



## **Supplementary Information**

### **Presentation from Cameco Corporation**

In the Matter of the

#### **Beaverlodge Project**

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Application to amend the Waste Facility  
Operating Licence to allow for the removal  
of 20 properties at the Beaverlodge Project  
from its licence

#### **Commission Public Hearing**

**October 2, 2019**

## **Renseignements supplémentaires**

### **Présentation de Cameco Corporation**

À l'égard de

#### **Site Beaverlodge**

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Demande pour modifier le permis  
d'exploitation d'une installation de gestion  
des déchets pour permettre le retrait de  
20 propriétés du site Beaverlodge de son permis

#### **Audience publique de la Commission**

**Le 2 octobre 2019**

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*October 2, 2019*

# **CNSC Hearing Presentation**

## **Beaverlodge Property Release and Licence Amendment**

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**Cameco Corporation**

[cameco.com](http://cameco.com)



# Introduction

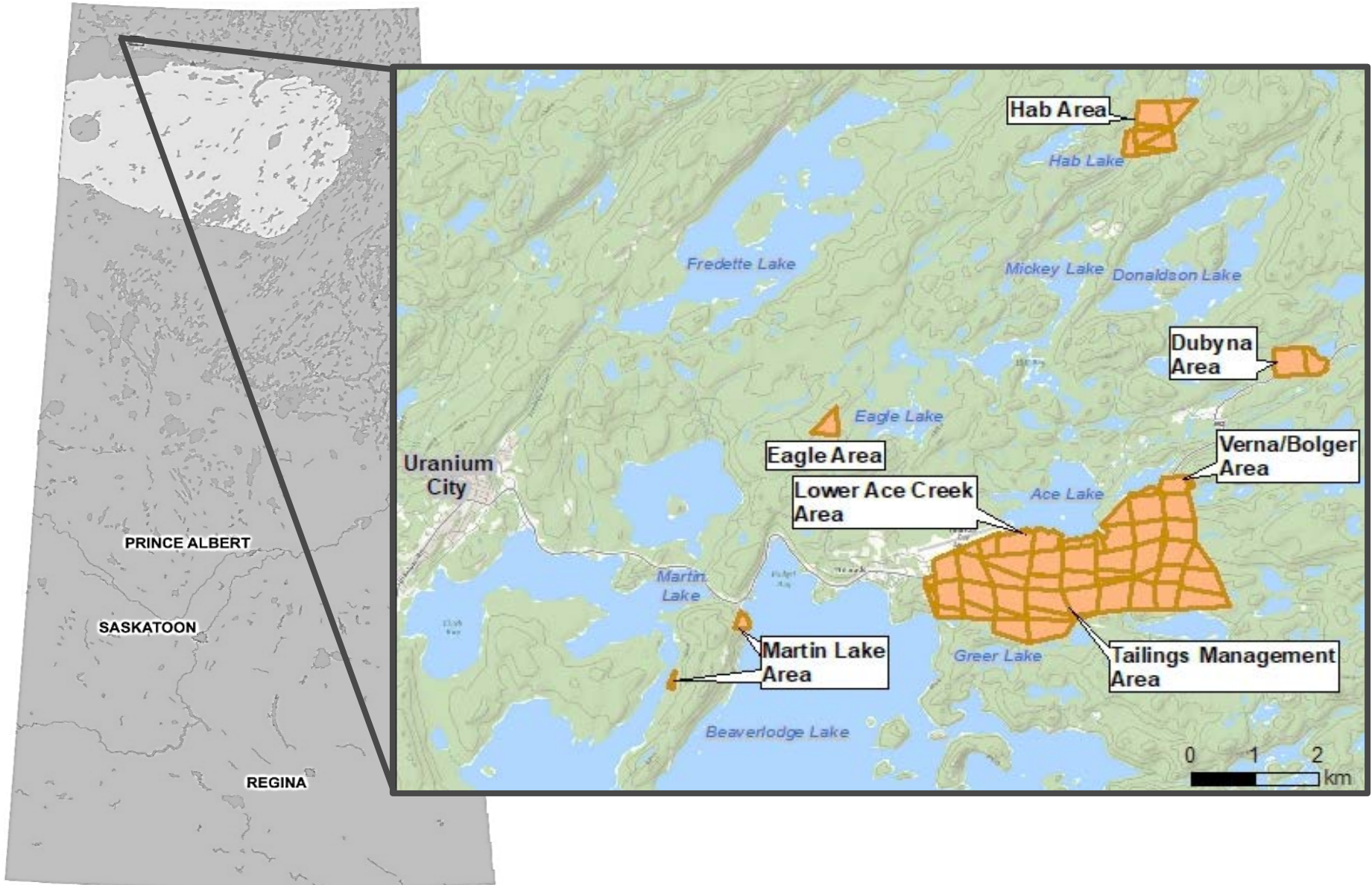
## Beaverlodge Decommissioned Properties

