Preliminary Decommissioning Plan

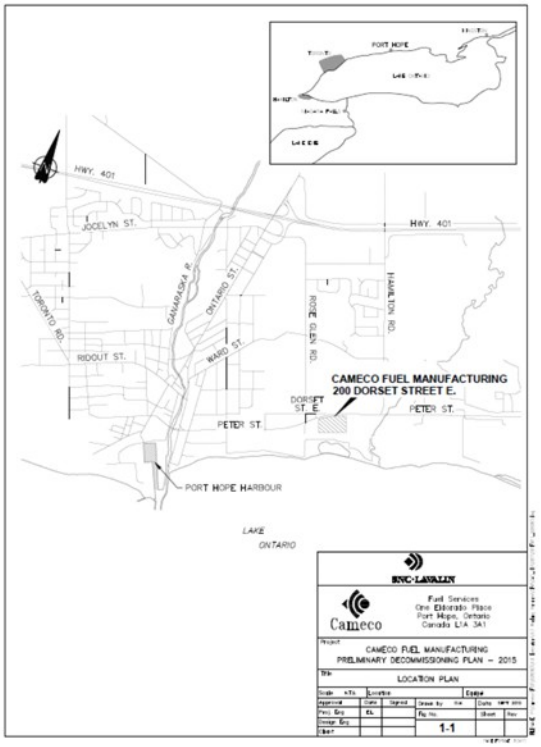
Cameco Corporation's (Cameco) Cameco Fuel Manufacturing (CFM) facility holds an operating licence from the Canadian Nuclear Safety Commission (CNSC) to fabricate fuel bundles for use in the fuel for nuclear generating stations. The CFM is located at 200 Dorset Street East in the Municipality of Port Hope (MPH).

The CNSC requires Cameco and all owners of licensed nuclear facilities to prepare a Preliminary Decommissioning Plan (PDP) 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 includes an estimate of the cost of decommissioning the facility in present day dollars and also provides a high-level concept of how the facility would be decommissioned. The licensee is required to provide a financial guarantee to the Government of Canada that covers the estimated cost of decommissioning activities described in the PDP. CNSC regulatory guide G-219 Decommissioning Planning for Licensed Activities provides guidance to licensees on the development of a PDP. Aspects of CSA N294-14 Decommissioning of facilities containing nuclear substances describes requirements of final decommissioning planning, aspects of which have been incorporated into the PDP.

It is important to note that the PDP is a planning tool, as it forms the basis for establishing a financial guarantee for decommissioning and the structural outline of subsequent detailed decommissioning plans. Decommissioning of the facility requires the development of detailed decommissioning plans and the licensee to submit an application for and to obtain a decommissioning licence from the CNSC. This level of detail required for a decommissioning licence may only be determined once the operations have ceased.

Cameco PDP Review Process

Cameco is required to update the PDP 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 PDP update is completed by a third-party engineering firm with expertise in decommissioning, demolition, remediation, and cost estimating. It is then reviewed and revised as appropriate before it is approved by Cameco and submitted to CNSC staff for review and acceptance. The proposed changes to the financial guarantee are then presented to the Commission for approval, following which Cameco secures the appropriate financial instrument(s) for the total amount of the decommissioning cost estimate.



All of Cameco's Ontario facilities licensed by the CNSC have their own PDP, each of which uses a common assumption that waste from the Port Hope Conversion Facility (PHCF), Cameco Fuel Manufacturing (CFM) and Blind River Refinery (BRR) would be consolidated at a low-level radioactive waste management cell at the Blind River site. This location is proposed because the licensed facility in Blind River has available land, an excellent operating record and strong community support. In addition to the decommissioning licence approvals required for each of the facilities described above, this proposed waste management cell would also require a waste nuclear substance licence that would follow the CNSC licensing process, which includes public participation. A separate financial guarantee is set aside for the PDP from each facility.

