

Fuel Services Division Waste Management Overview

Cameco Corporation (Cameco) is committed to the disposal or recycle of accumulated legacy wastes and to ensure that long-term accumulation of additional wastes does not occur at the Fuel Services Division (FSD) facilities. The disposal of accumulated legacy radioactive wastes at Blind River Refinery (BRR), Port Hope Conversion Facility (PHCF) and Cameco Fuel Manufacturing (CFM) is managed by the Fuel Services Division (FSD). Wastes currently generated by the sites are managed by site personnel in cooperation with divisional staff.

In 2016, the Canadian Nuclear Safety Commission (CNSC) requested that the FSD facilities implement Canadian Standards Association (CSA) N292.0-14 *General principles for the management of radioactive waste and irradiated fuel* and N292.3-14 *Management of low-and intermediate-level radioactive waste*. The implementation of these requirements will result in consistent waste management practices across the division and will be complete in the first quarter of 2018.

Each site maintains a waste management plan which has the following objectives:

- To implement waste segregation, volume reduction and waste recycle/utilization programs which are environmentally sound and economically viable to minimize the amount of:
 - i. Radioactive waste
 - ii. Mixed waste
 - iii. Hazardous waste
- To implement outlets for any material that must be managed as radioactive, mixed and/or hazardous waste.
- To provide storage facilities for radioactive waste generated from past, present and future facility operations where no recycle, utilization or other outlets exist.



- To manage non-contaminated waste streams through established and provincially approved waste receivers. The principles of reduce, reuse and recycle will be applied wherever possible.
- To provide sufficient information to the regulatory agencies and to the public to demonstrate conformance to these objectives.

Under the waste management plans, currently generated waste is segregated by type (radioactive, hazardous, mixed, and conventional) at the various departments at each site followed by processing, storage and/or disposal. There are repositories for different types of waste to allow for segregation of wastes at the source and thereby reduce the amount of radioactive and/or hazardous waste that must be managed. Wastes may be transferred between FSD facilities for temporary storage, processing and/or bulk disposal at a common waste receiver. Processing refers to the following activities: dismantling and segregation, decontamination, reprocessing/recovery, or incineration to further reduce the volume of radioactive and/or hazardous material.

Wastes are radiation monitored and/or chemically analyzed as appropriate and further segregated into material releasable under the *Nuclear Substances and Radiation*



Devices Regulations to any facility, contaminated combustible material that is incinerated at Blind River or contaminated waste that must be managed pending disposal at an appropriately licensed facility in accordance with all regulatory requirements.

Prior to transport from the PHCF, BRR or CFM to another FSD facility and/or an appropriately licensed facility to further process and/or dispose of waste, waste packages are inspected by site personnel to ensure that they are fit for transport. Waste shipments leaving the facility are handled in accordance with site-specific procedures for radioactive and/or hazardous material shipments. This includes radiation monitoring, shipment labelling and placarding and shipping documents (dangerous goods documentation, packing list, material data sheet, permits, or other documentation) provided by the logistics group to meet the requirements of the *Packaging and Transport of Nuclear Substances Regulations*, the *Nuclear Substances and Radiation Devices Regulations* and the *Transport of Dangerous Goods Regulations*, if applicable.

A summary of waste disposal is provided annually in the respective facility's Annual Compliance Monitoring and Operational Performance Report. These reports are posted on the FSD website camecofuel.com.

Historic radioactive waste destined for Port Hope Long Term Waste Management Facility (LTWWMF) (applies to PHCF only) are a significant component of FSD waste materials. This is waste that meets the LTWWMF Waste Acceptance Criteria (WAC) and will be disposed of at that facility as part of the Vision in Motion project within the next 5 years.

Projects to dispose of the accumulated waste inventory from all FSD facilities are managed through the divisional office. Each year, one or more campaigns is executed to dispose of contaminated non-combustible materials such as small metal parts, insulation or non-recoverable material at appropriately licensed facilities. These projects include inventory verification, characterization, stabilization or other preparation in order to meet waste acceptance criteria at an appropriate outlet. It is anticipated that the accumulated waste inventory will be eliminated within 5-10 years.