- **Cameco has been committed and capable manager since 1988**
- **Transition phase monitoring and maintenance activities**
- **Beaverlodge Management Framework**
  - Ongoing stakeholder engagement
  - Path Forward Plan
  - Ensure continued safety, security and stability
  - Protect the health and safety of the public and environment
  - Prepare properties for transfer into provincial Institutional Control program

# Presentation Overview

- 1. Location and Context**
- 2. Beaverlodge Management Framework**
- 3. Indigenous and Community Engagement**
- 4. Application Summary**
- 5. Performance Indicators and Evaluation**

# ▶ Beaverlodge Location



# ▶ Beaverlodge Context

## Operating

- 1952 to 1982
- Main site + satellite mines

## Transition Phase Monitoring

- 1985 to present
- Cameco since 1988
- Routine monitoring and inspections

1952

1982 1985

2007

2023 In IC →

## Decommissioning and reclamation

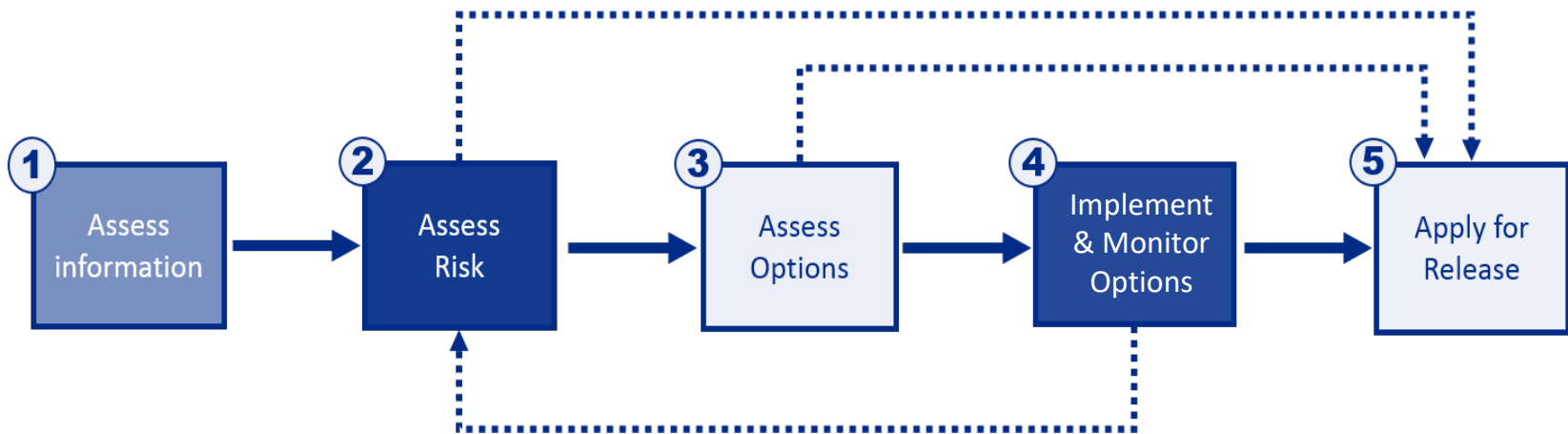
- Implemented 1982 – 1985
- Decommissioning plan approved by regulators of the day
- Safe and secure with expectation of natural recovery

## To Institutional Control

- 2007 implemented The Reclaimed Industrial Sites Act & Regulations
- 2009 five properties transferred to the IC program
- Beaverlodge Management Framework
- The Path Forward Plan

