

Cimarron Monthly Status Teleconference Notes
April 27, 2022

Attendees:

<u>NRC - HQ</u>	<u>DEQ</u>	<u>EPM (or Contractors to the Trust)</u>
Jim Smith	Paul Davis	Bill Halliburton
Robert Evans	Kelly Dixon	Jeff Lux
Christine Pineda	Jon Reid	Dan Clement
Angela Coggins	Anna Fernow	

Groundwater Flow Model

Burns & McDonnell will refine the existing 10 ft X 10 ft model grid using standard telescopic grid refinement techniques to achieve a grid size of 5 ft X 5 ft (or smaller) in the area surrounding and between the Burial Area #1 (BA1) extraction trenches. This refinement is needed because there would be too few 10 ft X 10 ft grids between injection and extraction components for the flow model to adequately evaluate the movement of groundwater. The refined grid model will be run both the without and with additional injection between trenches.

Progress on the Revision of the Decommissioning Plan

The schedule for the revision of *Facility Decommissioning Plan – Rev 3 (the D-Plan)*

The schedule is based upon the following sequence of activities, each of which is dependent upon the previous activity:

1. The groundwater flow models will be revised as described above.
2. Once groundwater flow model revision is complete, extraction and injection rates will be finalized for BA1 components. The calculated concentration of uranium in the influent to the BA1 treatment system will be revised. The rate of concentration decline in both the Western Area (WA) and BA1 areas will also be revisited and revised as appropriate.
3. The last time the U-235 enrichment to each treatment system was calculated was in 2017, prior to the submission of D-Plan Rev 1. For the WA, the enrichment value calculated for the influent to the WA treatment trains was based on over 50% of the influent being lower-concentration, lower-enriched groundwater coming from eight extraction wells along the bluff, three extraction wells in the northern portion of the floodplain, an extraction well in the Process Building Area, and an extraction trench near Monitor Well 1348. For BA1, the enrichment value calculated for the influent to the BA1 treatment train was based on 20% of the influent being the lower-concentration, lower-enriched coming from two extraction wells in the northern portion of the floodplain. Enercon Services will revise the calculated enrichment of the influent to both treatment trains based on the extraction rates provided by Burns & McDonnell.
4. Using revised influent concentration and concentration decline information (from Burns & McDonnell) and the revised enrichment values (from Enercon Services), VNS – Federal Services will revise the vessel loading calculations which will demonstrate that the total mass of U-235 contained in resin vessels will not exceed the 1,200-gram possession limit for U-235.
5. The D-Plan text is being revised and changes to tables, figures and design drawings are in process. However, some revision of the D-Plan cannot be completed until Activities 1 – 4 have been completed.
6. Simultaneous with the last revisions to the D-Plan, the decommissioning schedule and decommissioning cost estimate (DCE) will be revised as described below.

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Burns & McDonnell has estimated that the formal submittal of the D-Plan may be submitted by the end of August 2022, and I've requested that Burns & McDonnell collaborate with Enercon Services and VNS – Federal Services to try to cut as much time as is reasonable out of that schedule in an effort to submit it as early as practical.

Changes to the D-Plan

In response to comments received from the NRC on the pre-application audit, and to maximize the potential to achieve license termination with available funding, EPM plans to make the following significant changes to the D-Plan:

- A treated water injection component will be installed between Groundwater Extraction Trenches GETR-BA1-01 and GETR-BA1-02. This additional injection of treated water will significantly reduce the volume of the vadose zone between these extraction trenches, reducing the likelihood that uranium could desorb from soil in the vadose zone upon the return of groundwater elevations to pre-remediation levels. It will also increase the number of pore volumes of groundwater in the transition zone that will be recovered per unit time, reducing the duration of remediation; this is significant because the BA1 transition zone presents the longest duration of remediation by far.
- Groundwater remediation in the WA will not continue throughout the duration of remediation in BA1. Extraction, treatment, and injection in the WA will be discontinued when the concentration of uranium in all WA in-process monitor wells achieves the NRC criterion.
- The NRC has formally documented that surface and subsurface soil in every Subarea except Subarea F complies with the license termination criteria. For Subarea F, the November 2007 *Burial Area #1 Subsurface Soil Assessment* (ML20043D187) presented the uranium concentrations for approximately 2,000 surface and subsurface soil samples collected from BA1; not one sample exceeded the NRC criterion for uranium in soil. Consequently, the D-Plan will be revised to state that radiological surveys will be conducted only for the mixed soil and sediment from the 1206 Drainage and any non-native material excavated during construction.
- Except for such sampling and analysis that is required to demonstrate compliance with discharge and/or underground injection reporting, analysis of groundwater and treated water will not include analysis for nitrate or fluoride. Should the DEQ desire periodic evaluation of nitrate or fluoride in groundwater, a program for such assessment will be generated outside of the D-Plan.
- All revisions of the D-Plan stated that post-remediation monitoring would be performed for 12 quarters prior to pursuing license termination. Upon shutting down groundwater extraction groundwater elevations in alluvial wells will recover to static conditions within hours, and even in the transition zones, groundwater elevations should recover within days to weeks. Desorption of uranium in the vadose zone into groundwater should require days to weeks, so the 8 quarters of post-remediation monitoring stipulated in License Condition 29(b) should be sufficient to demonstrate that uranium concentrations will not rebound enough to exceed the NRC criterion.
- Because the duration of post-remediation monitoring will decrease from 12 to 8 quarters, demobilization of groundwater treatment systems will begin after receiving the results of the 2nd quarterly post-remediation monitoring event. This is six months earlier than had been proposed in the draft D-Plan Rev 3.

