



Canadian Nuclear
Safety Commission

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March 4, 2010

Mr. Andrew J. Oliver
Vice-president
Fuel Services
Cameco Corporation
1 Eldorado Pl,
Port Hope, ON L1A 3A1

Subject: Request for Information pursuant to Subsection 12(2) of the *General Nuclear Safety and Control Regulations*: Effluent Discharge Releases at the Welcome Waste Management Facility

Dear Mr. Oliver:

On October 17, 2008 CNSC issued to Cameco Corporation a Request for Information pursuant to Subsection 12(2) of the *General Nuclear Safety and Control Regulations*: Effluent Discharge Releases at the Welcome Waste Management Facility [1].

Cameco was requested to address the following two sections of the Action Plan proposed with the 12(2) Request for Information:

A. Specifications of the Current System

B. Evaluation of the Level of Risks to Human Health and the Environment

In response to the 12(2) Request for Information and in relation to each section of the Action Plan, Cameco has performed the requested analysis and developed the reports as specified in Table 1.

CNSC staff has reviewed and provided detailed comments on each of the submitted reports. Based on the package of information provided under the 12(2) Request for Information, CNSC staff has summarized its key findings and expectations in relation to the current Welcome Waste Management Facility (WMF).

A. Specification of the Current System

Effluent Treatment

The existing water collection and treatment system at the Welcome WMF is currently meeting the licence discharge limits for radium-226, arsenic and pH. CNSC is in the opinion that the system can continue to operate in accordance with the licence requirements until the remediation of the facility under the Port Hope Area Initiative (PHAI).

Treated Effluent Discharge Pipeline

The treated effluent discharge pipeline has been replaced with two new four inch pipelines. This significant upgrade of the current Welcome WMF water treatment system was designed to meet the needs of the current water treatment system by minimizing the emergency discharges to Clark's ditch in case of heavy rain as well as the maximum discharge rate of 900 liters per minute that will be sufficient during the construction of the new Long Term Waste Management Facility (LTWMF) as confirmed by AECL.

Water Collection Ponds

The water collection ponds have experienced insufficient holding capacity. Cameco has proposed to modify the collection ponds by removing the central divider berm and raising the perimeter berm by one metre. This proposed modification will increase the capacity of the water collection pond in the short term, without significantly modifying the footprint of the pond. Cameco is requested to submit an action plan for modification of the berm.

B. Evaluation of the Level of Risks to Human Health and the Environment

Characterization of the Discharged Effluent, Receiving Environment and Conceptual Site Model

The *Effluent, Water, and Sediment Monitoring Report* for the Welcome WMF and the addendum report was prepared in response to a 12(2) request for information. A second component of the 12(2) request was for a Conceptual Site Model detailing known and potential exposure sources, routes, and pathways to reach the public and environment.

In those submissions, Cameco has identified the contaminants of potential concern associated with Welcome WMF site that have the potential to reach the environment.

Based upon information provided in the above noted submissions and analysis previously conducted by the CNSC staff [2], no additional monitoring of the receiving environment is required at this time. However, as a preventive measure, CNSC staff requires that Cameco continues toxicity testing until completion of the facility's remediation.

Actions Required

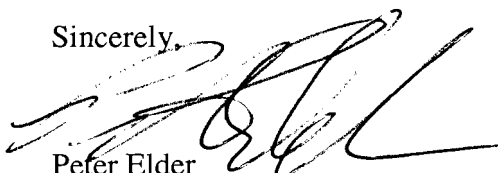
Resulting from the assessment of the information submitted under the 12(2) Request for Information, the CNSC requires Cameco to take the following actions to prevent or mitigate effects on the environment and to control the releases of nuclear and hazardous substances within the site and into the environment:

- By the end of May 2010, submit an action plan for modification of the collection ponds for increasing their capacity and avoiding emergency discharges to Clark's ditch during events of heavy precipitations.
- Submit to the CNSC the results of acute toxicity testing performed during 2009. It is expected that this will include results from 12 consecutive months of toxicity tests. The licensee is required to continue performing monthly toxicity tests for the remaining operating life of the current Welcome WMF.

At this time, the CNSC is satisfied that the licensee has complied with the requirements of the Request for Information issued on October 17, 2008 pursuant to Subsection 12(2) of the *General Nuclear Safety and Control Regulations: Effluent Discharge Releases at the Welcome Waste Management Facility*. CNSC staff will continue to monitor and follow-up on the required further testing and facility modifications to protect the health, safety and security of Canadians and the environment.

If you have any questions, please contact Don Howard at 613-995-1770 or by e-mail at don.howard@cnsccsn.gc.ca.

Sincerely,



Peter Elder
Director General
Directorate of Nuclear Cycle and Facilities Regulation

cc.: D. Howard, M. Kostova, M. Hamlat, M. Rinker, H. Zhang, G. Smith (CNSC)
T. Smith, D. Workman (Cameco)

References:

- [1] CNSC Request for Information pursuant to Subsection 12(2) of the *General Nuclear Safety and Control Regulations: Effluent Discharge Releases at the Welcome Waste Management Facility*. October 17, 2009. CNSC E-doc: 3297287.
- [2] CNSC Staff Assessment of Welcome WMF and Port Granby WMF Discharges to the Receiving Environment. October 23, 2008. CNSC E-doc: 3289751.

