



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

April 14, 2016

Mr. Larry Teahon, Manager  
SHEQ  
Cameco Resources  
Crow Butte Operation  
86 Crow Butte Road  
P.O. Box 169  
Crawford, NE 69339-0169

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION, LICENSE CONDITION 9.5,  
FINANCIAL ASSURANCE UPDATE, CROW BUTTE RESOURCES, INC.,  
CRAWFORD, NEBRASKA, LICENSE SUA-1534 (TAC NO. L00796)

Dear Mr. Teahon:

By letters dated September 30, 2013, September 30, 2014, and September 28, 2015, the licensee submitted to the U.S. Nuclear Regulatory Commission (NRC) staff an update to its estimated costs for decommissioning and decontamination in accordance with License Condition 9.5 (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML13277A310, ML14282A184, and ML15279A139, respectively). The NRC staff has accepted these submittals for a detailed technical review and has completed its technical review of them. During our 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>.

L. Teahon

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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,

*/RA/*

Ronald A. Burrows, Project Manager  
Uranium Recovery Licensing 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: D. Miesbach, NDEQ  
D. Pavlick, CBR

L. Teahon

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Enclosure:  
Request for Additional Information

cc: D. Miesbach, NDEQ  
D. Pavlick, CBR

**ADAMS Accession No.: ML16063A029**

<b>OFFICE</b>	DUWP/PM	DUWP	DUWP	DUWP/LA	DUWP/BC	DUWP/PM
<b>NAME</b>	R. Burrows	R. Augustus	T. Lancaster	S. Achten	B. VonTill	R. Burrows
<b>DATE</b>	3/7/16	3/8/16	4/8/16	4/13/16	4/14/16	4/14/16

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**U.S. Nuclear Regulatory Commission  
Request for Additional Information  
Technical Review of 2014-16 Surety Estimate  
Cameco Resources Crow Butte Operation  
for Source Materials License SUA-1534**

The purpose of the following Request for Additional Information (RAI) is to provide the additional information and data that are necessary for the U.S. Nuclear Regulatory Commission (NRC) to review Cameco Resources Crow Butte Operation's (Cameco's, or the licensee) submittals in accordance with License Condition 9.5 of Source Materials License SUA-1534 (NRC, 2014).

**Background**

License Condition 9.5 states, in part:

Proposed annual updates to the financial assurance amount, consistent with 10 CFR Part 40, Appendix A, Criterion 9, shall be provided to the NRC by October 1 of each year.

In its submittals dated September 30, 2013, September 30, 2014, and September 28, 2015, the licensee submitted to the NRC staff an update to its estimated costs for decommissioning and decontamination (Cameco, 2013; 2014; and 2015).

**RAI 1:**

**Description of Deficiency**

As currently presented, the 2016 Surety Estimate (Cameco, 2015) does not include sufficient information for the NRC staff to verify that reasonable labor rates were included in the surety calculations.

**Basis for Request**

The requirements in 10 CFR 40, Appendix A, Criterion 9, specify information that must be considered by the licensee in developing its decommissioning cost estimate and requires that the NRC staff verify that the amount of coverage provided by the financial assurance is adequate to complete all decommissioning activities in conjunction with facility operation.

In addition, the guidance in NUREG-1569, Appendix C, states that the "licensee shall supply sufficient information for the NRC to verify that the amount of coverage provided by the financial assurance will permit the completion of all decontamination, decommissioning, and reclamation of sites, structures, and equipment used in conjunction with facility operation." (NRC, 2003)

**Enclosure**

The Master Cost Basis worksheet presents Operator, Pulling Unit Operator, Engineer, and Radiation Technician labor rates used in the Surety Estimate, as follows:

<b>Labor Category</b>	<b>Labor Rate from 2016 Surety Estimate</b>
Operator	\$137.70 (daily rate)
Pulling Unit Operator	\$149.06 (daily rate)
Engineer	\$6,378.04 (monthly rate)
Radiation Technician	\$4,683.01 (monthly rate)

The licensee stated that the “Costs are from: Nebraska Department of Labor,” but does not provide any further information on the source of the rates. The Nebraska Department of Labor, Office of Market Information, Occupational Employment Statistics Program was referenced to verify that reasonable unit costs were included in the surety calculations. The dataset, however, provides varying labor rates for numerous types of operators, engineers, and technicians. (Cameco, 2015)

