Guidance Documents](#).²⁴ Cameco reported that this review found the RLO dams to be stable and in satisfactory conditions, with no safety deficiencies that would suggest potential geotechnical instability. In addition, Cameco reported that a third-party subject matter expert conducted a Failure Mode and Effects Analysis (FMEA) in 2021. Cameco added that the FMEA process led to the development of a risk register which is used to track current risks and reflected changes to known risks.
54. In section 3.4 of CMD 23-H7, CNSC staff submitted that Cameco is meeting the regulatory requirements for safety analysis at the RLO. CNSC staff reported that Cameco has implemented and maintained processes at the RLO to identify and evaluate potential safety hazards associated with the operation of the RLO. CNSC staff noted that it performed one focused safety analysis inspection and 2 general inspections including safety analysis criteria at RLO during the current licence period. CNSC staff reported that it also verified that Cameco has the necessary safety analyses to plan, implement and monitor construction operations to mitigate risks to workers, the public and the environment.
55. Based on the information on record as described above, the Commission concludes that Cameco's safety analysis is adequate for the licensed activities associated with the operation of the RLO under the proposed licence. The Commission finds that:
 - Cameco's evaluation of potential hazards and preparedness for reducing the effects of such hazards demonstrates the safety case through defence in depth
 - Cameco has performed the necessary safety analyses to ensure the risks to workers, the public, and the environment have been mitigated

4.2.5 *Physical Design*

56. Physical design includes the activities to design systems, structures and components to meet and maintain the design basis of a facility. The design basis is the range of conditions, according to established criteria, that the facility must withstand without exceeding authorized limits for the planned operation of safety systems.
57. Paragraph 3(1)(d) of the GNSCR requires that an application for a licence shall contain a description of any nuclear facility, prescribed equipment or prescribed information to be encompassed by the licence. Paragraphs 6(1)(b) and 6(2)(b) of the UMMR require that an application to operate a uranium mine or mill shall contain a description of the

²⁴ Canadian Dam Association (CDA) Guidance Documents are available for purchase on the [Canadian Dam Association's website](#).

structures, components, systems and equipment at the mine or mill, including any changes to their design and their design operating conditions as a result of commissioning.

58. In section 3.6 of CMD 23-H7.1, Cameco described its physical design program for the RLO, which utilizes facility change control and design control to ensure that any physical changes to the facility are reviewed and approved by appropriate personnel before implementation. Cameco submitted that it employs an electronic system, which ensures that required approvals, including regulatory approvals, are in place prior to the change being implemented.
59. Cameco also described the steps it took to transition to care and maintenance in 2016 and place the RLO into an inactive state. Cameco reported that no exploration, development or production activities are planned at Eagle Point mine while the mine is in care and maintenance. Cameco further added that the current activities at the mine are focused on continued dewatering of the mine and basic inspection and maintenance.
60. In section 3.5 of CMD 23-H7, CNSC staff submitted that Cameco has a mature physical design control system in place, which remains effective and meets regulatory requirements. CNSC staff provided information on the most significant changes and improvements that were made at the RLO during the current licence period. Those changes include:
 - Maintenance work on the water cover at the Rabbit Lake in-pit tailings management facility, while the facility was operational
 - Modifications to facility components, including improvements to ventilation systems, water management processes, and treatment processes
 - Progressive decommissioning and/or reclamation activities for areas that were inactive on the RLO site

CNSC staff submitted that Cameco's change management process includes a risk assessment requirement for new designs and design changes. CNSC staff also submitted that Cameco has implemented and maintained design control processes at the RLO that ensure any physical changes to the facility are reviewed and approved prior to implementation.

61. The Commission requested further information on Cameco's reclamation plans at the RLO. A Cameco representative noted that, while the RLO was in operation, Cameco undertook a number of progressive reclamation operations for areas that were no longer required for operating purposes, including revegetation efforts and site clean-up. The representative from Cameco further noted that a significant site reclamation effort was undertaken during the previous licence period, and there were not many remaining opportunities for reclamation for the immediate future.
62. In section 3.5 of CMD 23-H7, CNSC staff reported that it completed 1 focused physical design inspection at the RLO during the licence period and 2 general inspections that included physical design criteria. CNSC staff noted that all non-compliances identified

by CNSC staff were of low safety significance and were adequately addressed by Cameco.

63. Based on the information on record as described above, the Commission concludes that the physical design program that Cameco implements and maintains at its RLO site is adequate for the requested licence period. The Commission finds that:
- Cameco has adequate resources in place to safely manage and implement design changes that are within the licensing basis
 - Cameco's physical design program meets regulatory requirements
 - Cameco satisfactorily addressed all non-compliances identified by CNSC staff during inspections

4.2.6 *Fitness for Service*

64. Fitness for service covers activities that are performed to ensure that systems, structures and components at the RLO continue to effectively fulfill their intended purpose.
65. Paragraphs 6(1)(c) and 6(2)(c) of the UMMR require that an application to operate a uranium mine or mill contain the proposed policies, methods and programs for operating and maintaining the mine or mill. Specific aspects of CSA N286-12, *Management System Requirements for Nuclear Facilities*²⁵ are also applicable to this SCA.
66. In section 3.6 of CMD 23-H7.1, Cameco described its fitness for service programs and activities. Cameco submitted that, during this licensing term, it placed specific focus on:
- maintenance of the infrastructure required for ongoing collection and treatment of potentially contaminated water across the RLO site
 - the infrastructure required to maintain the Eagle Point mine in care and maintenance
67. CNSC staff assessed Cameco's fitness for service program and determined that Cameco has implemented and maintained programs to ensure structures and equipment remain effective and perform as designed over time. In section 3.6 of CMD 23-H7, CNSC staff submitted that Cameco organizes and stores equipment information, maintenance records and facilities information on a computerized maintenance management system which applies throughout the RLO site. CNSC staff noted that it reviews Cameco's maintenance management system during regular inspections to confirm that preventive maintenance activities are scheduled, completed and recorded.

²⁵ CSA N286-12, *Management System Requirements for Nuclear Facilities*, CSA Group, 2012 (R2022). The standard applies to the life cycle of the nuclear facility from the initial conception through completion of decommissioning.

68. CNSC staff reported that it conducted 2 fitness for service focused inspections and 9 general inspections containing fitness for service criteria at the RLO during the current licence period. CNSC staff reported that all non-compliances identified were of low safety significance and were adequately addressed.
69. Based on the information on record as described above, the Commission concludes that the measures that Cameco has in place to ensure the fitness for service of equipment at the RLO site are adequate for Cameco to carry on the licensed activities under the renewed licence. The Commission finds that:
- Cameco has implemented and maintained fitness for service programs that meet regulatory requirements
 - Cameco has adequate routine and preventive maintenance programs in place at the RLO site to ensure structures, systems and components remain effective over time

4.2.7 *Radiation Protection*

70. Radiation protection includes measures for protecting the health and safety of persons from hazards associated with ionizing radiation. Radiation protection ensures that contamination levels and radiation doses received by individuals are monitored, controlled and maintained as low as reasonably achievable (ALARA), while taking into consideration social and economic factors.
71. Section 4 of the [*Radiation Protection Regulations*](#) requires licensees to implement a radiation protection program. As part of this program, licensees must keep effective and equivalent doses received by, and committed to, persons ALARA, taking into account social and economic factors, and ascertain the quantity and concentration of any nuclear substance released as a result of the licensed activity. Section 14 of the *Radiation Protection Regulations* also prescribe equivalent dose limits for nuclear energy workers (NEWs) and any other person.²⁶ Subsection 4(2) of the UMMR requires that an application for a licence in respect of a uranium mine or mill, other than a licence to abandon, shall contain a proposed code of practice that includes action levels, actions that the licensee will take if an action level is reached and reporting procedures if an action level is reached. Section 14 of the UMMR prescribe areas that require radiation signage and direct-reading dosimeters for workers.
72. In section 3.8 of CMD 23-H7.1, Cameco submitted that it controlled radiation exposures through a combination of engineering and administrative measures that include:
- shielding
 - training

²⁶ The regulatory dose limits for nuclear energy workers are 50 mSv in any one year and 100 mSv in a five-year dosimetry period. The regulatory dose limit for any other person is 1 mSv in one calendar year.

- zone control
- radiation work permits
- personal protective equipment (e.g., respiratory protection)

Cameco submitted that it monitored and confirmed the effectiveness of these controls through area monitoring, direct reading dosimeters, optically stimulated luminescence dosimeters and personal alpha dosimeters.

73. Cameco reported that, over the licence period, it did not exceed any regulatory limits with respect to radiation protection at the RLO during both the initial production period and during the transition to and period of care and maintenance. The highest maximum annual effective dose for a NEW was 11.67 millisieverts per year (mSv/y) in 2013, which was well below the regulatory dose limit. Cameco submitted that, over the licence period, there were no action level exceedances²⁷ at the RLO. Cameco added that it continues to work on reducing doses to workers at the RLO.
74. In section 3.7 of CMD 23-H7, CNSC staff submitted that Cameco's radiation protection program meets regulatory requirements. CNSC staff also submitted that Cameco's effective doses have been maintained well below regulatory dose limits. CNSC staff reported that Cameco's maximum annual collective dose²⁸ for NEWs at the RLO ranged from 1534 person-mSv (p-mSv) in 2013, to a low of 61 p-mSv in 2017, reflecting the suspension of mining and milling activities and the beginning of care and maintenance in late 2016.
75. CNSC staff reported that it assessed the compliance of Cameco's radiation protection program and practices at the RLO through 22 general compliance inspections and 2 RP-focused inspections during the licence period. CNSC staff noted that the inspection findings were of low safety significance and that Cameco addressed all findings in a timely manner. CNSC staff submitted that the inspection findings confirmed Cameco's ongoing compliance with the *Radiation Protection Regulations* during the current licence period.
76. CNSC staff further reported that Cameco adequately controlled radiological hazards, including sealed sources, unsealed sources and radiation devices that are regulated under the *Nuclear Substances and Radiation Devices Regulations*.²⁹ CNSC staff explained that Cameco's radiation protection program controls the radiological hazards associated with these radiation sources by means of:

- training

²⁷ Action levels are designed to alert licensees before regulatory dose limits are reached. By definition, if an action is reached, a loss of control of some part of the associated radiation protection program may have occurred, and specific action is required, as defined in the *Radiation Protection Regulations*. The licensee shall notify the Commission or a person authorized by the Commission within 24 hours of becoming aware that an action level has been exceeded and shall file a written report within 45 working days of becoming aware of the matter.

²⁸ The annual collective dose is the sum of effective dose assigned to workers at the operation in a given calendar year.

²⁹ SOR/2000-207.

- leak testing
- radiation warning signs
- access control to areas where such sources are used or stored

77. Based on the information on record as described above, the Commission concludes that Cameco has an adequate radiation protection program in place to protect the health and safety of persons from radiation hazards associated with Cameco's RLO. The Commission finds that:

- Cameco has implemented a radiation protection program that meets the requirements of the *Radiation Protection Regulations*
- Cameco has implemented a radiation protection program that meets the requirements of the *Nuclear Substances and Radiation Devices Regulations*
- the effective and equivalent doses to NEWs at the RLO have been below regulatory limits
- Cameco addressed all action items raised during radiation protection-related inspections over the current licence period

4.2.8 *Conventional Health and Safety*

78. A conventional health and safety program's objective is to minimize risk to the health and safety of workers posed by conventional (non-radiological) hazards in the workplace. A conventional health and safety program manages conventional workplace safety hazards and ensures compliance with applicable labour codes. The NSCA provides that the Commission must ensure that a licence applicant takes the necessary measures to safeguard the health of persons. The regulation of non-radiological health and safety at uranium mines and mills is governed by Part II of the [*Canada Labour Code*](#),³⁰ which is administered by Employment and Social Development Canada.

