May 12, 2008

Mr. Larry Teahon
Manager of Environmental, Health and Safety
Crow Butte Resources, Inc.
86 Crow Butte Road
P.O. Box 169
Crawford, NE 69339-0169

SUBJECT: LICENSE AMENDMENT NO. 23, 2008 SURETY UPDATE, CROW BUTTE RESOURCES, INC., CRAWFORD, NEBRASKA, SOURCE MATERIALS LICENSE SUA-1534 (TAC J00552)

Dear Mr. Teahon:

By letter dated September 25, 2007, Crow Butte Resources, Inc. (CBR) submitted its 2008 surety update to U.S. Nuclear Regulatory Commission (NRC) staff. This surety update seeks to increase the 2007 surety amount by $2,226,759.00 to $25,207,672.00. This increase is based upon expanded operations in Mine Units 10 and 11, and addresses the plant flow increase approved by license amendment dated November 30, 2007. NRC staff reviewed the surety update and issued a Request for Additional Information (RAI) on December 18, 2007. CBR responded to this RAI by letter dated February 19, 2008.

NRC staff has reviewed CBR's responses and finds them acceptable. Therefore, NRC staff is approving the new surety amount of $25,207,672.00. However, as discussed in the Technical Evaluation Report (TER) enclosed with this letter (Enclosure 1), certain aspects of the surety estimate will be reevaluated as part of our ongoing license renewal amendment review. In addition to the TER you will find License Amendment No. 23 (Enclosure 2). This licensing action meets the categorical exclusion provision for surety changes in 10 CFR Part 51.22(c)(10)(i). Therefore, no further environmental review is required for this action. If you have any questions, please contact Stephen Cohen, Project Manager, at 301-415-7182 or, by email at sjc7@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," 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/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 40-8943
License No.: SUA-1534

Enclosures:
1. Technical Evaluation Report
2. License Amendment No. 23

cc: Stephen Collings, CBR
David Miesbach, NDEQ

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(CLOSES TAC J00552)

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TECHNICAL EVALUATION REPORT
2007 SURETY UPDATE
CROW BUTTE RESOURCES, INC.
CRAWFORD, NEBRASKA

DOCKET NO.: 40-8943

LICENSE NO.: SUA-1534

DATE: April 11, 2008

FACILITY: Crawford, Nebraska

TECHNICAL REVIEWER: Stephen J. Cohen

PROJECT MANAGER: Stephen J. Cohen

SUMMARY AND CONCLUSIONS

By letter dated September 25, 2007, Crow Butte Resources, Inc. (CBR) submitted its 2008 surety update to U.S. Nuclear Regulatory Commission (NRC) staff (CBR, 2007). This surety update sought to increase the 2007 surety amount by $2,226,759.00 to $25,207,672.00. This increase is based upon expanded operations in Mine Units 10 and 11 and addresses the plant flow increase approved by license amendment dated November 30, 2007. NRC staff reviewed this submittal and issued a Request for Additional Information (RAI) dated December 18, 2007 (NRC, 2007). CBR responded to this RAI by letter dated February 19, 2008 (CBR, 2008). NRC staff determined that the responses are acceptable and, therefore, approves the proposed surety amount.

TECHNICAL REVIEW

CBR provided a comprehensive surety update in its September 2007 submittal, which included costs for groundwater restoration, plant decommissioning, surface reclamation, deep disposal well reclamation, evaporation pond reclamation, and shallow aquifer restoration. CBR also included decommissioning of the new processing equipment to be installed in the main plant. From an initial review, NRC staff requested additional information regarding pore volumes for restoration and soil reclamation.

NRC staff observed that Mine Unit 1 required 9 pore volumes (PVs) to restore the groundwater and CBR performed an additional 26.2 PVs of ion exchange treatment to recover residual uranium. The proposed surety assumes a restoration volume of 8 PVs and does not include a volume for additional ion exchange treatment. Regarding the 9 PVs, CBR explained that Mine Unit 1 required more time and volume because restoration originally occurred with one reverse osmosis (RO) water treatment unit. This was gradually replaced with 3 RO units and more well patterns used for restoration. Therefore, CBR states that future wellfield restoration can be performed more efficiently.

Regarding the ion exchange treatment, CBR explains that its wellfield operations procedure was to continue extracting uranium from low head-grade wellfields once a wellfield is primarily

depleted; this procedure is not part of restoration. This extraction occurs without lixiviant in the injection stream. This type of Ion exchange was used in Mine Unit 1 for that purpose. However, the recent plant upgrade amendment will allow CBR to further deplete low head-grade wellfields prior to restoration. The absence of this low head-grade recovery would not impact the groundwater volume required to restore wellfields. NRC staff notes that CBR currently has four wellfields in restoration, Mine Units 2, 3, 4, and 5. As part of the ongoing separate staff review of CBR's license renewal application dated November 27, 2007, the NRC staff will assess this issue in greater detail, and future surety adjustments will be required, if warranted.

Regarding soil reclamation, NRC staff observed that CBR included a standard soil volume for each well that would be reclaimed. However, there was no discussion of reclamation soil volumes around piping and well houses. In its February 2008 response, CBR stated that when pipeline or other spills occur, the area is analyzed and contaminated material is removed and disposed of offsite. Included in its aforementioned RAI response, CBR provided a "Straight Bill of Lading" dated 12/17/07, as an example of its contaminated soil removal operations. While the staff acknowledges and encourages CBR's current soil removal practice, the surety should include the removal of soil from pipe lines and well houses to account for spills or leaks that are unknown at the time of a bankruptcy. NRC staff will assess this issue in greater detail during its license renewal review, and future surety adjustments will be required, if warranted.

Unit costs for the labor and equipment associated with the site reclamation and decommissioning were increased by 2.7 percent based on the Consumer Price Index from June 2006 (202.9) and June 2007 (208.359). NRC staff reviewed the computations and concurs with the 2.7 percent increase. However, NRC staff will require that CBR rebaseline its unit costs for labor and equipment, as part of next surety update following the staff's review of the license renewal application.

ENVIRONMENTAL REVIEW

This licensing action is categorically excluded per 10 CFR Part 51.22(c)(10)(i), which specifically states that changes in surety are excluded from further environmental review.

PROPOSED LICENSE AMENDMENTS

LC 9.5

Crow Butte Resources, Inc.'s currently-approved surety instrument, an Irrevocable Standby Letter of Credit issued by the Royal Bank of Canada (New York Branch), in favor of the State of Nebraska, shall be continuously maintained in the sum total amount of no less than $25,207,672, for the purpose of complying with 10 CFR 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Nebraska and NRC.

REFERENCES

Crow Butte Resources, Inc. 2007, License Amendment Request to Update Surety, September 25, 2007 [ADAMS Accession No. ML072990513].

Crow Butte Resources, Inc. 2008, Response to Request for Additional Information, February 19, 2008 [ADAMS Accession No. ML080800075].

U.S. Nuclear Regulatory Commission, 2007, Surety Update Request for Additional Information, December 18, 2007 [ADAMS Accession No. ML073510469