

August 31, 2015

Mr. Larry McGonagle  
Cameco Resources  
Smith Ranch-Highland Uranium Project  
P.O. Box 1210  
Glenrock, WY 82637

SUBJECT: LICENSE AMENDMENT NO. 23 – 2015-2016 FINANCIAL ASSURANCE  
UPDATE FOR THE NORTH BUTTE REMOTE SATELLITE TO THE SMITH  
RANCH HIGHLAND URANIUM PROJECT, SOURCE MATERIAL LICENSE  
SUA-1548 (TAC L00776)

Dear Mr. McGonagle:

By letter dated February 2, 2015, Power Resources, Inc. (PRI), doing business as Cameco Resources (Cameco), submitted its annual financial assurance updates to the U.S. Nuclear Regulatory Commission (NRC) staff for the North Butte remote satellite facility (see ADAMS Accession No. ML15065A215). Cameco submitted an updated estimate on July 7, 2015 (see ADAMS Accession No. ML15194A058). North Butte operates as a remote satellite to Cameco's Smith Ranch Highland facility, which is authorized under NRC source material license SUA-1548. Under this license, Cameco uses in-situ recovery (ISR) techniques to extract uranium from below the ground surface at North Butte. The NRC staff accepted Cameco's submittal for detailed technical review on March 9, 2015, (see ADAMS Accession No. ML15069A067).

The financial assurance update seeks to increase the financial assurance amount for North Butte to \$27,738,300 from the currently approved amount of \$22,414,400. With the update, the total amount of financial assurance in place for license SUA-1548 would be \$243,149,200. The primary factor driving the increase in the financial assurance estimate is the planned startup of Mine Unit 3. This planned activity results in increased costs for ground water restoration, well plugging and abandonment, building reclamation, and surface reclamation. The net increase in the financial assurance estimate is \$5,323,900.

NRC staff has reviewed the financial assurance update in accordance with License Condition 9.5 and Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). Based on this review, the NRC staff has reasonable assurance that the current financial assurance estimate of \$27,738,300 will be adequate to complete ground water restoration and decommissioning activities at the North Butte remote satellite facility.

Cameco's current financial assurance instrument is an irrevocable letter of credit held in favor of the State of Wyoming. Cameco does not have a standby trust agreement (STA) in place at this time as required by 10 CFR Part 40, Appendix A, Criterion 9. However, the NRC staff is in the process of evaluating whether the State of Wyoming's separate account provision for financial assurance instruments it holds is consistent with the NRC's STA requirement. During the

previous financial assurance review cycle, the NRC, upon its own initiative, elected to grant Cameco an exemption to the STA requirements in 10 CFR Part 40, Appendix A, Criterion 9. This exemption was issued in accordance with 10 CFR 40.14(a) and remains in place until the 2016 review cycle (see ADAMS Accession No. ML14115A219).

The NRC staff's review is documented in the enclosed Safety Evaluation Report (SER) (Enclosure 1). The SER concludes that sufficient information is available to support the reasonable assurance finding by the staff. License Amendment No. 23 is also enclosed (Enclosure 2).

This licensing action meets the categorical exclusion provision in 10 CFR 51.22(c)(10)(i). Therefore, no further environmental review is required for either action.

If you have any questions regarding this action, please contact Mr. Douglas T. Mandeville, the Project Manager for Source Material License SUA-1548, at 301-415-0724, or by e-mail at [douglas.mandeville@nrc.gov](mailto:douglas.mandeville@nrc.gov).

In accordance with 10 CFR 2.390 of 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

**/RA/**

Andrew Persinko, Deputy Director  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 40-8964  
License No.: SUA-1548

Enclosures:

1. SER for Financial Assurance Review
2. Amendment No. 23 to Source Materials  
License SUA-1548

cc: D. Larnar, WDEQ

This exemption was issued in accordance with 10 CFR 40.14(a) and remains in place until the 2016 review cycle (see ADAMS Accession No. ML14115A219).

The NRC staff's review is documented in the enclosed Safety Evaluation Report (SER) (Enclosure 1). The SER concludes that sufficient information is available to support the reasonable assurance finding by the staff. License Amendment No. 23 is also enclosed (Enclosure 2).

This licensing action meets the categorical exclusion provision in 10 CFR 51.22(c)(10)(i). Therefore, no further environmental review is required for either action.

If you have any questions regarding this action, please contact Mr. Douglas T. Mandeville, the Project Manager for Source Material License SUA-1548, at 301-415-0724, or by e-mail at [douglas.mandeville@nrc.gov](mailto:douglas.mandeville@nrc.gov).