79. In section 3.9 of CMD 23-H7.1, Cameco provided information regarding its conventional health and safety program, including the implementation of its safety policy, safety statistics during the licence period, and its COVID-19 pandemic response. Cameco reported that it conducts periodic safety culture assessments in accordance with REGDOC-2.1.2, *Safety Culture*.

80. Cameco reported that risks to workers are controlled through the adoption of a safety system comprised of five elements:

- site inspections
- safety meetings
- daily contact card
- job task observations
- work permits

³⁰ R.S.C. 1985, c. L-2.

Cameco added that, for non-routine tasks, it uses Job Hazard Analysis tools to identify any hazards associated with the task and controls to mitigate the hazards.

81. Cameco submitted that it assessed the effectiveness of its safety control measures through indicators, such as audits, preventative and predictive maintenance plans and compliance to program requirements. Cameco added that it records and reports, on a monthly and annual basis, worker safety measures such as:
 - first aid
 - medical incident injuries
 - lost-time injuries (LTI)
 - total recordable injury rate

82. Cameco reported that it recorded one serious injury at the RLO during the licence period, in March 2015, when a driller was struck by a core tube while drilling in the Eagle Point mine. Cameco submitted that the driller sustained a serious injury that required hospitalization for less than 72 hours. As a result of this LTI, Cameco reported that the RLO initiated a review of inspection procedures for inner core tube head assemblies, up-hole drilling and core retrievals.

83. Cameco also described the safety enhancements it made during the COVID-19 pandemic, such as:
 - adopting screening protocols for access to facilities that aligned with the directives of government and public health authorities
 - implementing a number of additional protective measures in the workplace, including increased sanitization, physical distancing and use of face masks
 - making arrangements to limit the number of persons on-site, such as by allowing individuals to work from home

84. In section 3.8 of CMD 23-H7, CNSC staff reported that Cameco had effectively implemented a conventional health and safety program that meets applicable regulatory requirements, which include identifying potential safety hazards, assessing the associated risks, and implementing the necessary materials, equipment, programs and procedures to effectively manage control and minimize the identified risks at the RLO. CNSC staff explained that it verified Cameco's conventional health and safety program during routine onsite inspections over the licence period. CNSC staff noted that the Saskatchewan Ministry of Labour Relations and Workplace Safety³¹ inspectors also carried out inspections and that inspection reports were shared between the two entities.

85. CNSC staff reported that it completed 22 general inspections containing conventional health and safety criteria during the current licence period. CNSC staff reported that all non-compliances identified were of low safety significance and that Cameco addressed

³¹ The [Saskatchewan Ministry of Labour Relations and Workplace Safety](#) is the provincial regulatory body responsible for the implementation of the *Occupational Health & Safety Act*. In addition to the NSCA, Cameco must comply with applicable federal and provincial health and safety related acts and regulations.

all non-compliances and recommendations. CNSC staff added that conventional health and safety-related findings and incidents were properly investigated and corrected by Cameco in a timely manner, and that the resulting reports were acceptable to the CNSC and the Saskatchewan Ministry of Labour Relations and Workplace Safety.

86. The Commission asked whether any of the measures adopted in response to the COVID-19 pandemic were still in place. A Cameco representative responded that Cameco had removed all restrictions. The Cameco representative noted that the COVID-19 pandemic had led to a greater awareness around the need for employees to stay home when sick, as well as for improvements to facility sanitization.
87. Based on the information on record as described above, the Commission concludes that the conventional health and safety of workers was adequately protected during the operation of the facility over the current licence period, and will continue to be adequately protected throughout the proposed licence period. The Commission finds that:
- Cameco's conventional health and safety program meets regulatory requirements
 - Cameco adequately addressed the inspection findings over the current licence period

4.2.9 *Environmental Protection*

88. Environmental protection programs are intended to identify, control, and monitor all releases of radioactive and hazardous substances, and aim to minimize the effects on the environment that may result from licensed activities. These programs include effluent and emission control, environmental monitoring, and estimated doses to the public.
89. In accordance with the NSCA, licensees are required to make adequate provision for the protection of the environment. Paragraphs 12(1)(c) and (f) of the GNSCR require each licensee to take all reasonable precautions to protect the environment and the health and safety of persons, and to control the release of radioactive nuclear substances or hazardous substances within the site of the licensed activity and into the environment. Additionally, paragraph 3(c) of the UMMR requires an application for a licence to contain information in relation to environmental protection policies and programs. In accordance with subsection 4(2) of the UMMR, the RLO licence also requires that Cameco control, monitor and record releases of effluent concentrations from the facility and that the releases shall not exceed the limits found in the licence conditions handbook.
90. In section 3.10 of CMD 23-H7.1, Cameco provided the Commission with detailed information regarding its environmental monitoring and protection programs. Cameco reported that, during the current licensing period, it implemented changes to the action levels for treated water from the RLO in accordance with CSA N288.8-17, *Establishing*

and Implementing Action Levels for Releases to the Environment from Nuclear Facilities.³² Cameco added that there were no action level exceedances at the RLO during the licence period. Cameco also submitted that the 2 environmental focus areas for the RLO are:

- preventing uncontrolled releases to the environment
- collecting and treating potentially contaminated water

91. Cameco listed the additional environmental protection regulatory documents and standards implemented during the licence period, including:

- CSA N288.4-10, *Environmental Monitoring Programs at Class I Nuclear Facilities and Uranium Mines and Mills*³³
- CSA N288.5-11, *Effluent Monitoring Programs at Class I Nuclear Facilities and Uranium Mines and Mills*³⁴
- CSA N288.6-12, *Environmental Risk Assessment at Class I Nuclear Facilities, and Uranium Mines and Mills*³⁵
- CSA N288.7-15, *Groundwater Protection Programs at Class I Nuclear Facilities and Uranium Mines and Mills*³⁶
- [REGDOC-2.9.1, Environmental Protection: Environmental Principles, Assessments and Protection Measures, version 1.1](#)³⁷

92. In section 3.9 of CMD 23-H7, CNSC staff submitted that Cameco's implementation of the environmental protection program meets CNSC's regulatory requirements and expectations. CNSC staff reported that it conducted 4 focused inspections and 14 general inspections with environmental protection criteria at the RLO during the current licence period. CNSC staff reported that all findings were of low safety significance and that Cameco adequately addressed all findings.

93. CNSC staff reported that Cameco has developed, implemented, and maintained an environmental management system at the RLO to describe the activities associated with the protection of the environment. CNSC staff added that it verified the effectiveness of RLO's environmental management system through desktop reviews of annual compliance reports and inspections. CNSC staff further reported that Cameco's environmental monitoring program meets regulatory requirements.

³² CSA N288.8-17, *Establishing and Implementing Action Levels to Control Releases to the Environment from Nuclear Facilities*, CSA Group, 2020.

³³ CSA N288.4-10, *Environmental Monitoring Programs at Class I Nuclear Facilities and Uranium Mines and Mills*, CSA Group, 2010.

³⁴ CSA N288.5-11, *Effluent Monitoring Programs at Class I Nuclear Facilities and Uranium Mines and Mills*, CSA Group, 2011.

³⁵ CSA N288.6-12, *Environmental Risk Assessment at Class I Nuclear Facilities and Uranium Mines and Mills*, CSA Group, 2012.

³⁶ CSA N288.7-15, *Groundwater Protection Programs at Class I Nuclear Facilities and Uranium Mines and Mills*, CSA Group, 2015.

³⁷ REGDOC-2.9.1, *Environmental Protection: Environmental Principles, Assessments and Protection Measures*, Version 1.1, CNSC, April 2017.

94. In the Environmental Protection Review Report (EPRR), CMD 23-H7.B, CNSC staff documented its assessment of Cameco's environmental protection measures and CNSC staff's health science and environmental compliance activities for the RLO. In section 7 of the EPRR (CMD 23-H7.B), CNSC staff submitted that the potential risks from radiological and hazardous releases to the atmospheric, aquatic, terrestrial, and human environments from the RLO are low to negligible. CNSC staff further reported that the potential risks to the environment from these releases are similar to natural background, and the potential risks to human health are indistinguishable from health outcomes in similar northern Saskatchewan communities.

Water Treatment

95. In section 3.10 of CMD 23-H7.1, Cameco reported that it treats potentially contaminated water from the Eagle Point mine, the Rabbit Lake in-pit tailings management facility raise water system³⁸ and the mill production circuits (during production). During the current licence term, Cameco reported that it monitored the quality of treated water and it implemented process enhancements to facilitate continual improvement. Cameco noted that the RLO site has the potential to impact four watersheds adjacent to the site:
- Horseshoe Creek watershed
 - Parks Lake watershed
 - Link Lakes watershed
 - Collins Bay
96. In section 3.9 of CMD 23-H7, CNSC staff reported that release limits for the RLO are adopted from the [*Metal and Diamond Mining Effluent Regulations*](#),³⁹ are specified in the licence conditions handbook. CNSC staff also reported that the RLO effluent did not pose any concern during the licence period. CNSC staff submitted that Cameco has implemented a system to treat both mine and mill effluents and emissions, including contaminated or potentially contaminated water from various sources at the RLO.

Air Quality Monitoring

97. In section 3.10.1.3 of CMD 23-H7.1, Cameco reported that it monitors ambient air quality by monitoring radon concentrations at representative locations surrounding the boundaries of the RLO. Cameco reported that, during the current licence period, the ambient radon concentrations were less than the typical range of northern Saskatchewan regional background concentrations, which range from 37 to 74 Becquerels per cubic metre (Bq/m³).
98. Cameco submitted that its air monitoring at the RLO also includes monitoring of particulate matter, metals and radionuclides. Cameco reported that ambient air quality

³⁸ A raise well collects the water from the tailings that percolates through the permeable envelope so that it can be pumped to the surface then to the mill for treatment.

³⁹ SOR /2002-222.

monitoring results show that the ambient air quality was well below the reference criteria during the current licence period [a maximum average particulate matter value of 7.6 micrograms per cubic metre ($\mu\text{g}/\text{m}^3$) in 2013 versus a reference value of $60 \mu\text{g}/\text{m}^3$].⁴⁰

99. In section 3.9 of CMD 23-H7, CNSC staff reported that:
- Cameco conducted environmental monitoring for radon concentrations at 19 different stations between 2013 and 2021, and at 15 stations since January 2022
 - average concentrations of radon in ambient air at RLO for the current licence period were below the reference level for radon⁴¹
 - total suspended particulate values remained low and well below the provincial standard of $60 \mu\text{g}/\text{m}^3$

Environmental Monitoring

100. In section 3.10.1.5 of CMD 23-H7.1, Cameco submitted that its aquatic environment monitoring meets the requirements for release limits stipulated in the [Metal and Diamond Mining Effluent Regulations](#).⁴² Cameco reported that it performed environmental monitoring in the Horseshoe Creek drainage in 2014, 2017 and 2020, which concluded that the concentrations of the constituents of possible concern in the sampled media were consistent with historical results and temporal trends have not been observed in the water quality, sediment chemistry, and fish tissue results.
101. Cameco reported that monitoring in the Link Lakes drainage is performed on a 10-year cycle, and it was last performed in 2017. The results from the monitoring campaign concluded that values in sampled media were consistent with historical results and that fish tissue concentrations remained below applicable guidelines.
102. Asked by the Commission if Cameco engages with local communities during sampling and monitoring activities, a representative from Cameco responded that its Environmental Monitoring Programs are set up in accordance with the appropriate regulatory body (e.g., the CNSC, Environment and Climate Change Canada or the Saskatchewan Ministry of Environment). The representative from Cameco added that, although local residents are not involved in the design of Cameco's Environmental Monitoring Programs, they are involved in the actual sampling and monitoring activities carried out at the RLO site.