# ▶ Beaverlodge Management Framework

- Developed by Cameco with input from regulatory agencies and stakeholders
- **Step by step process** for how the decommissioned properties would be assessed and the final remedial options would be **selected, monitored and evaluated**
- Ensures residual risks are systematically evaluated
- Facilitate transfer to Institutional Control





# ▶ Beaverlodge Management Framework

## Beaverlodge Quantitative Site Model

- The model served three purposes:
  - Assess residual risks and natural recovery rates
  - Assess remedial options
  - Establish the performance criteria



# ▶ Beaverlodge Management Framework

## Remedial Options Workshops

- Held in 2009 and 2012 with local and regional stakeholders
- Presented various remedial options and their outcomes using the **QSM**
- Attendees included:
  - Uranium City, Northern Saskatchewan Environmental Quality Committee, regulators and Cameco
  - Local participants included an elder, youth, elected leadership and the Métis Nation-Saskatchewan Local 50



# ▶ Beaverlodge Management Framework

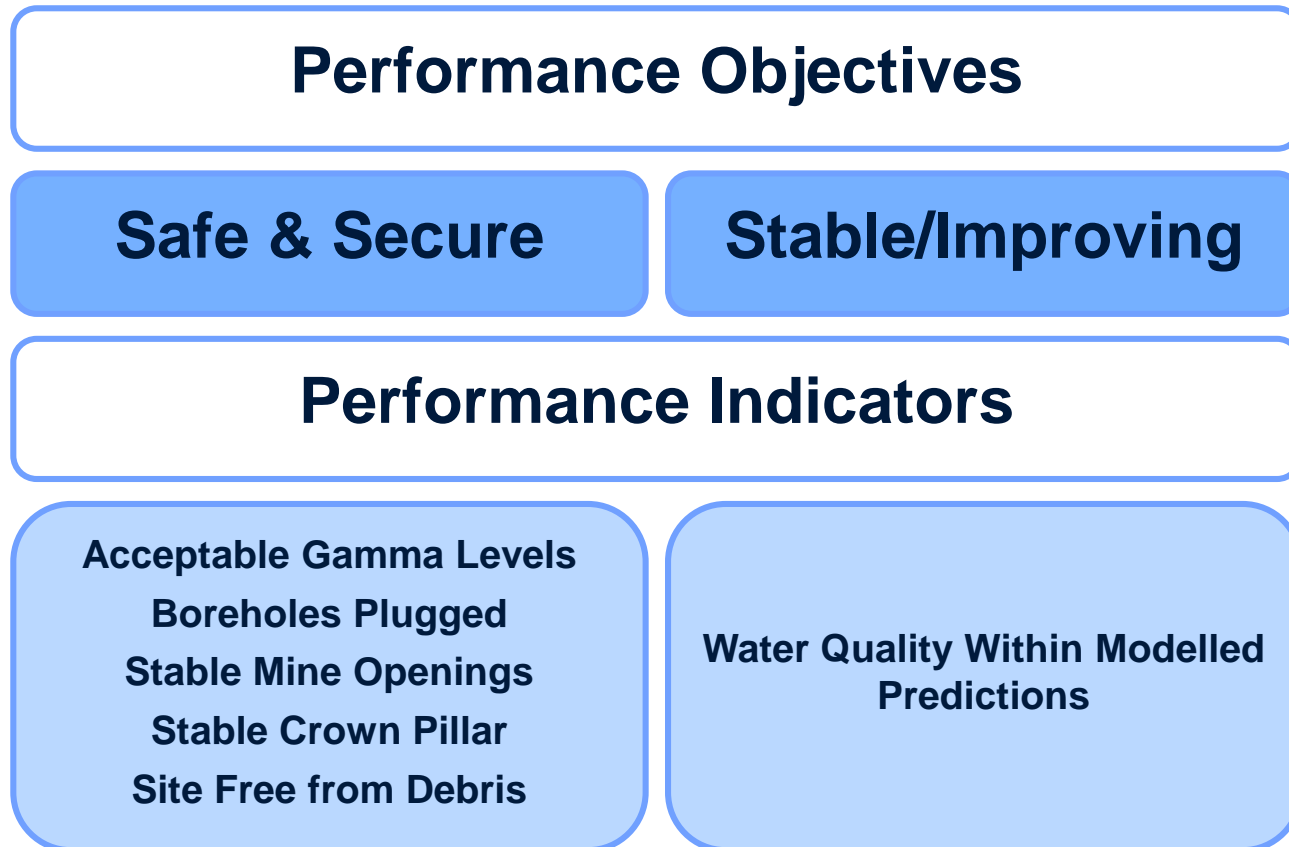
## Beaverlodge Path Forward Report

- Based on Management Framework, Quantitative Site Model, and remedial options workshops
- In 2013, the Commission accepted the Path Forward and granted Cameco a 10-year licence to implement the selected remedial options
  - Ensure the continued protection of people and environment
  - Prepare properties for transfer into Institutional Control program



# ▶ Beaverlodge Management Framework

- Included **Performance Criteria (objectives and indicators)** to evaluate success of remediation prior to transfer of the properties into Institutional Control



# ▶ Beaverlodge Management Framework

- Properties being transferred in a **staged approach**:



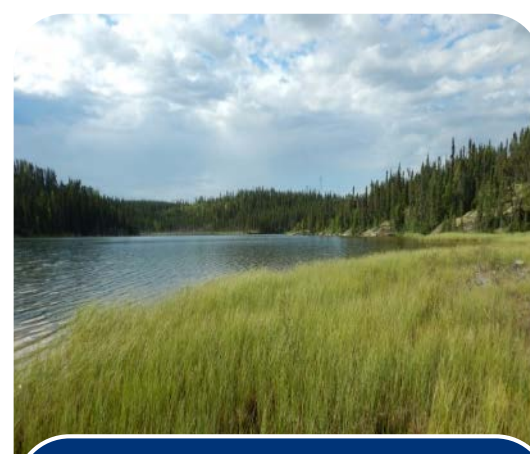
2009

- 5 properties transferred to the IC program
- Small satellite properties with minimal activity



2019

- 20 properties proposed for release from CNSC licensing
- Received letter of intent from SkMOE



2023

- Remaining 45 properties planned for transfer by 2023

# ▶ Indigenous & Community Engagement

- The following groups are the focus of engagement activities:
  - Northern Settlement of Uranium City
  - Northern Saskatchewan Environment Quality Committee (NSEQC)
  - Ya'thi Néné Land and Resource Office
  - Athabasca Joint Engagement and Environment Subcommittee (AJES)
    - ◆ Athabasca Working Group (AWG;1999-2016)
  - Métis Nation-Saskatchewan Local 50



