

## RSI-1

### Decommissioning Plan: Last paragraph on Page 8-48 and first paragraph on Page 8-49

The text listed above corrects the former statement in the Decommission Plan Version 2 (DP-2) that the post-remediation monitoring will be conducted for Tc-99 “to confirm that Tc-99 concentrations are below the EPA-stipulated criterion of 900 pCi/L.” However, the revised text implies that the proposed sampling for Tc-99 during the post-remediation will be conducted *pro forma*, i.e., simply to comply with the request in NRC’s 2013 letter (ML20171A868).

NRC’s 2013 request is more than just *pro forma*. NRC and EPA have a MOU regarding levels of residual contamination remaining in excess of EPA’s MCL after a license termination (NUREG-1757 Volume 1, Appendix H). Based on past correspondence, EPM should be well aware of this obligation (see ML042600024; ML050320184; ML043270052; ML041400299; & ML041540159). NRC will have to base a determination the residual contamination at the time of license termination using conventional sampling strategy (i.e., consecutive quarterly sampling over a year) rather than rely on what would then be 30-year-old annual sampling results. To eliminate an RAI, the DP text should reflect the licensee’s commitment to a sampling that documents existing residual contamination at the time of license termination rather than to simply comply to an “unreasonable” request.

Staff also recommends that the first full paragraph on page 15-9 be removed.

### Decommissioning Plan: Chapter 9.5 Schedule Changes

The text in this chapter has not been revised. The text justifying the need for an alternate schedule is apparently in the cover letter for the RSI response submittal. Unfortunately, regardless of the technical merits of the justification which staff will address later, an license amendment request for an alternate schedule in this cover letter poses difficulties from a regulatory perspective. As structured, this amendment request is outside of the DP and any amendment would have to include a reference to this letter.

Staff recommends that the request and justification for alternate schedule is included the DP.

## RSI-3

Figure 9-3 Revision 0 Remediation schedule lists a duration of 147 months to reduce the uranium concentrations in the WAA U>DCGL to less than NRC criterion. On page 3-11 of the revised DP, the estimated time to achieve the NRC criterion is listed as 38 months. The text in Section 9.3.2 states that “[r]emediation duration estimates indicate that groundwater in WAA U>DCGL will take the longest of the western remediation areas to achieve the NRC Criterion ... requir[ing] slightly more than 12 years.”

The text in Section 9.3.2 also states that the schedule assume WA remediation will continue to operate until remediation is completed in the BA1 area (estimated at 150 months) because it “would provide for the greatest removal of contaminant mass.”

The DP should be clear on the distinction between the proposed remedy to achieve the NRC criterion and additional remediation to achieve the greatest removal of contaminant mass.

## RSI-5

The response provides some clarity that was needed to facilitate the detailed technical review; however, it did not address the question regarding timing of the post-remediation monitoring and decommissioning activity.

The DP plan proposes three years of post-remediation monitoring. In response to RSI-8, EPM states that “NRC required EPM to commit to twelve quarters of post-remediation monitoring instead of the eight quarters of monitoring stipulated in License Condition 27(c) (sic) to provide sufficient time to identify post-remediation increases in uranium concentrations resulting from future vadose zones created by drawdown.” Staff cannot find documentation on the requirement imposed on WPM for 12 quarters of post-remediation monitoring. The only documentation for increased post-remediation monitoring are: (1) meeting notes for a May 12, 2015 teleconference in which “NRC pointed out that three of post-remediation monitoring had been discussed rather than eight. EPM will check to see if the [DP] provides for at least 12 quarters of post-remediation monitoring.” (ML20014E732); and (2), a March 31, 2004 response to DEQ comments in which a response to DEQ’s comment that they would require a longer time period than two years, Cimarron would monitor for five years (ML041000046).

The current license condition requires eight consecutive quarters (two years) for demonstration of compliance with the release criteria. This requirement was added to the license by Amendment 15. The basis for this requirement was the concern of a valid decreasing trend based on only one year (four quarters) of data. At that time, monitored natural attenuation was the proposed groundwater strategy. On the other hand, active remediation in which disequilibrium occurs after its cessation is currently being proposed. Following any corrective action, a rebound or increasing trend is anticipated and would likely need more than one year of data.

Please elaborate on the rationale for the post-remediation monitoring schedule.

## RSI-6

### A) Revised tables in DP

On Tables 2-11 & 2-12, it looks like the mean value was calculated incorrectly. Table 2-13 was not included in the package.

### B) Data submitted by letter dated October 4, 2021 (letter is not in ADAMS) EPM provided excel files containing groundwater elevations, groundwater quality data and pertinent well details.

## RSI-7

It is likely that the alluvium will be inundated one or more times during the proposed remediation. The 100-year flood elevation of 951 ft-MSL will exceed the tops of the wells. Furthermore, staff notes that Oklahoma reports a peak elevation of 945.8 ft-MSL in the Cimarron River on May 10, 1993, based on drift mark at the Highway 74 bridge. (Accessed on 12/6/2021 <https://webapps.usgs.gov/dbflood/ODOTdatabase/Logan40083/Logan40083-0042-13933-19930509.pdf> through <https://webapps.usgs.gov/dbflood/>). Flow information at the surrounding USGS gaging stations (i.e, 07159100 and 07160000), peak flow in the Cimarron River for the May 10<sup>th</sup> event was at the 10-year recurrence interval.

The responses include calculations for a dilution factor using a low-water median flow benchmark and that river flow has not been directly measured at the Site. Please provide a justification for using the low-water median flow as the benchmark rather than more commonly used benchmarks (e.g., 7-day average low flow every 2 years [7Q2]). Second, the statement that river flow has not been directly measured at the Site may not be accurate. For water years 1971 and 1972, the USGS had a station (07159400) located east of the Route 74 bridge for the Cimarron Rive, which, for all intents, would be located on the Site.

#### **RSI-8**

See comments on RSI-5.

#### **RSI-9**

Acceptable for detailed technical review.

#### **RSI-10**

Acceptable for detailed technical review.

#### **RSI-11**

Acceptable, references in the DP include ADAMS accession numbers which overrides the concern on dates.

By email dated, EPM provided clarification that the correct version for one document is ML16203A251.

Based on discussions during the January 7, 2022 public meeting, EPM committed to research the below comment identified in the RSI:

*“A similar discrepancy in dates is noted for the reference which provides calculations deriving the mass concentration equivalent of 201 ug/L to the 180 pCi/L criterion in Appendix K Basis of Design (e.g., Footnote 4 on PDF page 84 of 197) and the document in ADAMS with the same title. Unfortunately, the document in ADAMS estimates a mass concentration of 214 ug/L is equivalent to the NRC criterion rather than 201 ug/L.) Please provide the ADAMS Accession number to the references listed in the DP to ensure that the document being referenced in the DP is that document in ADAMS.”*

The revised DP should correct this discrepancy and the correct document submitted to ADAMS, if appropriate.