In accordance with 10 CFR 2.390 of 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at: <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Andrew Persinko, Deputy Director  
Division of Decommissioning, Uranium Recovery,  
and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Docket No.: 40-8964  
License No.: SUA-1548

Enclosures:

1. SER for Financial Assurance Review
2. Amendment No. 23 to Source Materials License SUA-1548

cc: D. Larnar, WDEQ

**CLOSES TAC L00776**

**DISTRIBUTION :**

RKellar/RIV

LGersey/RIV

**ML15209A584 (Pkg.); ML15209A599 (Ltr.); ML15209A602 (Enc.)**

OFC	URLB	URLB	PAB	URLB	OGC	DUWP
NAME	DMandeville	SAchten	CMcKenney	BVonTill	SClark	DPersinko
DATE	7/29/15	7/30/15	8/4/15	8/6/15	8/20/15	8/31/15

OFFICIAL RECORD COPY

**SAFETY EVALUATION REPORT  
2015-2016 FINANCIAL ASSURANCE UPDATE FOR THE NORTH BUTTE REMOTE  
SATELLITE TO THE SMITH RANCH HIGHLAND URANIUM PROJECT  
GLENROCK, WYOMING**

**Docket No.:** 40-8964

**License No.:** SUA-1548

**Date:** July 20, 2015

**Facility:** Smith Ranch-Highland Uranium Project  
North Butte Remote Satellite Facility

**Technical Reviewers:** Douglas T. Mandeville  
Reginald Augustus

**Project Manager:** Douglas T. Mandeville

**SUMMARY AND CONCLUSIONS:**

By letter dated February 2, 2015, Power Resources, Inc. (PRI), doing business as Cameco Resources (Cameco), submitted its annual financial assurance updates to the U.S. Nuclear Regulatory Commission (NRC) staff for the North Butte remote satellite facility (Cameco 2015a, see ADAMS Accession No. ML15065A215). Cameco submitted an updated estimate on July 7, 2015 (Cameco 2015b, see ADAMS Accession No. ML15194A058). North Butte operates as a remote satellite to Cameco's Smith Ranch Highland facility, which is authorized under NRC source material license SUA-1548. Under this license, Cameco uses in-situ recovery (ISR) techniques to extract uranium from below the ground surface at North Butte. The NRC staff accepted Cameco's submittal for detailed technical review on March 9, 2015 (NRC, 2015a, see ADAMS Accession No. ML15069A067).

The North Butte remote satellite is currently operating. Cameco is progressing with recovery of uranium in Mine Units 1 and 2. Cameco anticipates initiating injection of lixiviant in Mine Unit 3 within the next 12 months. Therefore, Cameco's financial assurance update reflects the planned startup of Mine Unit 3 and related infrastructure changes to support ground water restoration efforts. The financial assurance update seeks to increase the financial assurance amount for North Butte to \$27,738,300 from the currently approved amount of \$22,414,400. With the update, the total amount of financial assurance in place for license SUA-1548 would be \$243,149,200. The primary factor driving the increase in the financial assurance estimate is the planned startup of Mine Unit 3. Startup of Mine Unit 3 results in increased costs for ground water restoration, well plugging and abandonment, building reclamation, and surface reclamation. The net increase in the financial assurance estimate over the previously approved amount is \$5,323,900.

NRC staff has reviewed the financial assurance update in accordance with License Condition 9.5 and Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). Based on this review, the NRC staff has reasonable assurance

that the current financial assurance estimate of \$27,738,300 will be adequate to complete ground water restoration and decommissioning activities at the North Butte remote satellite facility.

During the previous financial assurance review, staff determined that Cameco's financial assurance arrangement for North Butte does not include a standby trust agreement (STA) as required by 10 CFR Part 40, Appendix A, Criterion 9. Pursuant to 10 CFR 40.14(a), the NRC, upon its own initiative, granted an exemption from the requirement for an STA until the 2016 review cycle for North Butte. This exemption remains in effect until the 2016 review cycle (NRC, 2014).

### **TECHNICAL REVIEW:**

License Condition (LC) 9.5 of source material license SUA-1548 reads, in part, as follows:

*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 reclamation and closure costs, if accomplished by a third party, for all existing operations and any planned expansions or operational changes for the upcoming year. Reclamation includes all cited activities and groundwater restoration, as well as off-site disposal of all 11e.(2) byproduct material.*

The NRC staff reviewed the components of the financial assurance cost estimate for the North Butte facility to verify that the estimate includes the activities that would be required during ground water restoration, decommissioning, and closure of the facilities. The NRC staff also reviewed the unit costs used in the estimate to verify that they represent the costs that would be incurred by a third party to complete ground water restoration, decommission, and closure activities at the site.

