



Cameco

Energizing a clean-air world

Radiation Protection Program - Public Summary



Introduction

The Cameco Corporation (Cameco) McArthur River Operation (McArthur River) is located approximately 630 kilometers north of Saskatoon, Saskatchewan. McArthur River 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 maintains Safety Control Areas (SCAs) through which they assess, evaluate, review and verify the compliance of their licensees. The Radiation Protection SCA 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 McArthur River RPP provides a summary of the radiation protection activities for McArthur River. Cameco developed the McArthur River RPP taking into account 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 personnel working at McArthur River. The McArthur River RPP requires acceptance by the CNSC prior to being revised and finalized.

Radiation Protection

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

- Radiation Exposure Control:
 - Controls such as radiation monitoring, personal dosimetry, radiation work permits, personal protective equipment (e.g., respiratory protection), and radiation safety training are used to keep radiation exposures at McArthur River as low as reasonably achievable, social and economic factors taken into account (ALARA).
- Radiation Code of Practice:
 - Cameco has detailed the action levels for unplanned radiation exposures at McArthur River in a radiation code of practice (RCOP) within the McArthur River RPP. These action levels are effective worker radiation doses which may indicate a potential loss of control of the McArthur River RPP; and
 - The McArthur River RCOP describes the specific actions to be taken in response to measured radiation exposures above the defined action level.
- Radiation Zone Control:

- McArthur River is divided into zones based on the potential for radiological contamination; and
- Classifying the site into these zones helps to prevent the potential spread of radiological contamination.
- Nuclear Substance Control:
 - McArthur River is licensed by the CNSC to possess, transfer, import and use nuclear substances or devices that contain nuclear substances; and
 - McArthur River complies with all regulatory requirements that apply to the possession, transport, import and use of nuclear substances.

Radiation Monitoring and Measurement

The McArthur River RPP describes the radiation monitoring and measurement methods employed at McArthur River. Radiation monitoring and measurement is completed to confirm that radiation protection activities are meeting expectations and regulatory requirements. Radiation monitoring and measurement conducted at McArthur River includes:

- Radiation dose monitoring;
- Exposure control monitoring;
- Radiological 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 McArthur River.

Cameco submits reports, including radiation monitoring and measurement results, to the applicable regulatory agencies monthly, quarterly and annually for their review. These reports summarize radiation monitoring activities that were conducted during the applicable time period. Cameco provides or makes available individual dose records to nuclear energy workers at the site on a quarterly basis. Cameco conducts a management review annually to assess the overall performance of the McArthur River RPP. The CNSC completes a Regulatory Oversight Report (ROR) for McArthur River every year. The ROR provides an annual review of safety control areas and regulatory compliance at McArthur River. This review is also the subject of a formal CNSC proceeding that includes intervenor funding.

Conclusion

The RPP that is currently implemented at McArthur River, which has been approved by the CNSC, ensures that radiation exposures at McArthur River are kept ALARA.