⁴⁰ Reference value for particulate matter from Saskatchewan Ministry of the Environment, Table 20: *Saskatchewan Ambient Air Quality Standards (SAAQS)*. Metal reference annual air quality levels derived from the Ontario Ministry of Environment's *Ontario's Ambient Air Quality Criteria*.

⁴¹ The reference level for radon is $55 \text{ Bq}/\text{m}^3$, which represents an incremental dose of 1 mSv/year above background, based on ICRP Publication 115, *Lung Cancer Risk from Radon and Progeny and Statement on Radon*, Annals of the ICRP, Volume 40, No. 1, 2010.

⁴² SOR/2002-222.

103. In section 3.9 of CMD 23-H7, CNSC staff provided information about Cameco's soil and lichen monitoring. CNSC staff noted that soil quality is not predicted to be a significant pathway of exposure for human or ecological receptors, since deposition of contaminants from air is limited for the RLO site. CNSC staff also reported that Cameco's lichen monitoring results from 2019 indicated that lichen chemistry levels of arsenic, nickel and uranium were comparable with those from the reference station, with the exception of station 11 which is in relatively close proximity to active infrastructure. Based on the monitoring data reported, CNSC staff determined that the level of airborne particulate contaminants produced by the RLO is acceptable and does not pose a risk to lichen consumers (e.g., caribou).
104. In its written submission, Ya'thi Néné Lands and Resources Office (YNLR) ([CMD 23-H7.30](#)) submitted that its members have expressed the need for community-led independent monitoring of the RLO, and lands and waters surrounding the RLO. The Commission asked YNLR to elaborate on its idea of an independent monitoring program. An YNLR representative explained that YNLR has been developing a community land technician program, modelled similarly to the [Indigenous Guardians Program](#).⁴³ The YNLR representative noted that the community land technician program is funded through various streams, including Environment Canada, various exploration companies and research institutes. YNLR also noted that land technicians were involved in the sampling campaign carried out under the CNSC's IEMP as well as in Cameco's Community-Based Environmental Monitoring Program.
105. In response to the YNLR's concern about the RLO's impact on wildlife, loss of habitat and disruption of migration, the Commission asked Cameco about its wildlife protection program. A Cameco representative responded that Cameco aims to minimize potential interactions with wildlife in the vicinity of the RLO through the implementation of Cameco's Wildlife Management Standard. The Cameco representative explained that the goal of Cameco's program is to mitigate any potential impacts on wildlife and minimize interactions between humans and wildlife.
106. In its submission and presentation, the Canadian Environmental Law Association (CELA) ([CMD 23-H7.31](#) and [CMD 23-H7.31A](#)) commented that the baseline for remediation at RLO has shifted over time. When asked by the Commission to expand on this statement, the CELA representative expressed that, as a robust baseline was not collected prior to the mine sites being disturbed, the current remediation activities are not reflective of how the lands were prior to the establishment of the mines. A representative from Cameco noted that periodic environmental assessments have been performed throughout the lifespan of the RLO facilities and this information is used for comparison, as needed. CNSC staff noted that baseline conditions were established as part of the environmental assessment process (2011-2012). As further reported by CNSC staff in CMD 23-H7.B, an environmental assessment campaign was completed in 2015, which concluded that there was no significant change to the RLO's impact on water, sediment and fish from the 2011 - 2012 baseline monitoring campaign.

⁴³ The Indigenous Guardians Program is funded through Environment Canada and provides Indigenous Peoples with a greater opportunity to exercise responsibility in stewardship of their traditional lands, waters and ice.

107. In reference to the CELA's intervention, the Commission asked about the concern raised regarding the accounting for potential cumulative effects. A Cameco representative reported that environmental monitoring, including water, fish, sediments and other environmental media at varying distances downstream in the watersheds, does not indicate cumulative effects or increasing trends over time. CNSC staff agreed with Cameco's view on this and confirmed that its assessment of environmental monitoring data had not identified any cumulative effects.

Environmental Risk Assessment

108. In section 3.10.1.4 of CMD 23-H7.1, Cameco submitted that it reviews and updates its environmental risk assessment (ERA) for the RLO on a five-year cycle, in accordance with CSA N288.6-12. Cameco reported that the most recent ERA for the RLO, completed in 2020, concluded that the RLO remains within the objective of the licensing basis and that human health and the environment in the vicinities of the RLO remain protected. Cameco added that it posts summaries of the current ERA on its [website](#).
109. In section 3.9 of CMD 23-H7, and detailed in the EPRR (CMD 23-H7.B), CNSC staff reported its assessment that the ERA for the RLO complies with CSA N288.6-12 requirements. CNSC staff added that Cameco completed a human health risk assessment, as part of the ERA, which evaluated numerous human receptors, such as workers, and families using the area in various ways. CNSC staff reported that, based on this assessment, human exposure to radiological and hazardous substances are not expected to pose a risk to human health, and the environment and human health in the vicinity of the RLO site remain protected.
110. The intervention from Karen Weingeist ([CMD 23-H7.34](#)) included an infographic on pollution from the nuclear fuel cycle. The Commission noted that the infographic was interesting but lacked information on measures in place to address the various identified risks and asked CNSC staff to comment. CNSC staff acknowledged that it would be useful for the CNSC to create a similar graphic with the appropriate regulatory context to provide a complete understanding of the risks depicted. The Commission encourages CNSC staff to do so.

CNSC Independent Environmental Monitoring Program

111. As mentioned in section 3.9 of CMD 23-H7, the CNSC has implemented its [Independent Environmental Monitoring Program](#) (IEMP) to support its assessments of whether the public and the environment around licensed nuclear facilities are safe. The IEMP is separate from, but complementary to, the CNSC's ongoing compliance verification program. The IEMP involves taking samples from public areas around nuclear facilities, and measuring and analyzing the amount of radiological and

hazardous substances in those samples. CNSC staff collect the samples and send them to the CNSC's independent laboratory for testing and analysis.

112. CNSC staff reported that it developed a sampling plan in consultation with interested Indigenous Nations and communities for its IEMP around the RLO. CNSC staff submitted that it consulted with the Ya'thi Néné Lands and Resources Office and Métis Nation of Saskatchewan. Both reviewed the draft sampling plan and provided suggestions, including species of interest and sampling locations where traditional activities occur. CNSC staff reported that it incorporated the suggestions in the final sampling plan. CNSC staff also reported that it accompanied CanNorth on the sampling trip in 2022 and that a representative from the Ya'thi Néné Lands and Resources Office joined the CNSC team during the sample collection campaign.
113. CNSC staff reported that IEMP results from 2022 are consistent with the results submitted by Cameco, supporting CNSC staff's assessment that Cameco's environmental protection programs are effective. CNSC staff added that the results add to the body of evidence that people and the environment in the vicinity of the RLO are protected and that there are no anticipated health impacts from these operations. CNSC staff noted that the [results are posted](#) on the CNSC's IEMP web page and that CNSC staff will create an IEMP brochure with the results and share it with interested Indigenous Nations and communities.
114. The Commission enquired whether CNSC staff exchanges information with, and took the opportunity to learn from Indigenous Nations' land technicians. CNSC staff explained that it has an Indigenous knowledge policy for listening and learning from Indigenous Nations and communities that are interested in sharing Indigenous knowledge with the CNSC, and integrating that into the sampling programs wherever possible.
115. Throughout the hearing, CNSC staff, Cameco and intervenors such as the Athabasca Joint Engagement and Environmental Subcommittee ([CMD 23-H7.16](#)) discussed several separate environmental monitoring programs including the Community-Based Environmental Monitoring Program (CBEMP) (CMD 23-H7.1 and [CMD 23-H7.16](#)),⁴⁴ the Eastern Athabasca Regional Monitoring Program (EARMP) (CMD 23-H7.1 and [CMD 23-H7.16](#)),⁴⁵ and the CNSC's IEMP ([CMD 23-H7](#)).⁴⁶ The Commission asked

⁴⁴ The Community-Based Environmental Monitoring Program (CBEMP) for the Athabasca region was created in 2018 to enhance the data collected through the Athabasca Working Group Environmental Monitoring program (a product of the original Impact Management Agreement signed in 1999 by Cameco and northern First Nations and Communities). The CBEMP allows community members to become more involved and provide input to steer the direction of the program in their particular community.

⁴⁵ The Eastern Athabasca Regional Monitoring Program (EARMP) was established in 2011 under the Province of Saskatchewan's Boreal Watershed Initiative, and is supported by contributions from various interested parties, including the Saskatchewan Ministry of Environment, CNSC, Cameco and Orano. The program was developed to identify potential cumulative effects downstream of uranium mining and milling operations in the Eastern Athabasca region of northern Saskatchewan.

⁴⁶ The CNSC's Independent Environmental Monitoring Program (IEMP) was implemented as an added measure of verification that the public, indigenous Nations and communities, and the environment around licensed facilities are protected. The IEMP complements CNSC's ongoing compliance verification program.

CNSC staff if there was an opportunity to identify synergies between these programs that would lead to efficiencies, improvements and increased confidence and trust in the results. CNSC staff noted that each program has evolved over time in response to the varying needs of the communities, and each program is addressing a different role, even though some of the activities may overlap. The Commission encourages CNSC staff to work with the communities and other interested parties to identify opportunities to bring the environmental monitoring programs together, make them more coherent and potentially improve the depth of the data collected. Other issues related to environmental protection raised by intervenors are discussed in detail in section 4.3 of this *Record of Decision*.

Estimated Dose to the Public

116. In section 3.9 of CMD 23-H7, CNSC staff reported that dose to the public from the RLO is well below the annual public dose limit of 1 mSv. CNSC staff reported that Cameco's 2020 human health risk assessments for RLO concluded that the highest estimated annual dose to a member of the public was 0.1212 mSv per year for a camp worker. CNSC staff noted that the majority of the incremental radiation dose for camp workers comes from radon exposure.

Conclusion on Environmental Protection

117. Based on the information on record as described above, the Commission concludes that Cameco has adequate measures in place at the RLO for the purpose of environmental protection under the NSCA for the proposed licence period. The Commission finds that:
- Cameco has maintained an environmental management system in compliance with REGDOC-2.9.1
 - Cameco's environmental monitoring program meets regulatory requirements
 - the releases to the environment from the RLO during the licence period were well below regulatory limits
 - the environmental monitoring data have shown that public dose remained well below the regulatory limit throughout the current licence period
 - the results from the CNSC's IEMP support CNSC staff's assessment that the public and the environment surrounding the RLO sites are protected
 - Cameco's 2020 ERA meets regulatory requirements

4.2.10 Emergency Management and Fire Protection

118. Emergency management and fire protection programs cover the measures for preparedness and response capabilities implemented by Cameco in the event of emergencies and non-routine conditions at the RLO. These measures include nuclear

emergency management, conventional emergency response, and fire protection and response.