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Decommissioning Cost Estimate (DCE)

The DCE will be determined differently than it had been in previous revisions of the D-Plan. The Trust Agreement states that the Federal Cost Account will be used to achieve the Federal objectives. However, EPM will consider the total funding available for decommissioning to consist of the combined Federal Environmental Cost Account, the State Environmental Cost Account, and the Standby Trust. Other changes include:

- Elimination of administration costs and inclusion of administrative funds in the available funding.
- Starting with the reported value of the three above-referenced accounts as of the end of the quarter preceding submittal of the D-Plan, a 1% annual return on the funds will be applied to each account.
- Costs will be escalated at 3% per year.
- Instead of simply estimating the annual cost in 2022 dollars, the DCE will present on an annual basis the beginning value of the combined accounts, the total annual cost, and the ending value of the combined accounts. For each year, the end-of-year value of the accounts will be calculated as [beginning-of-year value X 1.01] – [annual cost].

Clarification of NRC Pre-Application Audit Comments

In a March 29 letter to the NRC, EPM formally submitted a letter containing a request for clarification of NRC's comments, in the hope that asking specific questions (in red text) would expedite the process. The NRC expects to issue a response to those questions early in May. Revision of the D-Plan in response to those questions is independent of the sequence of activities listed above and will not impact the schedule for submission of the D-Plan.

March 15 Letter on Section 3.2.4 of the Trust Agreement

The DEQ contacted EPM to discuss the implications of Section 3.2.4 of the Trust Agreement, which requires notification of the NRC when "all contractual and other projected obligations will have exhausted 25%, 50%, and 75% of the Cimarron Federal Environmental Cost Account." In addition, Section 3.2.4 requires remediation work to cease upon notification of the 75% trigger. These provisions created additional concerns regarding the sufficiency of funding to achieve termination of the NRC license. According to the Trust Agreement, the cost of decommissioning is to be paid out of the Federal Environmental Cost Account (Federal Account), and prior to this time, we have been funding all assessment and decommissioning planning out of both the Federal Account and the State Environmental Cost Account (State Account). A second issue about which the DEQ was concerned was "Upon what value of the Federal Account is the stipulated notification based?"

EPM responded in a letter dated March 15, providing the interpretation agreed upon by EPM, the NRC, and the DEQ in February 2018 regarding the "initial" value of the Federal Account, which the DOJ accepted via email in March 2018. Based upon that interpretation and the cost estimate provided in the draft D-Plan, EPM notified the NRC and the DEQ that the 75% notification would occur years before the concentration of uranium in groundwater would be reduced to less than the DCGL.

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The concern raised by the letter provided the impetus for using the combined value of the Federal Account, the State Environmental Cost Account, and the Standby Trust as the “available funding” in the DCE, as well as for revising the D-Plan to eliminate as many costs to achieve the NRC criterion as can be justified.

*The following was not discussed during the meeting but was added for NRC and DEQ understanding. If the NRC and the DEQ agree that the provisions of Section 3.2.4 should apply to the combined value of the Federal Account **plus** the State Environmental Cost Account and/or the Standby Trust, the approval of the Environmental Protection Agency (defined in both the Consent Decree and Environmental Settlement Agreement and the Trust Agreement as a “Non-Lead Agency”) and the Department of Justice may be required. Without the inclusion of those accounts in the value of the account upon which Section 3.2.4 triggers area applied, remediation will have to be terminated long before groundwater complies with the decommissioning criteria.*

NRC’s Office of the General Counsel is reviewing this letter and will prepare a response, possibly after consulting with the DEQ.

Annual Environmental Monitoring

The annual environmental monitoring sampling event is scheduled for July 11 – 15. The NRC inspection is scheduled for July 13 – 14. Jay Maisler (RSO), Chuck Beatty (QAC), and Dane Watson (Enercon PM for the CERT) plan to attend the inspection.

Next Monthly Status Teleconference

The next Cimarron monthly project status teleconference will be conducted at 2:30 Eastern Time, 1:30 Central Time, on Wednesday, May 25, 2022.