The North Butte remote satellite is currently operating through the ion exchange phase of the ISR process. Loaded ion exchange resins are shipped from North Butte to Cameco's Smith Ranch Highland facility for further processing into dried yellowcake. Cameco is currently operating in Mine Units 1 and 2 at North Butte. Cameco anticipates initiating lixiviant injection in Mine Unit 3 within the next 12 months. Cameco submitted its updated financial assurance estimate for North Butte on February 2, 2015 (Cameco 2015a). The estimate identifies that \$27,738,300 will be required to complete decommissioning activities for the North Butte remote satellite. The financial assurance estimate is based on the following items:

- The amount of ground water restoration is estimated to require one pore volume of ground water sweep and eight pore volumes of reverse osmosis treatment.
- A ground water restoration time frame of up to five years for each mine unit (not including the stability period).
- Startup of Mine Unit 3 at North Butte.
- Ground water restoration, plugging and abandonment costs, mine unit buildings, and surface reclamation costs for Mine Unit 3.

- Adjustments in the unit and labor costs for many of the items in the estimate. Cameco used either guidance from Wyoming Department of Environmental Quality (WDEQ) Guideline 12 or actual costs to develop the cost estimate.

During its review of the estimate, NRC staff observed that several components of the estimate, such as labor costs, unit costs, and anticipated operating costs, increased over the previous estimate. Compared to the previously approved estimate, the net increase in the financial assurance estimate is \$5,323,900. The primary driver for the increase in costs is the planned startup of Mine Unit 3. This planned activity results in increased costs for ground water restoration, well plugging and abandonment, decommissioning of header houses, as well as surface reclamation within the Mine Unit.

The NRC staff reviewed the estimate for the North Butte remote satellite facility and determined that the cost estimate does include the range of activities necessary to perform ground water restoration, complete surface decommissioning and reclamation, and close the site. The NRC staff finds that the cost estimate reflects the known as-built conditions (i.e., number of wells, size, depth, completed thickness, etc.) of the currently operational Mine Units as well as the planned startup of Mine Unit 3. The NRC staff observes that the estimate includes costs to address spills at the wellheads. For these reasons, the NRC staff determined that Cameco has provided adequate justification for the current financial assurance estimate at the North Butte remote satellite facility. Therefore, the NRC staff has reasonable assurance that the financial assurance estimate is sufficient and accepts Cameco's estimate for the North Butte remote satellite facility.

#### **PROPOSED LICENSE CONDITION:**

By email dated July 24, 2015, Cameco agreed to the following updates to the financial assurance amounts in condition 9.5 of license SUA-1548 (Cameco, 2015c):

Power Resources, Inc. shall maintain approved surety instrument(s) in the total amount of no less than \$243,149,200.00 for all facilities under this license. The minimum amount for each area of the license is identified in the following paragraphs.

The licensee shall continuously maintain an NRC-approved surety instrument(s) for the North Butte facility in the amount of no less than \$27,738,300.00 in favor of the State of Wyoming, until a replacement is authorized by both the State of Wyoming and the NRC.

This licensing action meets the categorical exclusion provisions in 10 CFR 51.22(c)(10)(i). Therefore, no environmental review is required for this action.

#### **REFERENCES:**

Cameco 2015a, Letter from Cameco to NRC re: 2015-2016 Annual Surety Estimate for North Butte ISR Project, Financial Assurance Estimate, dated February 2, 2015 **[ADAMS Accession No. ML15065A215]**

Cameco 2015b, Letter from Cameco to NRC re: Revised Surety Estimate Update for North Butte ISR Project, Financial Assurance Estimates, dated July 7, 2015 **[ADAMS Accession No. ML15194A058]**

Cameco 2015c, email from L. McGonagle to D. Mandeville re: Proposed License Conditions for 2015-2016 North Butte Financial Assurance Update, dated July 24, 2015 **[ADAMS Accession No. ML15209A671]**

NRC 2015a, email from D. Mandeville to L. McGonagle re: Acceptance for Review 2015-2-16 Financial Assurance Update for North Butte, dated March 9, 2015 **[ADAMS Accession No. ML15069A067]**

NRC, 2014, letter from D. Persinko to J. Leftwich re: License Amendment No. 20, 2014-2015 Financial Assurance Update for North Butte ISR Project, dated May 29, 2014, **[ADAMS Accession No. ML14115A219]**