119. Paragraph 3(c)(x) of the UMMR requires that an application for a licence in respect of a uranium mine or mill shall describe the proposed measures to prevent or mitigate the effects of accidental releases of nuclear substances and hazardous substances on the environment, the health and safety of persons, and the maintenance of security.
120. In section 3.11 of CMD 23-H7.1, Cameco submitted that it maintains an emergency preparedness and response program and a fire protection program that describe how it prepares for and addresses emergencies that may impact the health and safety of Cameco's workforce, the environment and the protection of property at the RLO. Cameco added that its programs also ensure that appropriate emergency response and contingency plans and procedures are developed, maintained and readily available for use.
121. Cameco reported that it uses administrative and engineered controls to identify and manage risks. Administrative controls include:
- routine drills and exercises
 - communication protocols
 - emergency response team, responsible for responding to emergencies on surface and underground
- Engineered controls include:
- alarms (fire and smoke sensors, underground stench gas system)
 - emergency facilities (health centre, fire hall and underground refuge stations)
 - equipment (fire truck, ambulance, and spill response equipment)
122. Cameco reported that, as part of the transition to care and maintenance, it combined the RLO Emergency Response Team and the Mine Response Team into a single Emergency Response Team for the site. In addition, Cameco submitted that it provides emergency response plan training to all new workers, including identification of responsibilities during an emergency. Cameco noted that, in accordance with internal, provincial, and federal regulatory requirements, it tests its program through tabletop exercises, drills, or simulations.
123. With respect to fire protection, Cameco submitted that its fire protection program accords with the [*National Fire Code of Canada: 2010*](#)⁴⁷ and the [*National Building Code of Canada: 2010*](#).⁴⁸ Cameco reported that a third-party expert conducted a fire hazard assessment at the RLO in 2021. Cameco noted that the assessment did not identify any significant issues related to fire protection measures. Cameco added that it implemented recommendations from the assessment as part of its corrective action process.

⁴⁷ *National Fire Code of Canada: 2010*, National Research Council Canada, 2010.

⁴⁸ *National Building Code of Canada: 2010*, National Research Council Canada, 2010.

124. Cameco submitted that it was working towards implementing CSA N393-13, *Fire protection for facilities that process, handle, or store nuclear substances*⁴⁹ by December 31, 2023. CNSC staff submitted that it reviewed Cameco's implementation plan and was satisfied with Cameco's gap analysis and proposed timeline for the implementation of CSA N393-13. CNSC staff noted that it added CSA N393-13 as compliance verification criteria in the licence conditions handbook for the RLO.
125. In section 3.10 of CMD 23-H7, CNSC staff submitted that Cameco meets the CNSC regulatory requirements in this SCA, including compliance with the *National Fire Code of Canada: 2010* and the *National Building Code of Canada: 2010*. CNSC staff reported that Cameco's 2011 fire hazard assessment indicates that Cameco has implemented adequate fire mitigation measures. CNSC staff also reported that Cameco conducted a third-party revision of the fire hazard assessment in 2021 and received the final report in December 2022. CNSC staff noted that it would review the revised fire hazard assessment report upon receipt as part of ongoing compliance verification.
126. CNSC staff submitted that it conducted 3 focused inspections and 7 general inspections with emergency management and fire protection criteria at the RLO during the current licence period. CNSC staff reported that all non-compliances identified were of low safety significance and were adequately addressed by Cameco. CNSC staff also reported that Saskatchewan Ministry of Labour Relations and Workplace Safety also conducts routine compliance inspections, including fire protection, and shares its inspection reports with CNSC staff.
127. Based on the information on record as described above, the Commission concludes that Cameco's nuclear and conventional emergency management program and the fire protection measures in place at the RLO are adequate to protect the health and safety of persons and the environment for the proposed licensed activities. The Commission finds that:
- Cameco's emergency preparedness program meets regulatory requirements, including the *National Fire Code of Canada: 2010* and the *National Building Code of Canada: 2010*
 - Cameco has an acceptable fire hazard assessment which demonstrates that Cameco has implemented adequate fire mitigation measures
 - Cameco has qualified emergency response personnel onsite
 - Cameco has a plan in place for the implementation of CSA N393-13

The Commission expects CNSC staff to inform the Commission if there are any issues in implementing CSA N393-13 by December 31, 2023.

⁴⁹ CSA N393-13, *Fire protection for facilities that process, handle, or store nuclear substances*, CSA Group, 2013.

4.2.11 Waste Management

128. Waste management covers waste-related programs that form part of a facility's operations up to the point where the waste is removed from the licensed site for storage, treatment, or disposal at another licensed location, and includes waste minimization, segregation, characterization, and storage programs. Waste management covers the waste generated during the operations of the RLO.
129. Paragraph 3(1)(j) of the GNSCR provides that the licence application must include the name, quantity, form, origin and volume of any radioactive waste or hazardous waste that may result from the activity to be licensed, including wastes that may be stored, managed, processed, or disposed of at the site of the activity to be licensed, and the proposed method for managing and disposing of that waste. Additionally, paragraph 3(c) of the UMMR requires an application for a licence to contain information in relation to waste management programs.
130. In section 3.12 of CMD 23-H7.1, Cameco described its waste management program as well as its progressive reclamation work in areas that are no longer required for future milling activities. Cameco reported that its waste management program applies to the management of tailings, waste rock, solid waste and liquid waste produced at the RLO site. Cameco submitted that RLO's waste management program ensures volumes of waste material are being reduced, reused, recycled and/or recovered wherever possible and that all waste generated at RLO is being tracked and handled in a way that is protective of the environment. Furthermore, Cameco noted that waste volumes reporting to the domestic and contaminated landfills were significantly reduced after the RLO site transitioned to care and maintenance in 2016 (e.g., the waste volume in 2021 was less than 5% of the waste volume in 2015).
131. In section 3.11 of CMD 23-H7, CNSC staff submitted that Cameco maintains a waste management program that CNSC staff has assessed as adequate for the management of domestic, industrial, and chemically and radiologically contaminated waste at the RLO, in accordance with regulatory requirements. CNSC staff based its assessment on its review of Cameco's waste management documentation for the RLO, as well as CNSC staff's inspections during the licence period.
132. CNSC staff reported that it completed 2 focused inspections and 8 general inspections containing waste management criteria during the current licence period. CNSC staff reported that all non-compliances identified were of low safety significance and were adequately addressed by Cameco.
133. CNSC staff submitted that, for the proposed licence period, Cameco would have to comply with the requirements of [REGDOC-2.11.1, *Waste Management, Volume I: Management of Radioactive Waste*](#),⁵⁰ [REGDOC-2.11.2, *Decommissioning*](#)⁵¹ and [REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and*](#)

⁵⁰ REGDOC-2.11.1, *Waste Management, Volume I: Management of Radioactive Waste*, CNSC, January 2021.

⁵¹ REGDOC-2.11.2, *Decommissioning*, CNSC, January 2021.

[Termination of Licensed Activities](#),⁵² which were added as compliance verification criteria to the draft Licence Conditions Handbook. CNSC staff added that would continue to monitor Cameco's implementation of REGDOC-2.11.1 and REGDOC-2.11.2 through regulatory oversight activities, including inspections and desktop reviews. Cameco's preliminary decommissioning plan and financial guarantee are further discussed in section 4.4.2 of this *Record of Decision*.

134. Based on the information on record as described above, the Commission concludes that Cameco has implemented and continues to maintain a waste management program to safely manage waste at the RLO. The Commission finds that:

- Cameco has implemented a waste management program that meets regulatory requirements
- Cameco has plans in place to implement REGDOC-2.11.1 on waste management

The Commission expects to be updated on the status of Cameco's implementation of REGDOC-2.11.1 as part of CNSC staff's *Regulatory Oversight Report*.

4.2.12 Security

135. The security SCA covers the implementation of a program to prevent the loss, unauthorized removal and sabotage of nuclear substances, nuclear materials, prescribed equipment, or information. Cameco's security program for its RLO must comply with applicable provisions of the GNSCR and Part 2 of the [Nuclear Security Regulations](#)⁵³ (NSR). [REGDOC-2.12.3, Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material, Version 2.1](#)⁵⁴ sets out the security measures that must be implemented to prevent the loss, sabotage and illegal use, possession, or illegal removal of sealed sources during its entire lifecycle.

136. Paragraph 12(1)(c) of the GNSCR requires a licensee to take all reasonable precautions to protect the environment and the health and safety of persons, and to maintain the security of nuclear facilities and of nuclear substances. Paragraphs 12(1)(g) and 12(1)(h) require the licensee to implement measures for alerting the licensee to the illegal use or removal of a nuclear substance, prescribed equipment or prescribed information, or the illegal use of a nuclear facility, and measures for alerting it to acts or attempts of sabotage, anywhere at the site of the licensed activity. Paragraph 12(1)(j) requires the licensee to instruct workers on the physical security program at the site of the licensed activity and on their obligations under that program.

⁵² REGDOC-3.1.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*, CNSC, January 2021.

⁵³ SOR/2000-209.

⁵⁴ REGDOC-2.12.3, *Security of Nuclear Substances: Sealed Sources and Category I, II and III Nuclear Material, Version 2.1*, CNSC, September 2020.

137. In section 3.13 of CMD 23-H7.1, Cameco submitted that it conducts threat, risk and vulnerability assessments completed in accordance with the International Atomic Energy Agency (IAEA) document *Nuclear Security in the Uranium Extraction Industry*,⁵⁵ to ensure appropriate security measures are taken for potential threats. Cameco specified that the objectives of the threat, risk and vulnerability assessments are to:
- identify important material and sensitive information that needs protection
 - identify and assess potential threats to the materials and information
 - assess the risks associated with each threat to determine the estimate probability of occurring and potential consequences
 - identify existing vulnerabilities and opportunities for mitigation to reduce residual risk
138. In section 3.12 of CMD 23-H7, CNSC staff submitted that Cameco has implemented a security program that meets regulatory requirements under the GNSCR to prevent the loss or unauthorized removal of nuclear substances, radioactive sources, prescribed equipment or information at RLO. CNSC staff reported that it does not schedule focused security inspections at the RLO due to the low risk associated with the facility. CNSC staff added that it conducted 1 general inspection containing security criteria at the RLO during the current licence period. CNSC staff reported that it did not observe any non-compliances and that the security measures at the RLO are sufficient to address the current threat level.
139. Based on the information on record as described above, the Commission concludes that Cameco's programs and measures in place to provide for the physical security of the RLO are adequate. The Commission finds that:
- Cameco's security program meets regulatory requirements, including the GNSCR, NSR, and REGDOC-2.12.3
 - CNSC staff inspection did not reveal any non-compliances and that the security measures implemented at the RLO are sufficient to address the current threat level

4.2.13 Safeguards and Non-Proliferation

140. The CNSC's regulatory mandate includes ensuring conformity with measures required to implement Canada's international obligations under the [*Treaty on the Non-Proliferation of Nuclear Weapons*](#) (NPT)⁵⁶. Pursuant to the NPT, Canada has entered into a [*Comprehensive Safeguards Agreement*](#)⁵⁷ and an [*Additional Protocol*](#)⁵⁸ (safeguards agreements) with the International Atomic Energy Agency (IAEA). The

⁵⁵ International Atomic Energy Agency, *Nuclear Security in the Uranium Extraction Industry*, IAEA-TDL-003, Vienna, 2016.

⁵⁶ INFCIRC/140.

⁵⁷ INFCIRC/164.

⁵⁸ INFCIRC/164/Add.1.

objective of these safeguards agreements is for the IAEA to provide credible assurance on an annual basis to Canada and to the international community that all declared nuclear material is in peaceful, non-explosive uses and that there is no undeclared nuclear material or activity in this country.