Planning and Consultation

The planning for the decommissioning of CFM is an ongoing and complicated process that involves consultation with:

- the CNSC;
- other interested federal departments;
- the provincial Ministry of Environment and Conservation and Parks (MECP);
- other provincial ministries; and,
- the Municipality of Port Hope; and, interested stakeholders and indigenous communities

Basic Decommissioning Principles

The broad scope of the proposed decommissioning process is described in the PDP, including a detailed 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. This information is summarized below. The decommissioning planning process requires the following activities:

- Preparation of documentation in support of obtaining a formal decommissioning licence, including:
  - Environmental monitoring and reporting;
  - Radiological monitoring and reporting;
  - Conventional health safety monitoring and reporting that is associated with the decommissioning project;
- Decontamination and segregation of chemicals, materials and equipment;
- Final disposition of chemicals, materials and equipment;
- Site restoration; and,
- Ongoing monitoring and maintenance of any institutional controls.

The PDP considers all of the above activities with the exception of ongoing monitoring and maintenance of any institutional controls. This activity will not be required as all contaminated structures and material will be removed as part of the decommissioning process.

The cost estimates and schedule are based upon a "decommissioning tomorrow" scenario so that financial assurances will be based upon the current estimated cost of decommissioning. This will ensure that sufficient finances are available, even if the licensee (i.e., Cameco) is not available to fulfill its obligations for decommissioning. The cost estimate for decommissioning is completed by a third-party engineering firm following the guidance of G-206 Financial Guarantees for the Decommissioning of Licensed Activities.

CFM Decommissioning Strategy

The CFM PDP addresses all decommissioning activities that will be required after shutdown of CFM at the end of its operating life many years from now. Decommissioning would occur immediately after regulatory approvals were obtained. Material would be free-released or recycled to the extent possible, however it is recognized that this is not possible for all materials. The PDP assumes that uranium contaminated building materials, equipment and soils would be placed into a conceptual long-term waste management facility (LTWMF) to be constructed at the Blind River Refinery site. The PDP assumes that BRR will undergo a similar decommissioning process in the proposed scenario. The construction and operation of this facility is described in the BRR PDP.

CFM Decommissioning Activities

It is anticipated that the decommissioning of the CFM facilities would be completed under one of two plans. The first plan is covers clean work areas (areas that did not process radioactive materials and are expected to meet free-release criteria after industrial vacuuming) and the second covers uranium contaminated work areas (areas where the processing of radioactive materials took place) and accumulated waste.

These activities are anticipated to generate approximately 1,900 m^3 of contaminated materials from CFM that would be incorporated into the conceptual Blind River LTWMF.

End State Objectives

The overall end state objective is to remediate the site to conditions that the site is no longer required to maintain a licence from the CNSC. The end state will be to remediate the site such that other industrial applications can utilize the current building and associated outbuildings.

Overall PDP Methodology

In the development of the PDP, the following information is compiled:

- An inventory of the buildings summarizing the expected contamination associated with each area;
- The soil conditions at the site including quantities of contaminated soil are summarized; and,
- Summary of the accumulated waste currently stored at the facility.

The information was used to develop high level plans for:

- Building Decontamination:
  - removal of hazardous materials;
  - decontamination of structures;
  - stripping equipment and services;
  - demolition of selected structures;
  - dust control;
  - preparation and decontamination of debris;
  - monitoring; and,
  - recovery of materials.
- Soil Excavation (minimal expected):
  - underground services;
  - backfilling; and,
  - restoration.
- Radiological Monitoring and Survey Commitments
- Waste Management Strategy – includes:
  - disposition of radioactive waste at the Blind River LTWMF;
  - surplus material meeting free-release criteria; and
  - waste diversion.

Summary

This information was used to develop the cost for decommissioning following the guidance of G-206 *Financial Guarantees for the Decommissioning of Licensed Activities*. The current estimated cost for final decommissioning of the Cameco Fuel Manufacturing is $10.8 million, which represents a decrease of $10.2 million from the PDP and financial guarantee approved during the 2012 licence renewal. The $10.8 million includes allocations of $3,246,048 for demolition and waste management and $7,553,952 for project related costs including engineering, construction management, radiological, and other monitoring as well an escalation provision and contingency funds. Contingency was increased to 40% in the cost estimate. The decrease is attributable to changes in the regulatory process (EIS not required), and a significant reduction in accumulated waste stored at the site over the last decade. These changes to the financial guarantee were reviewed by the Commission in December 2022. Cameco has secured the appropriate financial instrument(s) for the total amount of the decommissioning cost estimate and which has been submitted to the CNSC.