



Cameco

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Preliminary Decommissioning Plan and Cost Estimate - Public Summary



Rabbit Lake

Preliminary Decommissioning Plan and Cost Estimate

The Cameco Corporation (Cameco) Rabbit Lake Operation (Rabbit Lake) is located approximately 750 kilometers (kms) north of Saskatoon, Saskatchewan. Rabbit Lake holds a Uranium Mine and Mill Licence from the Canadian Nuclear Safety Commission (CNSC) to prepare a site for, construct, operate, modify and decommission a nuclear facility for mining uranium ore and the production of uranium concentrate, as well as an Approval to Operate Pollutant Control Facilities from the Saskatchewan Ministry of Environment (SMOE).

The CNSC and the SMOE require operators of licensed nuclear facilities to prepare a Preliminary Decommissioning Plan (PDP) and associated Preliminary Decommissioning Cost Estimate (PDCE) in order to ensure that taxpayers are not left responsible for cleaning up a facility if the owner/operator were to become insolvent. The PDP provides a high-level plan for how the facility would be decommissioned. The PDCE provides an estimate of the expected cost of decommissioning the facility, based on the plans outlined within the PDP. Based on the PDCE, Cameco is required to provide a financial guarantee, such as letters of credit or surety bonds, with the Government of Saskatchewan as the beneficiary in the amount of the estimated cost of decommissioning activities described in the PDP for Rabbit Lake.

The cost estimates and schedule within the PDP and PDCE are based upon a conceptual decommissioning plan for the site. The financial guarantee reflects the current estimated cost of decommissioning. As the site approaches or begins decommissioning, regulators would be provided with and review the detailed decommissioning plans, which can result in further regulatory process, as well as additional requirements and costs and a revised financial guarantee.

The concepts outlined in the PDP are based upon the findings of previously approved studies, including environmental assessments and environmental risk assessments, which have been completed at Rabbit Lake. It is important to note that the PDP is a planning tool, as it forms the basis for establishing a financial guarantee to support decommissioning activities. The PDP also provides the structural outline of a subsequent Detailed Decommissioning Plan (DDP). Decommissioning of the facility requires the development of a DDP and submission of this document to the CNSC and SMOE for review and approval.

Cameco PDP Review Process

Cameco is required to update the PDP and PDCE every five years to account for changes at the facility, potential changes to the technical decommissioning options and other factors that may impact the cost estimate used to derive the financial guarantee for the decommissioning of the facility. The revised PDP and PDCE are then submitted to the CNSC and SMOE for review and acceptance. Upon acceptance by the SMOE and CNSC staff, a formal CNSC Commission hearing is required for final approval of the PDP and PDCE by the CNSC. Once approved, Cameco adjusts the value of the financial guarantee to reflect

the revised decommissioning cost estimate. The Government of Saskatchewan is the beneficiary of the financial guarantee.

Basic Decommissioning Process

The planning for the decommissioning of Rabbit Lake is an ongoing process. The broad scope of the proposed decommissioning process is described in the PDP. The process includes a description of the physical properties of the site, summary of previous environmental site characterization, a description of the areas and buildings to be decommissioned and the general structure and sequence of the main decommissioning work packages. At a high level, the decommissioning process requires the following activities:

- Decommissioning Approvals:
 - Development of DDP;
 - Application for required regulatory approvals;
- Active Decommissioning:
 - Ceasing any ongoing production and transitioning the site to a safe state for decommissioning;
 - Decommissioning of underground infrastructure and discontinuation of dewatering of the Eagle Point Mine and allowing the mine to naturally flood;
 - Decommission the B-Zone Pond;
 - Thaw and consolidation of the RLITMF;
 - Decommissioning of surface infrastructure, including waste management facilities and systems;
 - Collection and treatment of the water from the tailings management facilities;
 - Contouring, grading and re-vegetation of the site;
- Environmental Monitoring:
 - Monitoring conducted during active decommissioning;
 - Monitoring conducted following active decommissioning (i.e., transitional period monitoring) to confirm that the site is in safe and stable condition; and
- Transfer of the property to the Government of Saskatchewan's Institutional Control Program (ICP).

The DDP would be developed with consideration of feedback provided by relevant stakeholders gathered through community outreach and stakeholder engagement.

Basic Decommissioning Strategy

The objective of the PDP is to have a plan in place to decommission Rabbit Lake to an ecological and radiological condition that is as similar to the surrounding environment as is reasonably achievable. An additional objective is that the site will be suitable for traditional land use with no access restrictions following decommissioning and acceptance into the Government of Saskatchewan's ICP.

The Rabbit Lake PDP addresses decommissioning activities that will be required after cessation of mining and milling activities. The PDP currently includes the following strategies for decommissioning of infrastructure at Rabbit Lake:

- Eagle Point Mine facilities:
 - Underground hazardous substances will be moved to surface for use or transported off-site for recycling or disposal in accordance with applicable regulations;
 - The mine will be allowed to flood naturally;

- The access ramp will be sealed with clean waste rock;
- The ventilation air raises will be covered with engineered caps;
- B-Zone Pond:
 - The B-Zone Pond will be reclaimed by removing the coffer dam which separates the B-Zone Pond from Collins Bay;
- Ore and waste rock storage areas:
 - Mineralized waste stockpiles, the high carbonate low-grade ore pile and ore pads will be excavated, if required, and transported to the RLITMF for disposal;
 - The West #5 waste rock pile (WRP) will be covered with an engineered cover system and seeded to promote development of vegetation;
 - The Eagle Point WRP will be used to backfill the Eagle Point Mine access ramp and for general Rabbit Lake decommissioning and reclamation activities;
- Rabbit Lake In-Pit Tailings Management Facility:
 - Frozen tailings within the facility will be thawed and the tailings allowed to consolidate;
 - Decommissioning waste will be placed in the facility
 - An engineered cover system will be put in place and seeded to promote development of vegetation;
 - RLITMF water will be pumped and treated until consolidation of the tailings is complete;
 - Once consolidation of the tailings is complete, the groundwater levels surrounding the RLITMF would recover to natural levels;
- Above-Ground Tailings Management Facility (AGTMF):
 - The AGTMF will be contoured to allow for surface drainage and covered with an engineered cover system and seeded to promote development of vegetation;
- Surface buildings and facilities:
 - Contaminated surface infrastructure will be dismantled and disposed of within the AGTMF or RLITMF;
 - Non-contaminated surface infrastructure will be disassembled and placed in the Rabbit Lake landfill;
 - Hazardous substances will be used in the decommissioning process or transported off-site for recycling or disposal in accordance with applicable regulations; and
- Site roads and borrow areas:
 - Site roads and borrow areas will be decommissioned, contoured and seeded with native vegetation.

Financial Guarantee

The above information was used to develop the PDCE and associated financial guarantee for Rabbit Lake. The most recent PDCE for Rabbit Lake is \$213.4 million, which represents an increase of \$10.7 million from the previous PDP and PDCE, which was initially submitted in 2013. The current PDP and PDCE received final regulatory approval in March 2021. Rabbit Lake submitted updated PDP and PDCE documents in December 2022 for regulatory review in accordance with the required five-year review cycle.