Additionally, the annual surety submission included an “Independent Accountants’ Report on Applying Agreed-Upon Procedures” from Fred A. Lockwood & Co., P.C. (Falco). Falco’s report included, among other things, a statement that, “[l]abor rates for Operator Labor, Engineer Costs, and Radiation Technician Expenses were agreed to by the Nebraska Department of Labor Web site for labor statistics 2<sup>nd</sup> Quarter 2014.” Falco therefore, is attesting to verification of rates based on the 2<sup>nd</sup> quarter of 2014 as opposed to more current rates from a quarter in 2015. Furthermore, the previous Falco report from the licensee’s previous annual surety submission attests to rates from the same quarter and year. (Cameco, 2015)

#### Request for Additional Information

To ensure that adequate funding is available to cover decommissioning costs, please revise the Surety Estimate or justify the labor rates used in the cost estimate by providing documentation identifying the specific data source (e.g., report, dataset) and occupation/labor categories used for the labor rates.

#### **RAI 2**

##### Description of Deficiency

While reviewing the licensee’s 2016 surety estimate (Cameco, 2015), the NRC staff determined that the estimate is not prospective of all work to be performed at the site.

##### Basis for Request

As required by license condition, the licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR Part 40, Appendix A, Criterion 9, adequate to cover the estimated costs for decommissioning and decontamination, if accomplished by a third party, including for ground-water restoration.

Appendix C of NUREG 1569 (NRC, 2003) states, “The annual surety estimate must be prospective of all work to be performed at the site.”

The licensee's 2016 Surety Estimate (Cameco, 2015) provides estimated restoration periods for mine units (MUs) 4, 5 and 6 using a model (MODFLOW2000) and states, "The model is calibrated periodically to reflect current mine conditions." Staff observes that the model estimates for providing formal requests to remove MUs 4, 5 and 6 from restoration appear to be calibrated to reflect current mine conditions and not projected mine conditions up to the licensee's next annual update of the Surety Estimate (i.e., 2017 Surety Estimate submittal).

The licensee's estimated dates for providing formal requests to remove MU-2 and MU-3 from restoration are prior to the date of this RAI. Since staff has not received these formal requests for MU-2 and MU-3, these estimated dates should be updated and the Surety Estimate should account for any additional work associated with the development of the requests (e.g. development of an Alternate Concentration Limits (ACL) application in accordance with 10 CFR Part 40, Appendix A, Criterion 5B(6)).

#### Request for Additional Information

The Surety Estimate should be updated to provide prospective estimates in the following areas:

- a. estimated submittal dates for requesting the removal of MU-2 and MU-3 from restoration,
- b. estimated submittal dates for requesting the removal of MUs 4, 5, and 6 from restoration as modeled using projected mine conditions at the time of the next Surety Estimate (i.e., 2017 Surety Estimate submittal) or provide justification for the estimated remediation periods as presented, and
- c. sufficient funds to cover any revisions to MU restoration periods and any associated work (e.g. development of an ACL application per Part 40, Appendix A, Criterion 5B(6)) by a third party.

#### References

Cameco, 2015. Letter from L. Teahon, Cameco Resources Crow Butte Operation, to M. Link, Nebraska Department of Environmental Quality, 2016 Surety Estimate, September 28, 2015, ADAMS Accession No. ML15279A139.

Cameco, 2014. Letter from L. Teahon, Cameco Resources Crow Butte Operation, to M. Link, Nebraska Department of Environmental Quality, 2015 Surety Estimate, September 30, 2014, ADAMS Accession No. ML14282A184.

Cameco, 2013. Letter from J. Leftwich, Cameco Resources Crow Butte Operation, to M. Linder, Nebraska Department of Environmental Quality, 2014 Surety Estimate, September 30, 2013, ADAMS Accession No. ML13277A310.

NRC, 2014. Materials License SUA-1534. Washington, DC. ADAMS Accession No. ML13324A101.

NRC, 2003. NUREG-1569, "Standard Review Plan for In Situ Leach Uranium Extraction License Applications—Final Report." June.