



## Program Document Public Summary

Cigar Lake Operation

# Radiation Protection Program

## Introduction

The Cameco Corporation (Cameco) Cigar Lake Operation (Cigar Lake) is located approximately 660 kilometers (km) north of Saskatoon, Saskatchewan. Cigar Lake holds a Uranium Mine Licence (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, as well as an Approval to Operate Pollutant Control Facilities (Approval to Operate) from the Saskatchewan Ministry of Environment (SMOE).

The CNSC requires operators of licensed nuclear facilities to prepare a Radiation Protection Program (RPP) to manage workplace radiation protection issues and keep radiation exposures as low as reasonably achievable.

The Cigar Lake RPP provides a summary of the radiation protection activities for Cigar Lake. The Cigar Lake RPP was developed in consideration of applicable regulatory requirements, industry standards, Cameco requirements and Cameco's Safety, Health, Environment and Quality (SHEQ) Policy. Cameco's SHEQ Policy recognizes the safety and health of its workers and the public, protection of the environment and quality of its processes as the highest corporate priorities during all stages of its activities. The program applies to all Cameco site employees and others working at the site. The Cigar Lake RPP requires acceptance by the CNSC prior to being revised and finalized.

## Radiation Protection

The Cigar Lake RPP discusses radiation protection measures employed at Cigar Lake. At a high level, the radiation protection measures are as follows:

### Radiation Exposure Control:

- Controls such as exposure monitoring, radiation work permits, personal protective equipment (e.g.: coveralls, gloves, safety footwear, safety glasses and respiratory protection) and radiation safety training are used to keep radiation exposures at Cigar Lake as low as reasonably achievable;

### Radiation Code of Practice:

- Action levels for radiation concentrations or levels at Cigar Lake are detailed in a radiation code of practice (RCOP) within the Cigar Lake RPP;
- The Cigar Lake RCOP describes the specific actions to be taken in response to measured radiations concentrations above the defined action level;

### Radiation Zone Control:

- Cigar Lake is divided into zones based on the potential for radiation contamination;
- Classifying the site into these zones helps to prevent the potential spread of radiation contamination;

### Nuclear Substance Control:

- Cigar Lake is licensed by the CNSC to possess, import and use nuclear substances or devices that contain nuclear substances;
- Cigar Lake complies with all regulatory requirements that apply to the possession, import and use of nuclear substances.

## Radiation Monitoring and Measurement

The Cigar Lake RPP describes the radiation monitoring and measurement methods employed at Cigar Lake. Radiation monitoring and measurement is completed to confirm that radiation protection activities are meeting expectations and regulatory requirements. Radiation monitoring and measurement conducted at Cigar Lake includes radiation dose monitoring, exposure control monitoring, radiation contamination monitoring, radiation equipment calibration, radiation inspections, radiation audits and radiation incident investigations. Additionally, monitoring and measurement of the overall facility performance is regularly conducted at Cigar Lake.

Reports including radiation monitoring and measurement results are submitted to and reviewed by applicable regulatory agencies monthly, quarterly and annually. These reports summarize radiation monitoring activities that were conducted during the applicable time period. Individual dose records are provided to the applicable employees and others working at the site on a quarterly basis.

## Conclusion

The RPP that is currently implemented at Cigar Lake, which has been approved by the CNSC, ensures that radiation exposures at Cigar Lake are kept as low as reasonably achievable.