141. [REGDOC-2.13.1, *Safeguards and Nuclear Materials Accountancy*](#)⁵⁹ sets out requirements and guidance for safeguards programs for applicants and licensees who possess nuclear material, operate a uranium and/or thorium mine, carry out specified types of nuclear fuel-cycle related research and development work, and/or carry out specified types of nuclear-related manufacturing activities.
142. In section 3.14 of CMD 23-H7.1, Cameco described its safeguards and non-proliferation program, which includes reporting production results to the IAEA. Cameco reported that it has met all safeguards conditions in its licence, including REGDOC 2.13.1, as well as the terms of the agreement between Canada and the IAEA.
143. In section 3.13 of CMD 23-H7, CNSC staff reported that its assessment of Cameco's documentation under the safeguards and non-proliferation SCA found Cameco to be in compliance with regulatory requirements. CNSC staff submitted that, in all cases, Cameco provided the IAEA with the necessary access and assistance to perform the activities, and complied with all regulatory requirements. CNSC staff added that no complementary IAEA access inspections were performed at RLO during the current licensing period.
144. Based on the information on record as described above, the Commission is satisfied that Cameco has implemented and maintains a safeguards program that provides for the implementation of measures that are necessary for maintaining national security, and for implementing international agreements to which Canada has agreed. The Commission finds that:
 - Cameco's Safeguards and Non-Proliferation program meets regulatory requirements, including CNSC REGDOC-2.13.1
 - Cameco has provided the IAEA with the necessary access and assistance for it to perform its activities, and complied with all safeguards and non-proliferation regulatory requirements over the licence period

4.2.14 Packaging and Transport

145. The packaging and transport SCA covers the safe packaging and transport of nuclear substances and radiation devices to and from the licensed facility. Cameco must adhere to the [Packaging and Transport of Nuclear Substances Regulations, 2015](#) (PTNSR, 2015)⁶⁰ and Transport Canada's [Transportation of Dangerous Goods Regulations](#)

REGDOC-2.13.1, *Safeguards and Nuclear Material Accountancy*, CNSC, February 2018.

⁶⁰ SOR/2015-145.

(TDGR)⁶¹ for all shipments. These regulations apply to the packaging and transport of nuclear substances at RLO, including the design, production, use, inspection, maintenance and repair of packages, and the preparation, consigning, handling, loading, carriage and unloading of packages.

146. In section 3.15 of CMD 23-H7.1, Cameco provided information on its packaging and transport program. Cameco specified that its program details the methods and practices that are utilized for transportation of bulk commodities, freight, and waste materials to and from the RLO.
147. Cameco reported that there was 1 incident involving transport of uranium concentrate from the RLO during the current licence period. Cameco added that it investigated this incident and implemented corrective actions.
148. In section 3.14 of CMD 23-H7, CNSC staff submitted that Cameco's packaging and transport program complies with the PTNSR, 2015 and the TDGR for all shipments, and covers elements of package design and maintenance. CNSC staff reported that no focused inspections were conducted during the licensing period, however, it completed 2 general inspections containing packaging and transport criteria. CNSC staff reported that it found Cameco to be in compliance with regulatory requirements.
149. Based on the information on record as described above, the Commission concludes that Cameco has adequate programs and measures in place to meet regulatory requirements regarding packaging and transport. The Commission finds that:
 - Cameco's packaging and transport program meets regulatory requirements, including the PTNSR, 2015 and the TDGR
 - Cameco demonstrated adequate management of transport incidents at the RLO
150. Based on the analysis of all of the information provided and discussed above, the Commission is satisfied and concludes that Cameco is qualified to carry on the licensed activities under the proposed renewed licence. In addition, the Commission agrees that Cameco has adequate programs and measures in place with respect to the 14 SCAs to ensure that the health and safety of workers, the public and the environment will be protected. The Commission further concludes that Cameco has measures in place to provide for the maintenance of national security and to implement international obligations to which Canada has agreed.

4.3 Indigenous Engagement and Consultation

151. The Commission considered the information provided by CNSC staff, Cameco and intervenors regarding Indigenous consultation and engagement activities in respect of

⁶¹ SOR/2001-286.

this licence renewal application. Indigenous consultation refers to the common law duty to consult with Indigenous Nations and communities pursuant to section 35 of the [Constitution Act, 1982](#).⁶²

152. The common law duty to consult with Indigenous Nations and communities is engaged when the Crown contemplates action that may adversely affect established or potential Aboriginal and/or treaty rights. The CNSC, as an agent of the Crown and as Canada's nuclear regulator, recognizes and understands the importance of building relationships and engaging with Canada's Indigenous Nations and communities. The CNSC ensures that its licensing decisions under the NSCA uphold the honour of the Crown and consider potential impacts to claimed or established Aboriginal and/or treaty rights pursuant to section 35 of the *Constitution Act, 1982*.
153. The duty to consult is engaged wherever the Crown has "knowledge, real or constructive, of the potential existence of an Aboriginal right or title and contemplates conduct that might adversely affect it".⁶³ Licensing decisions of the Commission, where Indigenous interests may be adversely impacted, can engage the duty to consult, and the Commission must be satisfied that it has met the duty prior to making the relevant licensing decision.

Indigenous Engagement by CNSC Staff

154. In section 4.1 of CMD 23-H7, CNSC staff provided the Commission with information about its engagement activities with the Indigenous Nations and communities that were identified as having a potential interest in Cameco's licence renewal application for the RLO. CNSC staff identified the following Indigenous Nations and communities due to the proximity of their communities, treaty areas, and/or traditional territories and homelands to the RLO, or due to previously expressed interest in being kept informed:
- Black Lake Denesūłiné First Nations
 - English River First Nation
 - Fond du Lac Denesūłiné First Nations
 - Hatchet Lake Denesūłiné First Nations
 - Lac La Ronge Indian Band
 - Métis Nation Saskatchewan (Northern Region 1)
 - Prince Albert Grand Council
 - Ya'thi Néné Lands and Resources Office (representing Black Lake, Hatchet Lake, and Fond du Lac Denesūłiné First Nations as well as the municipalities of Stony Rapids, Uranium City, Wollaston Lake, and Camsell Portage)

CNSC staff added that it had also notified the [Northern Saskatchewan Environmental Quality Committee](#), which has an interest in all uranium projects in northern Saskatchewan and which has representatives from the majority of the northern

⁶² Schedule B to the *Canada Act, 1982* (UK), 1982, c 11.

⁶³ *Haida Nation v. British Columbia (Minister of Forests)*, 2004 SCC 73 at para 35.

municipal and First Nation communities located in the Northern Saskatchewan Administration District.

155. CNSC staff reported that engagement on Cameco's renewal application for the RLO, including in-person meetings, started in May 2021. CNSC staff further noted that on September 15, 2022, it hosted Indigenous Nations and communities at a hybrid engagement session in Saskatoon on the [Regulatory Oversight Report for Uranium Mines and Mills in Canada: 2021](#), when it also answered questions on Cameco's licence application and the hearing for the RLO. CNSC staff added that on September 26, 2022, it sent letters of notification to the Indigenous Nations and communities listed above. The letters provided information regarding the licence renewal application and details on how to participate in the Commission's public hearing process. CNSC staff noted that it followed-up with the identified Indigenous Nations and communities to confirm receipt of the letters and to answer any questions.
156. CNSC staff submitted that it encouraged all of the identified Indigenous Nations and communities to participate in the regulatory review process and in the public hearing to advise the Commission directly of any concerns they may have in relation to Cameco's licence renewal application for the RLO.
157. CNSC staff reported that, throughout the consultation and engagement activities, representatives from Indigenous Nations and communities consistently expressed concerns with Cameco potentially receiving a licence period longer than 10 years. CNSC staff added that it heard concerns that, from the Indigenous Nations and communities' perspectives, a longer licence period would reduce the number of public hearings and opportunities for meaningful interaction with the Commission. CNSC staff further reported that these concerns helped inform CNSC's staff recommendation for a 15-year licence renewal term, with a mid-term report from Cameco.
158. CNSC staff noted that the requirements and guidance for licensees whose proposed projects may raise the Crown's duty to consult are set out in [REGDOC-3.2.2, Indigenous Engagement](#).⁶⁴ CNSC staff submitted that Cameco's licence renewal application is not expected to cause any new adverse impacts to potential or established Indigenous and/or Treaty rights.

Indigenous Engagement by Cameco

159. In section 4 of CMD 23-H7.1, Cameco provided information regarding its ongoing engagement with Indigenous Nations and communities near the RLO. Cameco reported that the primary audience for its engagement activities are the rights-bearing First Nation and Métis communities and municipalities of the Athabasca Basin located in the vicinity of the RLO, specifically:

⁶⁴ REGDOC-3.2.2, *Indigenous Engagement*, CNSC, August 2019.

- Black Lake Denesūliné First Nations
 - Fond du Lac Denesūliné First Nations
 - Hatchet Lake Denesūliné First Nations
 - Northern settlement of Camsell Portage
 - Northern Hamlet of Stony Rapids
 - Northern Settlement of Uranium City
 - Northern Settlement of Wollaston Lake (the adjoined communities of Hatchet Lake and Wollaston are located closest to the RLO)
160. Cameco reported that it signed Collaboration Agreements with the identified nations. Cameco specified that the collaboration agreements are structured to promote:
- workforce development
 - business development
 - community investment and community engagement
 - environmental stewardship
161. In keeping with REGDOC-3.2.2, Cameco prepared and submitted an Indigenous Engagement Report in [CMD 23-H7.1A](#). The report includes information on:
- engagement principles
 - identification of indigenous groups
 - engagement methods
 - summary of indigenous engagement activities to date
 - planned indigenous engagement activities

Submissions by Indigenous Nations and Communities, Organizations and Individuals

162. The Commission received written submissions and/or oral interventions from the following Indigenous Nations and communities, organizations and individuals:
- Northern Village of Beauval
 - Northern Village of Ile-a-la-Crosse
 - Ken Coates
 - Athabasca Basin Development
 - Canada North Environmental Services (CanNorth)
 - PBN Construction
 - Rick Robillard
 - Men of the North Inc.
 - Harry Lariviere
 - Victor Fern Sr
 - Chelsea Iron, Darlene Gazandlare and Brenda McDonald
 - Ya'thi Néné Lands and Resources Office
 - English River First Nation
 - Birch Narrows Dene Nation

- Kineepik Metis Local #9
- Lac la Ronge Indian Band
- Kitsaki Management Limited Partnership
- Candyce Paul
- Athabasca Joint Engagement and Environmental Subcommittee
- Métis Nation-Saskatchewan

The detailed list of written and oral interventions is summarized in Appendix A.

Birch Narrows Dene Nation

163. In its written submission, Birch Narrows Dene Nation (BNDN) ([CMD 23-H7.29](#)) expressed the view that a 20-year licence would result in lost opportunities to provide input into the project, especially since Cameco is not currently engaging with the BNDN. The BNDN submitted that its community members are concerned with the cumulative impacts of the RLO to the environment.
164. The BNDN also expressed concerns regarding the liner placed at the base of the RLO ore stockpile when the mine went into care and maintenance. The BNDN noted that the liner was placed to minimize contamination beneath the ore stockpile, but it is not clear the extent to which Cameco has assessed the existing soil contamination or performed any remediated of the soil under the ore stockpile. The Commission asked Cameco for more information regarding the liner. A representative from Cameco answered that Cameco performs routine inspections and ongoing maintenance for the liner to ensure continued adequacy of containment. The representative from Cameco further noted that environmental monitoring, which includes groundwater and surface water downgradient from the liner facilities, confirms that the liner is functioning as intended.
165. The BNDN also submitted concerns regarding the monitoring results at Horseshoe Pond, which show that several metals have elevated concentrations, thus presenting a risk to aquatic life. The Commission asked Cameco to discuss the monitoring results for Horseshoe Pond, in terms of metals and sediments levels. A representative from Cameco noted that the 2022 comprehensive aquatic monitoring results for the Horseshoe Creek drainage demonstrate that all parameters are within regulatory limits and no temporal trends were noted. CNSC staff noted that the data measured by Cameco is reviewed by CNSC staff and that trends in the environment are stable and decreasing over time.

