

**Cameco Resources  
Crow Butte Operation**



**86 Crow Butte Road  
P.O. Box 169  
Crawford, Nebraska 69339-0169**

**(308) 665-2215  
(308) 665-2341 – FAX**

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December 29, 2022

**ELECTRONIC DELIVERY**

Attn: Document Control Desk, Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Reply to a Notice of Violation  
Inspection Report 040-08943/2022-001  
Source Materials License SUA-1534  
Docket Number 040-08943

Dear Director:

Please find below Crow Butte Resources, Inc. d/b/a Cameco Resources (CR) Crow Butte Operation (CBO) reply to the Notice of Violations issued by the Nuclear Regulatory Commission on December 15, 2022. (Received December 16, 2022) This response is being provided in accordance with 10 CFR 2.201.

**Violations**

During the U.S. Nuclear Regulatory Commission (NRC) inspection conducted August 2-4, 2022, two violation of NRC requirements were identified.

**A.** License Condition 11.2.2 of NRC Material License SUA-1534, Amendment 5, states, in part, that if an overlying aquifer monitoring well in Mine Unit 6 or Mine Unit 8 is placed on excursion status per License Condition 11.1.5, the natural uranium data from wells on excursion status in the overlying aquifer in Mine Units 6 or 8 shall be provided to the NRC within 60 days of the excursion confirmation in written report as specified in License Condition 11.1.5

Contrary to the above, as of August 4, 2022, the natural uranium data for two overlying aquifer monitoring wells on excursion status in Mine Units 6 and 8 were not provided to the NRC within 60 days of excursion confirmation in a written report for the following two monitoring wells:



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- Monitoring well SM6-28 which was on excursion status from the time of the NRC's previous facility inspection in August 2019 to January 7, 2020, and from May 30, 2020, to June 17, 2020
- Monitoring well SM8-25 which was on excursion status from May 21, 2020, to June 17, 2020

This is a Severity Level IV violation (NRC Enforcement Policy Section 6.3).

### 1. Reason for the violation:

On May 2, 2019, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-28, the multiple parameter upper control limits (MCL) for alkalinity and conductivity were exceeded resulting in the well being placed on excursion status. The well remained on excursion status until January 7, 2020. On May 29, 2020, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM6-28, the multiple parameter upper control limits (MCL) for conductivity and alkalinity were again exceeded placing the well back on excursion status until it was removed on June 17, 2020.

On May 20, 2020, during routine biweekly water sampling of Cameco Resources, Crow Butte Operation (CBO) shallow monitor well SM8-25, the multiple parameter upper control limits (MCL) for conductivity and alkalinity were exceeded. SM8-25 was placed on excursion status until its removal on June 17, 2020.

In all three instances of excursion, the wells were tested weekly for natural uranium in accordance with License Condition 11.2.2. License Condition 11.2.2 states that the natural uranium data from wells on excursion status in the overlying aquifer in Mine Units 6 or 8 shall be provided to the NRC within 60 days of the excursion confirmation in the written report specified in License Condition 11.1.5. CBO failed to provide the natural uranium data to the NRC in the report specified in License Condition 11.1.5.

### 2. The corrective steps that have been taken and the results achieved:

By letters dated August 22, 2022, CBO submitted final report amendments for all three occurrences. The amendments included the natural uranium data from the samples collected during the excursion periods for SM6-28 and SM8-25.

### 3. The corrective steps that will be taken to avoid further violations:

Upon verification of an excursion in the overlying aquifer in Mine Unit 6 or Mine Unit 8 CBO will test weekly for natural uranium in addition to the required indicators of alkalinity, conductivity, and chloride. The natural uranium data from wells on excursion status in the



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overlying aquifer in Mine Units 6 or 8 shall be provided to the NRC within 60 days of the excursion confirmation in the written report specified in License Condition 11.1.5 or, if the natural uranium data are not available when the report is prepared, the data will be submitted as soon as they become available in accordance with License Condition 11.2.2.

### 4. The date when full compliance will be achieved:

Full compliance achieved on August 22, 2022.

**B.** NRC License Number SUA-1534, License Condition 9.4 states, in part, that the licensee may, without obtaining a license amendment pursuant to Title 10 to the *Code of Federal Regulations* (10 CFR) 40.44, and subject to conditions specified in License Condition 9.4(B), make changes in the facility and procedures as described in the license application. License Condition 9.4(D), further states that the licensee's determinations shall be made by a Safety and Environmental Review Panel (SERP).

Contrary to the above, as of August 2, 2022, the licensee made changes in the facility and procedures as described in the application without conducting a SERP determination. Specifically, the licensee failed to revise SERP 12-10 entitled, "Approval to Conduct a Pilot Test to Receive and Extract Uranium from Uranium Loaded Resin from a Small Community Water System," dated November 1, 2012, or generate a new SERP determination, to assess the operational methodology being used to process uranium-loaded resins, produced by municipal water treatment facilities, as equivalent feed. In other words, at the time of the inspection, the licensee was processing uranium-loaded resins produced by municipal water treatment systems differently from the process that was reviewed and approved in SERP 12-10.

This is a Severity Level IV violation (NRC Enforcement Policy Section 6.3).

### 1. Reason for the violation:

Consistent with License Condition 9.4, on November 1, 2012 the Crow Butte Operation (CBO) Safety and Environmental Review Panel (SERP) met to review and approve a pilot test to receive and process an equivalent feed (uranium loaded resin) from a community water treatment facility. Based upon the evaluation of the licensing basis and RIS-2012-06, the CBR SERP approved a pilot test to extract uranium from municipally loaded resin. CBO however failed to replace or revise SERP 12-10 in moving beyond the test phase and into the operational phase to process the equivalent feed produced by municipal water treatment facilities as identified by the NRC inspection conducted on August 2-4, 2022.

### 2. The corrective steps that have been taken and the results achieved:

On December 28, 2022 the Crow Butte Resources, Inc. (CBR) Safety and Environmental Review Panel (SERP) met to review and approve SERP 22-01 in accordance with License Condition 9.4.



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The purpose of this evaluation by the CBR SERP was to review and approve the process of receiving, from Small Community Water Systems (CWSs), resin loaded with uranium through a municipal treatment system, the extraction of the uranium from such resin and either the return of the stripped resin to a water treatment facility, disposal as byproduct material, or reuse in CBR's facility.

Based upon the SERP evaluation, as well as the pilot test approved by SERP 12-10, and the assessment of the licensing basis and RIS-2012-06, the CBR SERP approved the process to accept, as equivalent feed, municipally loaded resin and process the ULR to produce yellowcake.

### 3. The corrective steps that will be taken to avoid further violations:

Pursuant to License Condition 9.4 of NRC Materials License SUA-1534 future Safety and Environmental Review Panels approvals of pilot tests shall be re-evaluated through a new SERP upon completion of the test phase prior to advancing to the operational phase.

### 4. The date when full compliance will be achieved:

Full compliance was achieved on December 28, 2022.

If there are any further questions or concerns feel free to contact me at (308) 665-2215 ext. 117.

Sincerely,

Casey Yada  
SHEQ Coordinator

cc:

Regional Administrator, Region IV  
Division of Materials Safety  
U. S. Nuclear Regulatory Commission  
1600 East Lamar Blvd.  
Arlington, Texas 76011-4511

Director, Office of Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Amanda Osborn – NDEE Program Coordinator

CBO- File

cc: CR-Electronic File