

**From:** [Mandeville, Douglas](#)  
**To:** [ronda.rabe.hasenauer](#)  
**Cc:** [Burrows, Ronald](#); "[Robin.jones@wyo.gov](#)"; [david.miesbach@nebraska.gov](#)  
**Subject:** RE: Fwd: water restoration  
**Date:** Monday, May 02, 2016 11:23:00 AM

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Ms. Hasenauer –

Your questions and the staff's answers are provided below.

Q: Are these annual cost adjustments to the surety and the reasons for these adjustments listed in the ADAMS information site?

A: The licensee's annual adjustments are available in ADAMS. Some licensees may include a description of changes from the previous year's estimate in their submittal. Typically, the staff's review documents what has changed from the previous year.

Q: If there are actual costs over the projected estimate for restoration, are those actual costs listed anywhere for public viewing?

A: As Ron Burrows has previously discussed, the NRC staff does not track actual restoration costs. Therefore, those costs are not listed anywhere for public viewing.

Q: Are all these figures self-reporting by the mining company?

A: Cost estimates are provided by the licensee. However, the regulations require that the cost estimate be based on what it would cost an independent, third party to complete the work. As Ron Burrows previously stated, the NRC staff typically verifies unit costs and productivity assumptions with construction cost estimating references (one example is RS Means construction cost estimating data).

Q: When the NRC compares costs for restoration, are they comparing alkaline ISL to the same and acid ISL mining to acid ISL mining? Are they using geographically similar sites to compare the movement of solutions and elements?

A: Acids are not during the in-situ recovery process in the United States. In-situ recovery sites in the U.S. use alkaline leach. The cost estimates are site specific.

Q: Aren't restoration costs and times different for the two different solutions?

A: As only alkaline leach is used in the US, staff is not familiar with the costs to restore an acid leach ISR site.

Q: Do you know eventually where the waste concentrations from the evaporation ponds and liners go to be "disposed of"?

A: Waste concentrations from evaporation ponds and liners are required to be disposed of at a disposal facility licensed by the NRC or an Agreement State. There are several facilities that could receive and dispose of the waste: Energy Fuels White Mesa facility in Utah, UR Energy Pathfinder Shirley Mc site in Wyoming, Energy Solutions site in Utah, and the WCS facility in Texas. Licensees are required to have a disposal agreement with at least one of these facilities. Staff reviews these agreements during inspections.

Doug

Douglas T. Mandeville  
U.S. NRC  
Uranium Recovery Licensing Branch  
301-415-0724

**From:** ronda rabe hasenauer [mailto:2horses395@gmail.com]  
**Sent:** Sunday, April 17, 2016 12:35 PM  
**To:** Mandeville, Douglas <Douglas.Mandeville@nrc.gov>  
**Subject:** [External\_Sender] Fwd: water restoration

----- Forwarded message -----

From: **ronda rabe hasenauer** <[2horses395@gmail.com](mailto:2horses395@gmail.com)>  
Date: Tue, Mar 15, 2016 at 8:40 AM  
Subject: Re: water restoration  
To: "Burrows, Ronald" <[Ronald.Burrows@nrc.gov](mailto:Ronald.Burrows@nrc.gov)>

Mr. Burrows,

Are these annual cost adjustments to the surety and the reasons for these adjustments listed in the ADAMS information site?

If there are actual costs over the projected estimate for restoration, are those actual costs listed anywhere for public viewing?

Are all these figures self-reporting by the mining company?

When the NRC compares costs for restoration, are they comparing alkaline ISL to the same and acid ISL mining to acid ISL mining? Are they using geographically similar sites to compare the movement of solutions and elements?

Aren't restoration costs and times different for the two different solutions?

Do you know eventually where the waste concentrations from the evaporation ponds and liners go to be "disposed of"?

Thank you.

Ronda Rabe Hasenauer

On Thu, Mar 10, 2016 at 8:26 AM, Burrows, Ronald <[Ronald.Burrows@nrc.gov](mailto:Ronald.Burrows@nrc.gov)> wrote:

Dear Ms. Hasenauer,

Regarding your question on restoration costs, while the NRC does not track actual decommissioning expenditures by licensees, the NRC staff does compare the licensees' projected decommissioning costs (e.g., labor, equipment, etc.) with current published estimates for these costs. Each cost estimate also includes a contingency factor based on the total estimate for final site closure.

As required by 10 CFR Part 40, Appendix A, Criterion 9(e)-(f), the licensee must also adjust the amount of surety on an annual basis to include, for example, inflation, actual remediation costs that exceed previous cost estimates, and any other conditions affecting costs. These ongoing annual adjustments to the surety amount provide the

NRC staff with reasonable assurance that sufficient funds will be available to cover 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.

Regarding your other question related to these costs, any alleged tax problems that Cameco has with any government entity are not relevant to the NRC staff's review and approval of either the appropriate surety amount or the surety instrument necessary for decommissioning the site.

Regards,

*Ronald A. Burrows*

Ronald A. Burrows CHP, RRPT  
U.S. Nuclear Regulatory Commission  
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and Safeguards  
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[301.415.6443](tel:301.415.6443)

**From:** ronda rabe hasenauer [mailto:[2horses395@gmail.com](mailto:2horses395@gmail.com)]

**Sent:** Friday, March 04, 2016 1:17 PM

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

**Subject:** [External\_Sender] water restoration

My information for the 11 excursions, well failure tests and well mechanical test that was 2 years overdue are all from the NDEQ public information site. These are all from 2015. I also spoke to the technician who did the overdue well integrity test. I am familiar with the ADAMS website. I learned from this site of the many extensions CBR requested and received for restoration. I spoke to David Miesbach on several occasions and have emailed him also with questions. I have also contacted several hydrologists at Universities and water technicians in South Dakota. The people on the Pine Ridge Reservation and their water quality matter to me just as much as my friends and neighbors here in Nebraska. As a **federal** agency overseeing a potentially hazardous ISL mine, are you not concerned about any underground water flow outside of the mining boundary? What about White River and English Creek? Fact: The mining industry has never fully cleaned up an aquifer polluted by ISL mining. Excursions can and do mobilize elements such as arsenic and lead that can move to other aquifers. The EPA gave an "out" for the ISL mines because it was found impossible for the restoration efforts to completely restore aquifers to premining baseline water quality so instead they are given a loophole and can restore the aquifer to "class-of-use". But the pollution remains. Today we know that these "restorations" should be monitored for 30 years. Nebraska's totally inadequate regulations are monitoring for 1 year. With over 5000 wells at Crow Butte I don't expect this abomination will be cleaned up in my grandchildren's lifetime or ever.

If you don't know the costs for restoration of MU1, how do you know that \$19,596,570 will be sufficient to cover units MU2-MU11? Do Cameco's tax problems with Canada and the IRS play into your review of their financial stability for the very long term restoration of the entire mining site?

Nebraska did not require testing for arsenic when the baseline water testing was done. According to David Meisbach, NDEQ does not have records of premining arsenic levels. In the May 2015 testimony of Larry Teahon of CBR he stated "we have tested wells all the way to the White River". If NRC regulations do not require this why was it asked and answered during their licence review?

Thank you for your information.