# ▶ Indigenous & Community Engagement

- Cameco hosts **annual public meetings/site tours** in Uranium City
  - Review results of any activities that occurred since last meeting as well as planned activities
  - Encourage discussion after presentations
  - The 2019 meeting/site tour was held June 4 and specifically discussed the 20 properties subject to this request
- More recently, a presentation was made at a NSEQC meeting
- Multiple pre-hearing meetings and discussions to answer questions



# ▶ Indigenous & Community Engagement

- **Cameco keeps target audiences in communities with an interest in the decommissioned Beaverlodge properties informed by:**
  - Maintaining two-way communication channels;
  - Community based meetings/workshops;
  - Presenting to NSEQC meetings and sub-committee meetings;
  - Building capacity;
  - Broadly distributing relevant information
    - ◆ Fact-sheet and FAQ documents;
    - ◆ Opportunity North magazine;
    - ◆ Community library; and,
    - ◆ Website
- **Full-time local community liaisons are members of and work in the Fond du Lac, Hatchet Lake and Black Lake First Nations**





# ▶ Indigenous & Community Engagement

## Country Foods Study

- Investigation of health of local country foods
  - Country foods make up significant part of local diet
- Study conducted by third party First Nations owned company
  - Local residents surveyed
  - Food samples collected
  - Samples analyzed by third-party lab
- Consumption of country foods utilized by Uranium City residents poses no health risks
- Supported by CNSC and regional health authority



# ▶ Indigenous & Community Engagement

## Eastern Athabasca Regional Monitoring Program

- Annual community based monitoring in Athabasca Basin
  - Country foods and water
- EARMP continues to support Uranium City Country Foods Study findings each year demonstrating that it is safe to eat country foods



# ▶ Application Summary

- Release 20 decommissioned properties from CNSC licensing and amend waste facility operating licence
- Release from decommissioning and reclamation
- Acceptance into SK Institutional Control Program
- Properties are Safe, Secure, and Stable/Improving



# ▶ Performance Indicators & Evaluation

- Minimal mining activity and therefore required little to no decommissioning once operations ended.
- To demonstrate that release of these properties have met the **performance objectives of safe, secure and stable/improving** have been met, a review of the performance indicators was conducted for each property.



