



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
WASHINGTON, D.C. 20555-0001

July 9, 2020

Mr. Walter Nelson  
SHEQ Coordinator  
Cameco Resources Crow Butte Operation  
86 Crow Butte Road  
P.O. Box 169  
Crawford, NE 69339-0169

**SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, ALTERNATE  
DECOMMISSIONING (GROUNDWATER RESTORATION) SCHEDULE, CROW  
BUTTE RESOURCES, INC., CRAWFORD, NEBRASKA, LICENSE SUA-1534**

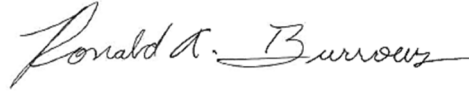
Dear Mr. Nelson:

By letters dated December 9, 2019 and January 28, 2020 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML19353A473 and ML20035D684, respectively), Crow Butte Resources, Inc. requested a license amendment for an alternate decommissioning (groundwater restoration) schedule for the Crow Butte Project. The Nuclear Regulatory Commission (NRC) staff has completed its technical review of these submittals. During the technical review, the NRC staff identified certain areas of deficiency for which we are requesting additional information. The NRC staff's Request for Additional Information (RAI) is enclosed herein. Please either respond to this RAI or provide a schedule for submitting your responses within 30 days of receipt of this letter.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions, please contact me at 301-415-6443, or by e-mail at [Ronald.Burrows@nrc.gov](mailto:Ronald.Burrows@nrc.gov).

Sincerely,

A handwritten signature in cursive script that reads "Ronald A. Burrows".

Ronald A. Burrows, Project Manager  
Uranium Recovery and Materials  
Decommissioning Branch  
Division of Decommissioning, Uranium Recovery  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 040-8943  
License No.: SUA-1534

Enclosure:  
Request for Additional Information

cc via ListServ  
D. Miesbach, NDEQ  
D. Pavlick

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**DATE: July 9, 2020**

**DISTRIBUTION:** H. Gepford, RIV M. Poston-Brown, RIV  
ListServ (Crow Butte)

**ADAMS Accession No.: ML20189A264**

**\*Via email**

<b>OFFICE</b>	DUWP/PM	DUWP	DUWP/BC	DUWP/PM
<b>NAME</b>	R. Burrows	T. Lancaster*	D. Mandeville (acting)*	R. Burrows
<b>DATE</b>	7/7/2020	7/7/2020	7/8/2020	7/9/2020

**OFFICIAL RECORD COPY**

## **Request for Additional Information**

**License No. SUA-1534  
Crow Butte Resources, Inc.'s (CBR's)  
Request for Alternate Decommissioning (Groundwater Restoration) Schedule for its  
Crow Butte Project in Dawes County, Nebraska  
dated December 9, 2019**

### **Description of Deficiency**

The licensee has not demonstrated that its excursion monitoring program will be effective at Mine Units (MUs) 8 to 11 during the standby periods (i.e., periods of inactive production and restoration) and subsequent groundwater restoration.

In April 2018, CBR notified the U.S. Nuclear Regulatory Commission (NRC) staff that it would cease production at its U.S. operations and place all production equipment in standby mode (CBR, 2018). Subsequent to this notification, CBR provided the NRC staff with additional information on MUs 8 to 11 that had not yet been placed in restoration status (CBR, 2020). CBR's projected standby periods for MUs 8, 9, 10, and 11 will extend to the second quarter of 2021, third quarter of 2029, third quarter of 2024 and the fourth quarter of 2031, respectively (CBR, 2019).

There is insufficient information for the NRC staff to determine if groundwater excursion parameter concentrations within the production zone will decrease to concentrations that do not allow for excursions to be detected at excursion monitoring wells (as specified by License Condition 11.1.5 in NRC, 2018) during the relatively long standby periods and subsequent groundwater restoration. The potential decrease in excursion parameter concentrations over these relatively long periods is anticipated from dilution caused by continued groundwater extraction in the absence of lixiviant injection.

### **Basis for Request**

10 CFR 40.42(i) requires the NRC to determine that the alternate schedule is warranted by consideration of other site-specific factors which the NRC may consider appropriate on a case-by-case basis, such as the regulatory requirements of other government agencies, lawsuits, groundwater treatment activities, monitored natural groundwater restoration, actions that could result in more environmental harm than deferred cleanup, and other factors beyond the control of the licensee.

10 CFR 40.32(c) requires the applicant's proposed equipment, facilities, and procedures to be adequate to protect health and minimize danger to life and property; 10 CFR 40.41(c) requires the applicant to confine source or byproduct material to the location and purposes authorized in the license; and 10 CFR Part 40, Appendix A, Criterion 7A requires the establishment of a detection monitoring program.

### **Request for Additional Information**

Provide an assessment of the effectiveness of the facility's excursion monitoring program during the standby periods and subsequent groundwater restoration at MUs 8 to 11. The assessment should include available excursion parameter concentration data for trunk-line groundwater flowing from MUs 8 to 11 during the period from May 2018 to present. If a downward trend of

excursion parameter concentrations over time exists, provide a monitoring plan that includes semi-annual sampling and analysis of excursion parameters in trunk-line groundwater flowing from MUs 8 to 11.

## REFERENCES

10 CFR Part 40. *Code of Federal Regulations*, Title 10, Energy, Part 40, "Domestic Licensing of Source Material."

CBR, 2020. Supplemental information to Alternate Decommissioning Schedule submitted on December 9, 2019, Cameco Resources Crow Butte Operation, Source Materials License SUA-1534, January 28, 2020, ADAMS Accession No. ML20035D684.

CBR, 2019. Request for Alternate Decommissioning (Groundwater Restoration) Schedule, Cameco Resources Crow Butte Operation, Source Materials License SUA-1534, December 9, 2019, ADAMS Accession No. ML19353A473.

CBR, 2018. Letter from W. Nelson, Cameco Resources, Crow Butte Operations, to U.S. NRC, Notification of Cessation of Production at the Crow Butte Mine, Cameco Resources Crow Butte Operation, Source Materials License SUA-1534, April 2, 2018, ADAMS Accession No. ML18093A186.

NRC, 2018. Crow Butte Resources, Inc., Materials License SUA-1534, Amendment No. 4, December 14, 2018, ADAMS Accession No. ML18268A212.