Table 1: Summary of the Reports submitted under the 12(2) Request for Information for Welcome Waste Management Facility

Information Requested under Subsection 12(2) of GNSR	Documents Submitted by Cameco	CNSC Responses/Comments	Status of the Actions requested under CNSC 12(2) Request for Information
A. Specification of the Current System			
A.1. Characterization of the Discharged Effluent	<p>1) Water and Sediment Program; Final Study Design Proposal - Welcome and Port Granby WMFs, SENES. November 14, 2008. (E-doc: 3307697)</p> <p>2) Effluent, Water and Sediment Monitoring Report for Welcome WMF (E-doc: 3360460)</p> <p>3) Addendum to Effluent, Water and Sediment Monitoring Report for Welcome WMF. December 10, 2009. (E-doc: 3469801)</p> <p>4) Response to CNSC comments pertaining to the Welcome WMF Water and Sediment Report. December 23, 2009. (E-doc: 3474860)</p>	<p>1) CNSC comments on Water and Sediment Program Study Design Proposal for Welcome and Port Granby WMFs. November 21, 2008. (E-doc: 3309857)</p> <p>2) CNSC staff review of Preliminary Conceptual Site Model and Effluent, Water and Sediment Report for Welcome WMF. June 11, 2009. (E-doc: 3389157)</p>	Complete
A.2. Design Summary Report	<p>1) Cameco Construction Report, Interim Outfall, Welcome WMF. March 26, 2009. (E-doc: 3357981)</p> <p>2) Engineering Summary Report for Replacement of Treated Effluent Discharge Pipeline (SNC-Lavalin); Inspection Report for Replacement of</p>	<p>1) CNSC comments on Engineering Summary and Inspection Reports for Treated Effluent Pipeline Replacement at Welcome WMF. May 15, 2009. (E-doc: 3376031)</p>	Complete

Information Requested under Subsection 12(2) of GNSR	Documents Submitted by Cameco	CNSC Responses/Comments	Status of the Actions requested under CNSC 12(2) Request for Information
	<p>Treated Effluent Discharge Pipeline (SENES). April 9, 2009. (E-doc: 3361529)</p> <p>3) Cameco Pipeline Replacement at Welcome WMF. June 24, 2009. (E-doc: 3397381)</p> <p>Outfall Modeling Report, Welcome WMF Replacement Outfall Modeling. June 15, 2009 (E-doc: 3403853)</p> <p>4) Cameco Welcome WMF-Current Design Summary Report (Water Collection and Treatment System). August 24, 2009. (E-doc: 3420432)</p>	<p>2) CNSC response to Cameco's Letter of June 24, 2009 in Response to CNSC Comments on Treated Effluent Pipeline Replacement at Welcome WMF and Outfall Modeling Report. July 30, 2009. (E-doc: 3409637)</p> <p>3) CNSC staff review of Current Design Summary Report for WWMF. December 22, 2009. (E-doc: 3474329)</p>	
B. Evaluation of the Level of Risk to Human Health and the Environment			
B.1. Conceptual Site Model	<p>1) Preliminary Conceptual Site Model for the Welcome WMF (E-doc: 3348021)</p> <p>2) Response to CNSC comments pertaining to the Welcome WMF Water and Sediment Report. December 23, 2009. (E-doc: 3474860)</p>	<p>1) CNSC staff review of Preliminary Conceptual Site Model and Effluent, Water and Sediment Report for Welcome WMF. June 11, 2009. (E-doc: 3389157)</p>	Complete

Information Requested under Subsection 12(2) of GNSR	Documents Submitted by Cameco	CNSC Responses/Comments	Status of the Actions requested under CNSC 12(2) Request for Information
B.2. Characterization of the Receiving Environment	<p>1) Water and Sediment Program; Final Study Design Proposal-Welcome and Port Granby WMFs, SENES. November 14, 2008. E-doc: 3307697</p> <p>2) Effluent, Water and Sediment Monitoring Report for Welcome WMF (E-doc: 3360460)</p> <p>3) Addendum to Effluent, Water and Sediment Monitoring Report for Welcome WMF. December 10, 2009. (E-doc: 3469801)</p> <p>4) Response to CNSC comments pertaining to the Welcome WMF Water and Sediment Report. December 23, 2009. (E-doc: 3474860)</p>	<p>1) CNSC comments on Water and Sediment Program Study Design Proposal for Welcome and Port Granby WMFs. November 21, 2008. (E-doc: 3309857)</p> <p>2) CNSC staff review of Preliminary Conceptual Site Model and Effluent, Water and Sediment Report for Welcome WMF. June 11, 2009. (E-doc: 3389157)</p>	Complete
B.3. Human Health and Ecological Risk Assessment	<p>1) Cameco's response to CNSC Request for Information pursuant to Subsection 12(2) of the <i>General Nuclear Safety and Control Regulations</i>. November 14, 2008.</p>	<p>Based upon information and documents provided by Cameco and taking into account the upcoming remediation of the facility, the Human Health and Ecological Risk Assessment for Welcome WMF is not needed at this point.</p>	Complete