Ya'thi Néné Lands and Resources Office

166. In its written submission, Ya'thi Néné Lands and Resources Office (YNLR) ([CMD 23-H7.30](#)) expressed the view that a 20-year licence would result in lost opportunities for Athabasca Basin communities to influence mining activities as well as reduced consultation and engagement from Cameco. YNLR mentioned that its community members were also concerned that environmental monitoring would become less of a

priority to Cameco if a 20-year licence were granted and that communities would receive less information about monitoring results nor be involved in such efforts.

167. YNLR expressed general concern regarding the impact that the RLO would have on the environment and land use over a 20-year licence period. The Commission asked YNLR to further comment on its concerns regarding the RLO land use changes. A YNLR representative responded that the quality of the water around RLO was the main concern.
168. The Commission asked for the YNLR's views on the effects of the RLO on the YNLR community members' traditional way of life. An YNLR representative responded that its community members currently have access to the traditional habitat for hunting and fishing in all areas where Cameco operations are present. The YNLR representative added that YNLR is concerned that a longer licence period may restrict these areas for future generations.

Kineepik Metis Local #9

169. In its written submission, the Kineepik Metis Local #9 ([CMD 23-H7.17](#)) expressed its support for Cameco's licence renewal application. The Kineepik Metis Local #9 expressed the view that the RLO is safe and relatively environmentally friendly. Kineepik Metis Local #9 also advocated that its community members need an education system that includes advanced math and science to be able to perform in a modern uranium mining operation, while maintaining an Indigenous identity.
170. The Kineepik Metis Local #9 submitted that progressive reclamation and the need to develop personnel who understand and can initiate programs that include progressive reclamation of the mining and milling operations at the RLO are topics of great interest to them. Asked about Kineepik Metis Local #9's interest in progressive reclamation at the RLO,⁶⁵ a Kineepik Metis Local #9 representative noted that the intent of the community's involvement in the progressive reclamation was to support the community's science, technology, engineering and math (STEM) education system in order to have the knowledge in the community when Cameco ultimately releases the site. A Cameco representative noted Cameco's commitment to support the Pinehouse Professional Scholarship Program or part of a scholarship program for the development of white-collar jobs in the community.

Lac La Ronge Indian Band and the Kitsaki Management Limited Partnership

171. In its written submissions, the Lac La Ronge Indian Band and the Kitsaki Management Limited Partnership ([CMD 23-H7.13](#) and [CMD 23-H7.14](#)) expressed their support for

⁶⁵ Cameco's progressive reclamation activities at the RLO are further discussed in sections 4.2.5 and 4.2.11 of this *Record of Decision*.

Cameco's licence renewal request. The Lac La Ronge Indian Band and the Kitsaki Management Limited Partnership highlighted Cameco's adequate communications.

172. Asked for their views on Cameco's performance with respect to health and safety and environmental protection, the representative from Lac La Ronge Indian Band noted Cameco's strong environmental protection program and safety culture, adding that it had not heard concerns from other community members.

Candyce Paul, Member of English River First Nation

173. In her written submission, Candyce Paul ([CMD 23-H7.20](#)), a member of English River First Nation, expressed the view that Cameco was disrupting Dene hunting and gathering activities, and that Cameco's operations significantly impacted wildlife and microorganisms in the area. The intervenor also noted concerns related to Cameco's disclosure of activities thought to have occurred at the RLO, including material being brought in via military transport planes.
174. The intervenor noted that a 2004 study by J.R. Muscatello showed that the DNA of aquatic microorganisms changed due to uranium accumulation. In response to the concerns raised by the intervenor, the Commission enquired about the study on microorganisms and its implications. CNSC staff noted that the study in question found no observable effects for concentrations below 39 micrograms per liter in water, a limit that is above any of the reported concentrations at the RLO.
175. When asked to discuss the question of materials being brought to the RLO by military transport planes, a Cameco representative stated that there was no record of anything being brought in by military transport plane to the RLO site or any other Cameco facility.
176. Noting the intervenor's specific concerns, the Commission asked about the mechanisms available for individuals to raise issues with the CNSC. CNSC staff responded that there are several mechanisms for individuals, such as members of the public, contractors or employees, to raise concerns, including:
- an external complaints process, which is a fully confidential process
 - inspector interviews or conversations during field inspections
 - outreach sessions in the community

Athabasca Joint Engagement and Environmental Subcommittee

177. In its written submission, the Athabasca Joint Engagement and Environmental Subcommittee (AJES) ([CMD 23-H7.16](#)) gave an overview of the subcommittee. AJES submitted that it is composed of representatives from the Black Lake Denesūliné First Nations, Fond du Lac Denesūliné First Nations, Hatchet Lake Denesūliné First Nations, the Athabasca municipalities (Uranium City, Camsell Portage, Stony Rapids, Wollaston

Lake) and the Executive Director of the Ya'thi Néné Lands and Resources Office, who serve as the first point of contact for Cameco and Orano with respect to community engagement. AJES submitted that one of its roles was to review the Community-Based Environmental Monitoring Program. AJES reported that the results of this program have all demonstrated that Athabasca communities are not negatively impacted by active uranium mining and milling operations in the region, and that traditional country foods near these communities remain safe.

178. The Commission enquired whether some community members had concerns with harvesting traditional country food despite traditional country food remaining safe near these communities. An AJES representative explained that its community members had concerns about consuming fish from Beaver Lodge Lake due to the water and fish advisories in this area as a result of legacy mining in the region.

Métis Nation-Saskatchewan

179. In its written submission, the Métis Nation-Saskatchewan (MN-S) ([CMD 23-H7.32](#)) expressed the view that Cameco has not carried out meaningful engagement with MN-S and Locals, nor did it include Métis knowledge in the licence renewal application for the RLO. MN-S also noted that Cameco's environmental monitoring program and the conclusions drawn from it do not reflect Métis Knowledge and land use. The MN-S submitted a number of recommendations, including the following:
- development and implementation of an Indigenous Engagement program with and for the MN-S
 - site visits for and periodic meetings with MN-S representatives
 - funding opportunities for MN-S to conduct a Métis Knowledge Study to understand potential effects to the Métis resulting from a licence renewal for the RLO
 - co-development of a Collaboration Agreement with MN-S and any impacted Métis Northern Region 1 (NR1), Métis Northern Region 2 (NR2) and Métis Northern Region 3 (NR3) Regional Directors and Locals who are not signatories to existing Collaboration Agreements
 - Métis involvement in environmental monitoring programs that impact Indigenous land use
180. When asked to comment on the information submitted by MN-S, a Cameco representative noted the ongoing engagement with Northern communities, with particular emphasis on those who are closest to the RLO site. The Cameco representative noted that the governance structure of the MN-S is evolving, and that Cameco would engage with the MN-S in the future.
181. The Commission asked how Cameco was planning to respond to the recommendations put forward by the MN-S in its intervention. A Cameco representative reaffirmed Cameco's commitment to developing its relationship with the MN-S to better understand its concerns. A Cameco representative suggested that Cameco's existing

environmental monitoring programs could incorporate traditional knowledge from the MN-S, instead of creating new programs. The Commission encourages Cameco to address the MN-S's specific recommendations. The Commission expects Cameco to develop an action plan, taking into account MN-S's recommendations and submit it to CNSC staff by the end of 2023. The Commission further expects Cameco to provide an update at the 2030 mid-term update.

English River First Nation

182. In its written submission, the English River First Nation (ERFN) ([CMD 23-H7.21](#)) noted that its relationship with Cameco was relatively positive and mutually-beneficial. However, ERFN submitted that it did not support the proposed 20-year licence period. ERFN expressed that a term of between 5 and 7 years would be more appropriate in the present context. ERFN submitted that Cameco's proposed term and its recent engagement is not consistent with Canada's [United Nations Declaration of the Rights of Indigenous Peoples](#) (UNDRIP) commitment. ERFN submitted that, although Cameco has made positive impacts in the ERFN community in the past, its relationship with ERFN needs resetting and re-evaluation of the terms of their Collaboration Agreement.
183. The Commission asked Cameco about the evolution of its engagement with Indigenous communities and how it may change in the future, considering the UNDRIP. A Cameco representative reported that Cameco and ERFN signed a Collaboration Agreement in 2013 that is currently under review. A Cameco representative stated that Cameco supports the principles of the UNDRIP, which is put into practice through the formal agreements with Indigenous Nations and communities, proactive engagement activities, and working to improve its understanding of local Indigenous peoples. The Cameco representative added that Cameco believes that Indigenous peoples and local communities should benefit from resource development on or near their communities or traditional lands through employment, training, business opportunities, community investment, and environmental stewardship.
184. The Commission asked for CNSC staff's perspective regarding the implementation of the *United Nations Declaration on the Rights of Indigenous Peoples Act* (UNDRIP Act).⁶⁶ CNSC staff reported that the Canadian government has been working on an Action Plan for the full implementation of the UNDRIP Act across the federal government. CNSC staff added that, from the CNSC perspective, the implementation of the UNDRIP Act could result in changes to CNSC's requirements and expectations, such as those found in REGDOC-3.2.2. CNSC staff also noted that, as such changes take place, there are mechanisms in place (e.g., through the Licence Conditions Handbook) to reflect them with the licensees, regardless of the licensing term.

⁶⁶ S.C. 2021, c. 14.

4.3.1 *Conclusion on Indigenous Consultation and Engagement*

185. The Commission acknowledges the current efforts and commitments made by Cameco in relation to Indigenous engagement and CNSC staff's efforts in this regard on behalf of the Commission with respect to this licence renewal application. The Commission also acknowledges and appreciates the participation of, and the information and submissions provided by, all of the Indigenous intervenors.
186. The quasi-judicial decision-making being undertaken by the Commission in the matter – the “Crown conduct” that could trigger a duty to consult – is the licence renewal. The application for licence renewal does not include any new project or undertaking at the RLO. The relevant question, therefore, is whether the licence renewal has the potential to affect asserted Indigenous rights in a novel way.⁶⁷
187. Based on the information presented on the record for this hearing, and having heard the submissions of all hearing participants, the Commission is satisfied that the licence renewal for the RLO does not include any new activities that could cause new impacts on the environment or changes in the ongoing licensed activities at the RLO site. Therefore, this licence renewal will not cause any new adverse impacts to any potential or established Indigenous and/or treaty rights.⁶⁸ The Commission is satisfied that the consultation and engagement activities were appropriate and sufficient to appropriately discharge any duty to consult obligations.
188. Nonetheless, the Crown's responsibility to Indigenous peoples and in its dealings with Indigenous peoples also requires upholding the honour of the Crown⁶⁹ and working towards reconciliation, a fundamental purpose of section 35 of the Constitution. In seeking to uphold the honour of the Crown, the Commission considers carefully the concerns raised by Indigenous Nations and communities, keeping an open mind, and seeking to accommodate concerns where possible. A strict legal interpretation of the extent of the duty need not constrain the Commission's commitment to reconciliation. The Commission is of the view that the honour of the Crown has been upheld in this licensing matter, given the extent of the engagement activities and the opportunities provided by the participant funding program and the public hearing.
189. With respect to the UNDRIP, the Commission notes that it is not the Commission's role to take novel interpretations of law or determine how to interpret the UNDRIP in Canadian law. The Commission's decision making must be guided by the current law on the duty to consult and the legal parameters for its decision making under the NSCA.

⁶⁷ As noted in *Rio Tinto*, the effects that would trigger a duty to consult are not the effects of the historical harm done. Where there are ongoing effects of historical harm, other types of redress are available to an Indigenous nation or community, outside the duty to consult.

⁶⁸ *Rio Tinto Alcan v. Carrier Sekani Tribal Council*, 2010 SCC 43 at paras 45, 48-49.

⁶⁹ *Rio Tinto Alcan v. Carrier Sekani Tribal Council*, 2010 SCC 43 at paras 45, 49.