# ▶ Performance Indicators & Evaluation

Performance Indicators	Acceptable Gamma Levels	Boreholes Plugged	Stable Mine Openings	Stable Crown Pillar	Site Free From Debris	Water Quality Within Modelled Predictions
Properties	Reasonable use scenario demonstrating gamma levels at the site are acceptable.	All boreholes have been plugged at the time of transfer to institutional control.	Caps have been replaced and signed off by a qualified person.	Crown pillar assessed, remediated if required, and signed off by a qualified person.	Site free of former mining debris at the time of transfer to institutional control.	Water quality is stable/improving.
HAB 3	✓	✓	N/A	✓	✓	N/A
HAB 6	✓	✓	N/A	N/A	✓	N/A
EXC 2	✓	✓	N/A	N/A	✓	N/A
RA 6	✓	N/A	✓	✓	✓	N/A
RA 9	✓	✓	✓	✓	✓	N/A
EAGLE 1	✓	✓	✓	N/A	✓	N/A
BOLGER 2	✓	N/A	N/A	N/A	✓	N/A
ATO 26	✓	N/A	N/A	N/A	✓	N/A
EXC ATO 26	✓	N/A	N/A	✓	✓	N/A
URA MC	✓	✓	N/A	✓	✓	N/A
EXC ACE 1	✓	N/A	N/A	N/A	✓	N/A
ACE 10	✓	N/A	N/A	N/A	✓	N/A
ACE 2	✓	N/A	N/A	✓	✓	N/A
EXC ACE 3	✓	N/A	N/A	✓	✓	N/A
URA 3	✓	✓	✓	✓	✓	N/A
URA 5	✓	✓	N/A	✓	✓	N/A
EXC URA 5	✓	✓	N/A	✓	✓	N/A
ACE 5	✓	✓	N/A	✓	✓	N/A
JO-NES	✓	✓	✓	✓	✓	N/A
HAB 2A	✓	✓	✓	✓	✓	N/A

# ▶ Performance Indicators & Evaluation

## Acceptable Gamma Levels

- Gamma surveys completed on decommissioned properties
- *SK Guidelines for Northern Mine Decommissioning and Reclamation*
- Risk based approach
  - Community members interviewed for land use survey
  - Time and activities conducted on decommissioned properties
- Information used to produce final risk assessment

**The estimated dose is well below the public dose criterion of 1 mSv/yr and meet the performance indicator associated with gamma radiation**

# ► Performance Indicators & Evaluation

## Boreholes Plugged

All boreholes located on 20 properties have been remediated.



# ▶ Performance Indicators & Evaluation

## Site Free From Debris

**3**

**YEAR**

campaign cleaned up remnant debris from 2015 to 2017



More than 2,465 hrs dedicated to inspections & clean-up with help from Uranium City residents



Tracks recorded and debris was flagged

Remnant debris deposited in former Bolger pit or Lower Fay pit





# ► Performance Indicators & Evaluation

## Stable Mine Openings



**5 of the 20 properties have historic mine openings that have been sealed via regulatory approved methods.**



# ▶ Performance Indicators & Evaluation

## Crown Pillars Secure

**A site wide assessment of crown pillars was completed by a third party expert in 2015 and did not identify any areas of concern related to the 20 decommissioned properties.**



# ► Performance Indicators & Evaluation

## Water Quality Within Modelled Predictions

- Water quality predictions are not applicable to the 20 properties
- In support of the remaining 45 properties, Cameco will continue to monitor water quality



# ► Performance Indicators & Evaluation

- The 20 decommissioned properties proposed for release from CNSC licensing **meet the Performance Objectives** of safe, secure and stable/improving
- Release from CNSC licensing would make the properties eligible for transfer into the IC program or free-released depending on the presence of historical mining/milling activities.
- Funding is provided to ensure that finances are in place for long-term stewardship.



# ▶ Conclusion

