

**From:** [Burrows, Ronald](#)  
**To:** [ronda.rabe.hasenauer](#)  
**Subject:** RE: Response to questions on the Crow Butte facility  
**Date:** Wednesday, March 02, 2016 4:08:31 PM

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Dear Ms. Hasenauer,

Please see the NRC staff's responses to your questions below, in your original e-mail.

Thank you.

*Ronald A. Burrows*

Ronald A. Burrows CHP, RRPT  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety  
and Safeguards  
Uranium Recovery Licensing Branch  
301.415.6443

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**From:** Burrows, Ronald  
**Sent:** Monday, February 22, 2016 3:28 PM  
**To:** ronda.rabe.hasenauer <2horses395@gmail.com>  
**Subject:** RE: response to questions on the Crow Butte facility

Dear Ms. Hasenauer,

You should receive a response to your questions by Friday, March 4, 2016.

Regards,

*Ronald A. Burrows*

Ronald A. Burrows CHP, RRPT  
U.S. Nuclear Regulatory Commission  
Office of Nuclear Material Safety  
and Safeguards  
Uranium Recovery Licensing Branch  
301.415.6443

**From:** ronda rabe hasenauer [<mailto:2horses395@gmail.com>]

**Sent:** Tuesday, February 16, 2016 4:19 PM

**To:** Burrows, Ronald <[Ronald.Burrows@nrc.gov](mailto:Ronald.Burrows@nrc.gov)>

**Subject:** [External\_Sender] crow butte

I have several questions concerning Crow Butte uranium mining. I hope you can help me.

1. Do you know why there were 11 excursions, 2 well failure tests and one well integrity test that was 2 years overdue? I seriously question the theory that a "wet spring" is what has caused all the excursions.

The NRC staff is uncertain which excursion reports, well failures, and integrity test you are referencing.

Crow Butte Resources, Inc. (CBR) is required to provide a timely report to the NRC of all instances where at least one excursion parameter is confirmed to be elevated in a Crow Butte excursion monitoring well. Once an excursion is confirmed, CBR is required to provide the NRC with a written report describing the excursion event, corrective actions taken, and corrective action results within 60 days of the excursion confirmation. Those reports are publicly available in NRC's Agencywide Documents Access and Management System (ADAMS) within NRC's website (<http://www.nrc.gov>).

2. As I understand it, only 1 well site has been restored. Was this well site restored to premining standard or did they get the "15-16" waver on the restoration? How long did this take and how much did it cost?

The NRC staff is uncertain what you are referring to as a "15-16 waver."

Under the terms of CBR's previous license, ground water quality at mine unit 1 (MU-1) was restored to numerical class-of-use standards established by the State of Nebraska Department of the Environmental Quality (CBR 2000, 2003). CBR's restoration of MU-1 took approximately eight years. Under the terms of CBR's renewed license, CBR must restore ground water quality at the remaining mine units in accordance with Title 10 of the Code of Federal Regulations (10 CFR), Part 40, Appendix A, Criterion 5B(5).

The NRC does not track actual expenditures by a licensee for restoration.

3. As I understand, there are over 5,000 wells at Crow Butte. How long and how much will restoration cost the company? Do they have a large enough deposit with NDEQ to finish restoration at Crow Butte? If they do not, who pays the bill?

Acknowledging that the restoration of MU-1 took approximately 8 years and the restoration at other MUs has not been approved, the restoration time for future MUs will likely vary.

As stated above in response to your Question 2, the NRC does not track actual licensee restoration expenses. CBR is required to submit annual updates of their surety estimate to cover CBR restoration costs. The NRC staff reviews these annual updates to verify that there are sufficient funds to cover restoration costs. According to CBR's 2016 surety

estimate, which is currently under review by the NRC, money in the surety for the ground water restoration at MU-2 to MU-11 totals \$19,596,570 (CBR, 2015).

4. Why is a Marsland expansion even being considered before Crow Butte is totally and completely restored to premining standard? What assurances do the citizens of Nebraska and South Dakota have that this restoration will ever be completed?

NRC regulations do not prohibit a licensee from applying for a license amendment, such as the Marsland expansion, prior to completely restoring Crow Butte's currently operating ISR facility.

The completion of restoration at the CBR facility is required by NRC regulations. The approved surety held by the State covers the expected cost of a third party contractor to complete ground water restoration and site cleanup in the event that the licensee fails to do so.

5. What is the NRC and/or the NDEQ doing to cooperate with South Dakota and the Pine Ridge reservation on doing an in-depth study on the arsenic levels in water on the reservation. I live in western Nebraska and have had my private well tested. Arsenic tested at 8 with the EPA level maximum being at 10. I am worried as I'm sure you would be if this uranium operation was in your backyard.

We have no regulatory authority on the Pine Ridge reservation related to the licensed uranium recovery activities of the Crow Butte facility. The NRC staff is not aware of activities that the Nebraska Department of Environmental Quality (NDEQ) chooses to participate in with other states, including South Dakota. Questions related to NDEQ-regulated ground water activities may be directed to:

David L. Miesbach  
Groundwater Unit Supervisor  
Water Quality Division  
Nebraska Department of Environmental Quality  
david.miesbach@nebraska.gov  
(402) 471-4982

6. What were premining arsenic levels on private wells and the White River? What are current levels?

Pre-mining arsenic levels in ground water samples obtained from private wells in the vicinity of Crow Butte main facility ranged from 1 to 30 micrograms per liter (Ferret, 1987). NRC regulations did not require CBR to determine pre-mining arsenic levels in the White River. NRC regulations do not require CBR to monitor current arsenic levels in private wells or the White River during a mine unit's operation.

References:

CBR, 2015. Crow Butte Uranium Mine – 2016 Annual Update to the Surety Estimate, September 28, 2015, ADAMS Accession No. ML15279A139.

CRR, 2003. License Amendment 15, Crow Butte Resources IN SITU Leach Facility No.

SUA-1534, Wellfield #1 Restoration Acceptance (TAC NO L52491), February 12, 2003, ADAMS Accession No. ML15279A139.

CBR, 2000. Mine Unit 1 Restoration Report Crow Butte Uranium Project, January 10, 2000, ADAMS Accession No. ML003677938.

Ferret, 1987. Application for Source Material License for Ferret Exploration Company of Nebraska, Inc.,  
Appendix 2.9 (A) - Water Quality Data, Ferret Exploration Co of Nebraska, Inc., October 7, 1987, ADAMS  
Accession No. ML12278A067.

Thank you.  
Ronda Rabe Hasenauer