190. The Commission is satisfied with CNSC staff's efforts to engage with Indigenous Nations and communities who may have interest in the RLO, as described. The efforts made by CNSC staff in this regard are key to the important work of the Commission toward reconciliation and relationship-building with Canada's Indigenous Nations and communities. The Commission expects CNSC staff to continue to build meaningful long-term relationships with Indigenous Nations and communities as part of the CNSC's reconciliation efforts.
191. The Commission also heard Cameco's clear intention regarding ongoing engagement efforts with Indigenous Nations and communities. The Commission notes the signed engagement agreements between Indigenous Nations and communities and Cameco, and expects that Cameco will continue to make best efforts to establish relationship agreements with interested Indigenous Nations and communities for the discussion of issues and concerns regarding the RLO.

4.4 Other Matters of Regulatory Importance

4.4.1 Public Engagement

192. A public information and disclosure program (PIDP) is a regulatory requirement for licence applicants and licensed operators under paragraph 3(c)(i) of the UMMR. In section 4.2 of CMD 23-H7.1, Cameco submitted that its PIDP was designed to ensure that local target audiences with an interest in the RLO are informed on a timely basis about operations, activities, and anticipated effects on the environment and the health and safety of persons, in order to elicit feedback and provide meaningful response, and thereby build the trust and support of interested parties. Cameco added that its primary audience for the PIDP are the rights-bearing First Nation and Métis communities, and municipalities of the Athabasca Basin, which are in the vicinity of the site.
193. In section 3.4 of CMD 23-H7.1, Cameco submitted that, in accordance with [REGDOC-3.2.1, Public Information and Disclosure](#),⁷⁰ it posted information on its website about any significant event that occurred outside of normal operations.
194. In section 4.3 of CMD 23-H7, CNSC staff submitted that Cameco's PIDP for the RLO meets the regulatory requirements, including the specifications of REGDOC-3.2.1. CNSC staff reported that Cameco's PIDP for the RLO:
- identifies clear goals and objectives in terms of dissemination of information to the Athabasca Basin Communities, the Northern Administrative District and the province of Saskatchewan
 - is available to the public and is posted on the licensee's [website](#)
 - provides information on the facilities requiring a CNSC licence for nuclear related activities

⁷⁰ REGDOC-3.2.1, *Public Information and Disclosure*, CNSC, May 2018.

CNSC staff noted that Cameco adapted its public information programs in light of the challenges raised by the COVID-19 pandemic by offering increased digital communications whenever possible.

195. Based on the information on record as described above, the Commission concludes that Cameco has adequate measures in place to communicate to the public information about the health, safety and security of persons and the environment and other issues related to the RLO. The Commission finds that:
- Cameco's PIDP for the RLO meets the requirements of REGDOC-3.2.1
 - Cameco met its public disclosure and reporting obligations throughout the current licence period

Notwithstanding the above, and in the spirit of continuous improvement, the Commission expects Cameco to periodically update its website in a timely manner and provide an open and transparent means and access for the public to obtain desired operational, environmental and safety information about the licensed facility or activities. The Commission strongly encourages Cameco – and all licensees – to pursue how to make its reporting data readily available and machine readable, including redacted versions of documents, where possible.

4.4.2 *Decommissioning Plans and Financial Guarantee*

196. The NSCA and its Regulations require licensees to make adequate provision for the safe decommissioning of their facilities and for the long-term management of waste produced during the lifespan of a facility. In order to ensure that adequate resources are available for the safe and secure future decommissioning of the RLO, the Commission requires that an adequate financial guarantee for the realization of planned activities be put in place and maintained in a form acceptable to the Commission throughout the licence period.
197. In section 5.2 of CMD 23-H7, CNSC staff noted that Cameco has an acceptable Preliminary Decommissioning Plan (PDP) and updated financial guarantee in place. The Commission accepted Cameco's financial guarantee for the RLO in [March 2021](#).⁷¹ CNSC staff noted that Cameco has a requirement to update its PDP and its preliminary decommissioning cost estimate (PDCE) on a 5-year cycle. CNSC staff further noted that, to fulfill this requirement, Cameco submitted a revised PDP and PDCE in December 2022, which are currently being reviewed by CNSC staff against the requirements in REGDOC-3.3.1. CNSC staff noted that the Commission would consider any proposed revision of the existing financial guarantee for the RLO in a separate Commission hearing.

⁷¹ Record of Decision, DEC 20-H107, *Application for Acceptance of a Revised Financial Guarantee and Licence Modernization Amendment for Cameco Corporation's Rabbit Lake Operation*, March 9, 2021.

198. In section 4.6 of CMD 23-H7.1, Cameco reported that the revised PDP and PDCE implements the requirements in REGDOC-2.11.2 and REGDOC-3.3.1. In the CMD, Cameco also reported that its preliminary decommissioning plan (PDP) was created under a hypothetical “decommission tomorrow” scenario. Cameco noted that its PDP describes the methodology that would be undertaken to decommission the operations in the event that Cameco becomes insolvent and cannot fulfill its decommissioning obligations.
199. Cameco also noted that its PDP and the accompanying Preliminary Decommissioning Cost Estimate (PDCE) were prepared in accordance with:
- CSA N294-19, *Decommissioning of Facilities Containing Nuclear Substances*⁷²
 - REGDOC-2.11.2, *Decommissioning*
 - REGDOC-3.3.1, *Financial Guarantees for Decommissioning of Nuclear Facilities and Termination of Licensed Activities*

The preliminary decommissioning plan and costs estimate documents are inclusive of anticipated activities at RLO to the end of 2023. Cameco noted that it is currently addressing comments from the CNSC and the Saskatchewan Ministry of Environment on its revised PDP and PDCE, prior to submission of final documents for acceptance.

200. Noting requests for information on the PDP from CELA, the Commission enquired about the process by which decommissioning documents are shared and evaluated. CNSC staff reported that licensees are not required to publicly post their PDPs, and that Cameco’s posting of summary PDPs was considered to be a best practice. CNSC staff explained the difference between PDPs and detailed decommissioning plans (DDP), stating that PDPs are conceptual plans for decommissioning that are regularly updated as technology evolves and regulatory requirements change. CNSC staff added that the development of DDPs,⁷³ which are required for an application for a licence to decommission, includes public and Indigenous consultations as the information gained from consultations can be used to determine the end state for a facility.
201. The Commission is satisfied that the PDP and related financial guarantee for decommissioning Cameco’s facility are in place and are acceptable to the Commission.

4.4.3 Cost Recovery

202. The Commission examined Cameco’s standing under the [Canadian Nuclear Safety Commission Cost Recovery Fees Regulations](#) (CRFR)⁷⁴. Paragraph 24(2)(c) of the NSCA requires that a licence application be accompanied by the prescribed fee, as set out by the CRFR and based on the activities to be licensed.

⁷² CSA N294-19, *Decommissioning of Facilities Containing Nuclear Substances*, CSA Group, 2019.

⁷³ REGDOC-2.11.2, *Decommissioning*, section 7.1 *Detailed decommissioning plan* states the requirements for a DDP and what the DDP should cover.

⁷⁴ SOR/2003-212.

203. In section 4.5 of CMD 23-H7.1, Cameco submitted that it remained in good standing with respect to the payment of all CNSC cost recovery fees for the RLO during the licence period. In section of 5.1 of CMD 23-H7, CNSC staff further submitted that Cameco is in good standing with the CRFR requirements.
204. Based on the information submitted by Cameco and CNSC staff, the Commission is satisfied that Cameco has complied with the requirements of the CRFR and the NSCA for the purpose of this licence renewal application.

4.4.4 Nuclear Liability Insurance

205. The RLO is not designated as a nuclear installation under the [*Nuclear Liability and Compensation Act*](#) (NLCA).⁷⁵ Cameco only processes natural uranium ore which is excluded from the definition of nuclear material under the NLCA.
206. Based on the information provided on the record for this hearing, the Commission is satisfied that Cameco is not required to maintain nuclear liability insurance under the NLCA.

4.5 Licence Period and Conditions

207. The Commission considered Cameco's application to renew its Uranium Mine and Mill Licence for the RLO, UML-MINEMILL-RABBIT.01/2023, for a 20-year term, from November 1, 2023, to October 31, 2043. Cameco's current licence, UML-MINEMILL-RABBIT.01/2023, expires on October 31, 2023. Cameco did not request any changes to the licenced activities or to the licence conditions. Cameco noted that it revised its original application for an indefinite operational period in response to the questions and concerns raised by Indigenous Nations and communities during its early engagement activities conducted in support of the licence renewal.

4.5.1 Licence Period

208. In section 5 of its submission (CMD 23-H7.1), Cameco submitted that based on its performance and continuous improvements at the RLO, it is qualified to carry on the licensed activities planned for the proposed 20-year licence period. Cameco further submitted that it would continue to make the necessary provision for protecting the health and safety of workers and the public as well as the environment.
209. Asked about the impact of supply agreements on the current operations and licence length, a Cameco representative responded that a 20-year licence period would provide both operational and regulatory certainty to support Cameco's international supply agreements.

⁷⁵ S.C. 2015, c. 4, s. 120.

210. In section 5.5.2 in CMD 23-H7, CNSC staff recommended that the Commission renew the licence for a period of 15 years, until October 31, 2038. CNSC staff reported that the recommendation is based on the fact that the RLO has been in a state of care and maintenance for an extended period of time (since 2016), with no indication that its status will change in the foreseeable future. CNSC staff further noted that, since the RLO is an older facility, a return to production would require commissioning reports and assessments by Cameco, to demonstrate that safety is maintained through a transition back to operation.
211. In CMD 23-H7, CNSC staff reported that it reviewed Cameco's licence period request against the criteria from CMD 02-M12, *New Staff Approach to Recommending Licence Periods*⁷⁶ and found that a 15-year licence period would be reasonable based on those criteria. In Table 5.1 of CMD 23-H7, CNSC staff reported that Cameco met the criteria because:
- the recommended duration of the licence was commensurate with the licensed activity
 - the hazards associated with the licensed activity are well characterized and their impacts well predicted, and they are within the scope considered in the environmental safety case
 - Cameco has a management system in place to provide assurance that its safety-related activities are effective and maintained
 - effective compliance programs are in place
 - Cameco has shown a consistent and good history of operating experience and compliance in carrying out the licensed activity
 - Cameco's good standing under the *CNSC Cost Recovery Fees Regulations*
 - the planning cycle of the facility and the licensee's plans for any significant change in licensed activity
212. As reported in section 5 of CMD 23-H7, CNSC staff's assessment was that Cameco is qualified to carry on the activities authorized by the licence. CNSC staff noted that Cameco's performance was adequate over the current licence period, and that the CNSC regulatory approach can adapt to address any future changes during a 15-year licence period. The CNSC staff noted that the regulatory approach includes:
- a risk-informed approach to compliance verification which is dependent on the nature of Cameco's activity and not dependent on licence period
 - a comprehensive set of CNSC regulatory documents and CSA standards, which are periodically reviewed, updated and implemented
 - the Licence Conditions Handbook for the RLO, which clarifies and manages regulatory requirements and is periodically revised by CNSC staff
 - the requirement for Cameco to review and revise its ERA every 5 years
 - the periodic EPRs performed by CNSC staff, which are publicly available

⁷⁶ CNSC, CMD 02-M12, *New Staff Approach to Recommending Licence Periods*, March 2002.

In its CMD, CNSC staff further recommended that the Commission require Cameco to complete a mid-term review and provide an associated update to the Commission at the midpoint of the licence period.

213. A number of intervenors, including the Canada-India Business Council ([CMD 23-H7.2](#)), Saskatoon Chamber of Commerce ([CMD 23-H7.3](#)), Northern Village of Beauval ([CMD 23-H7.4](#)), Northern Village of Ile-a-la-Crosse ([CMD 23-H7.5](#)), Saskatoon Regional Economic Development Authority (SREDA) ([CMD 23-H7.6](#)), Saskatchewan Mining Association ([CMD 23-H7.7](#)), Ken Coates ([CMD 23-H7.8](#)), Athabasca Basin Development ([CMD 23-H7.9](#)), Orano Canada Inc. ([CMD 23-H7.10](#)), Saskatchewan Chamber of Commerce ([CMD 23-H7.11](#)), NSBA – Saskatoon’s Business Association ([CMD 23-H7.12](#)), Canadian Nuclear Association ([CMD 23-H7.15](#)), Canada North Environmental Services (CanNorth) ([CMD 23-H7.18](#)), PBN Construction ([CMD 23-H7.19](#)), Rick Robillard ([CMD 23-H7.22](#)), Men of the North Inc. ([CMD 23-H7.23](#)), Harry Lariviere ([CMD 23-H7.25](#)), Victor Fern Sr ([CMD 23-H7.26](#)), Jennifer Parada ([CMD 23-H7.27](#)), Chelsea Iron, Darlene Gazandlare and Brenda McDonald ([CMD 23-H7.28](#)), and Maria Santos ([CMD 23-H7.33](#)) submitted letters in support of Cameco’s request for licence renewal for the RLO and the proposed 20-year licence renewal term.
214. Several intervenors, including Nuclear Transparency Project ([CMD 23-H7.24](#)), Birch Narrows Dene Nation ([CMD 23-H7.29](#)), Ya’thi Néné Lands and Resources Office (YNLR) ([CMD 23-H7.30](#)), Canadian Environmental Law Association ([CMD 23-H7.31](#)), and English River First Nation ([CMD 23-H7.21](#)) expressed concerns with the requested 20-year licence period, and recommend a shorter licence period (e.g., 5-year licence period). The intervenors submitted that a shorter licence period would allow for more frequent public interventions and opportunities to express their concerns.
215. The Nuclear Transparency Project submitted that, with longer licence periods, civil society organizations would have few supported opportunities to engage with licensees or CNSC staff on matters of regulatory oversight. The Nuclear Transparency Project also expressed that Commission meetings regarding *Regulatory Oversight Reports* cannot compare procedurally with facility-specific licensing or relicensing hearings, noting that civil society organizations have generally not been invited or permitted to make oral submissions before the Commission during such meetings. The Commission acknowledges and appreciates the views shared by intervenors regarding the importance of having opportunities to present their views to the Commission.
216. Based on the information provided on the record for this hearing, the Commission concludes that a 15-year licence period is appropriate. The Commission’s decision is based on the following:
 - the Commission agrees with the information submitted by CNSC staff which demonstrates that Cameco is qualified to carry on the licensed activities

- the Commission is satisfied that the information on record demonstrates that Cameco has mature programs in place, with adequate performance and oversight
 - since RLO is an older facility which has been in a state of care and maintenance for an extended duration, a return to production would require Cameco to demonstrate through commissioning reports and assessments that safety is maintained through a transition back to operation
 - the public will have the opportunity to provide feedback to the Commission on Cameco's operations periodically during the renewed 15-year licence period, as part of the *Regulatory Oversight Report for Uranium Mines and Mills*
217. With this decision, the Commission directs CNSC staff to report on the performance of Cameco and the RLO as part of the periodic *Regulatory Oversight Report for Uranium Mines and Mills*. CNSC staff shall present the reports at public proceedings of the Commission, where members of the public will be able to participate. The Commission directs CNSC staff to inform the Commission, as part of the *Regulatory Oversight Report*, of any changes made to the Licence Conditions Handbook. CNSC staff may bring any matter to the Commission's attention, at any time, as required.
218. The Commission further directs that Cameco provide a comprehensive review and update to the Commission on the conduct of its licensed activities at the RLO at the mid-point of the licence period, i.e., in 2030. The update shall include information on the Environmental Risk Assessment (ERA), Preliminary Decommissioning Plan (PDP), Environmental Performance Report (EPR), and the impact of climate change on the licenced activities. The update shall be made at a public proceeding that is to be conducted in the community in proximity to the RLO and shall allow for the participation, both orally and in writing, of members of the public and Indigenous Nations and communities. For this update, CNSC staff shall provide information respecting Cameco's performance during the licence period across all SCAs, consolidating relevant information from the RORs, as well as a status update on the EPRR and on matters of regulatory importance to the Commission and the community. The Commission intends that these public meetings will allow a meaningful opportunity to hear and discuss the views of members of the public and Indigenous Nations and communities. The Commission is satisfied that these proceedings will adequately address the interest for the public, civil society organizations and Indigenous Nations and communities in this regard.

4.5.2 Licence Conditions

219. In Part 2 of CMD 23-H7, CNSC staff included a proposed licence applicable to the RLO, which incorporates the CNSC's standardized licence conditions. CNSC staff specified that Cameco did not request any changes to the licensed activities, and that the proposed licence captures all of the needed and applicable licence conditions for the facility.

220. CNSC staff proposes the inclusion in the licence conditions of a new licence condition 15.1 (Commissioning Report) stating that:

The licensee shall submit a commissioning report to the Commission, or a person authorized by the Commission, in the event of a return to operations.

CNSC staff explained that the proposed new licence condition will ensure regulatory oversight when or if Cameco decides to return the RLO to operations from its current state of care and maintenance.

221. The Commission accepts the proposed licence conditions, as submitted by CNSC staff in Part 2 of CMD 23-H7. The Commission is satisfied that the proposed licence is consistent with the activities to be licensed as well as the current licence. The Commission accepts the inclusion of the new licence condition 15.1 (Commissioning Report) as a reasonable one that will ensure adequate regulatory oversight of such a proposed change to RLO's operations being within the licensing basis.

4.5.3 Delegation of Authority

222. As set out in section 5.6 of CMD 23-H7, in order to provide adequate regulatory oversight of changes that are administrative in nature, and do not require a licence amendment nor Commission approval, CNSC staff recommended that the Commission delegate authority for certain approval or consent, as contemplated in licence conditions that contain the phrase "a person authorized by the Commission" to the following CNSC staff:

- 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

223. CNSC staff recommended that the Commission delegate authority for licence condition 3.2 (Reporting Requirements) and licence condition 15.1 (Commissioning Report). CNSC staff specified that licence condition 3.2 is in the existing licence and the delegation for reporting has previously been authorized. CNSC staff also specified that licence condition 15.1 is being included when/if the licensee decides to return to operations from its current state of care and maintenance. CNSC staff recommended that the proposed delegation of authority for licence condition 15.1 to be the same as that for licence condition 3.2.

224. The Commission agrees with the proposed delegation for the purposes of licence condition 3.2 (Reporting Requirements) and licence condition 15.1 (Commissioning Report) to the above CNSC staff as recommended. The Commission notes that the delegation of authority of the identified licence conditions is for the purpose of the administration of these licence condition. In delegating authority for licence conditions 3.2 and 15.1, the Commission is authorizing CNSC staff to provide adequate regulatory oversight. The delegation of authority does not extend to authorizations

beyond the established licensing basis; such decisions remain solely within the purview of the Commission. The Commission is satisfied that this approach is reasonable.

4.5.4 Conclusion on Licence Period and Conditions

225. Based on the information examined by the Commission, the Commission is satisfied that a 15-year licence is appropriate. The Commission accepts the proposed standardized licence with licence conditions handbook, and the licence conditions including the additional proposed licence condition as recommended by CNSC staff in CMD 23-H7. The Commission also accepts CNSC staff's recommendation regarding the delegation of authority for the purpose of licence conditions 3.2 and 15.1. The Commission notes that CNSC staff can bring any matter to the Commission as required.

5.0 CONCLUSION

226. The Commission has considered Cameco's application for the renewal of its licence for the RLO for a 20-year period. The Commission has considered the information and submissions of Cameco, CNSC staff, and all participants, as set out in the material available for reference on the record, as well as the oral submissions made by the participants at the hearing.
227. Based on its consideration of the information on the record of this hearing, the Commission, pursuant to section 24 of the *Nuclear Safety and Control Act*, renews the Uranium Mine and Mill licence issued to Cameco Corporation for the RLO located in the Northern Saskatchewan for a period of 15 years. The renewed licence, UML-MINEMILL-RABBIT.00/2038, is valid from November 1, 2023 to October 31, 2038, unless suspended, amended, revoked or replaced.
228. Cameco shall provide a comprehensive review and update to the Commission on the conduct of its licensed activities at the RLO at the mid-point of the licence period, i.e., in 2030. The Commission intends that this public meeting will allow a meaningful opportunity to hear and discuss the views of members of the public and Indigenous Nations and communities.



Rumina Velshi
Presiding Member
Canadian Nuclear Safety Commission

October 24, 2023

Date

Appendix A – Intervenors

Intervenors – Oral Presentations	Document Number
Saskatchewan Mining Association, represented by B. Sigurdson	CMD 23-H7.7 CMD 23-H7.7A
Athabasca Basin Development, represented by G. Gay	CMD 23-H7.9
Orano Canada Inc., represented by C. Braithwaite and T. Searcy	CMD 23-H7.10 CMD 23-H7.10A
Lac la Ronge Indian Band and the Kitsaki Management Limited Partnership, represented by Chief T. Cook-Searson and A. Sklapsky	CMD 23-H7.13 CMD 23-H7.14
Canadian Nuclear Association, represented by S. Mirmiran and S. Coupland	CMD 23-H7.15
Athabasca Joint Engagement and Environmental Subcommittee, represented by G. McDonald, L. Bougie Still	CMD 23-H7.16
Kineepik Metis Local #9, represented by M. Natomagan and W. Smith	CMD 23-H7.17 CMD 23-H7.17A
Canada North Environmental Services, represented by C. Rees	CMD 23-H7.18 CMD 23-H7.18A
PBN Construction, represented by B. Thoudsanikone	CMD 23-H7.19
Candyce Paul	CMD 23-H7.20
English River First Nation, represented by C. Hunt	CMD 23-H7.21
Rick Robillard	CMD 23-H7.22 CMD 23-H7.22A
Harry Lariviere	CMD 23-H7.25
Victor Fern Sr., Victor Fern Jr., and Marty Fern	CMD 23-H7.26 CMD 23-H7.26A
Jennifer Parada	CMD 23-H7.27
Chelsea Iron, Darlene Gazandlare and Brenda McDonald	CMD 23-H7.28 CMD 23-H7.28A
Ya'thi Néné Land and Resource Office, represented by A. Disan, F. Throassie, M. Denechezhe and G. Schmidt	CMD 23-H7.30 CMD 23-H7.30A
Canadian Environmental Law Association, represented by S. Libman	CMD 23-H7.31 CMD 23-H7.31A
Maria Santos	CMD 23-H7.33
Métis Nation-Saskatchewan, represented by B. Laroque, L. Burnouf and H. Klein	CMD 23-H7.32 CMD 23-H7.32A

Intervenors – Written Submissions	
Canada-India Business Council	CMD 23-H7.2
Greater Saskatchewan Chamber of Commerce	CMD 23-H7.3
Northern Village of Beauval	CMD 23-H7.4
Northern Village of Ile-a-la-Crosse	CMD 23-H7.5
Saskatoon Regional Economic Development Authority	CMD 23-H7.6
Ken Coates	CMD 23-H7.8
Saskatchewan Chamber of Commerce	CMD 23-H7.11
NSBA-Saskatoon's Business Association	CMD 23-H7.12
Men of the North Inc.	CMD 23-H7.23
Nuclear Transparency Project	CMD 23-H7.24
Birch Narrows Dene Nation	CMD 23-H7.29
Karen Weingeist	CMD 23-H7.34