MEMORANDUM

March 6, 2024
Project No. 27222162.24

To: Evergy Missouri West, Inc.
Jared Morrison – Director, Water and Waste Programs

From: SCS Engineers
John Rockhold, P.G.
Douglas Doerr, P.E.

RE: 3rd Semi-Annual Remedy Selection Progress Report Pursuant to 40 CFR 267.97(a)
Sibley Generating Station
Fly Ash Impoundment

Evergy Missouri West, Inc. has implemented the U.S. Environmental Protection Agency Federal Coal Combustion Residuals (CCR) Rule (Code of Federal Regulations 40 CFR 257 and 261) effective October 19, 2015, along with subsequent revisions for the CCR surface impoundment referred to as the Sibley Fly Ash Impoundment (FAI) at the Sibley Generating Station located in Sibley Missouri. Section 257.97(a) of the CCR Rule requires that the owner or operator of a CCR management unit that has completed an Assessment of Corrective Measures (ACM) for groundwater prepare a semi-annual report describing the progress in selecting and designing the remedy. This report constitutes the third semi-annual remedy selection progress report and is comprised of activities during the period of September 2023 through February 2024.

The ACM was initiated for the FAI on April 18, 2022, in response to a statistically significant level (SSL) of an Appendix IV constituent (molybdenum) exceeding the Groundwater Protection Standards (GWPS). Pursuant to 40 CFR 257.96(a), a demonstration of the need for a 60-day extension for the ACM was completed on July 15, 2022. The ACM Report was completed and placed in the facility operating record and posted to Evergy's CCR public website on September 15, 2022. Based on the results of the ACM, Evergy must, as soon as feasible in accordance with the CCR Rule, select a remedy that meets the standards listed in 40 CFR 257.97(b). A summary of the progress in selecting a remedy in compliance with the CCR Rule is provided below.

SUMMARY OF ACTIONS

The following actions have been completed during the third reporting period (September 2023 through February 2024):

- Continued nature and extent (N&E) investigation of the Appendix IV constituent (molybdenum) in exceedance of the GWPS pursuant to 40 CFR 257.95(g). To properly determine the extent and concentration of molybdenum, additional groundwater data was

needed. The initial groundwater samples collected from several of the N&E wells were collected within a couple of weeks following well installation and before the formational groundwater had time to equilibrate after the disturbance. Groundwater samples were collected for molybdenum from MW-806R on August 17, 2023, November 15, 2023, and February 12, 2024, and from the N&E wells on August 17-18, 2023, November 16, 2023, and February 13-15, 2024 Results from the August 2023 sampling event were not received until September 2023. Groundwater characterization of the N&E groundwater monitoring wells is ongoing.

- Groundwater samples for further geochemical characterization of the aquifer to assist in the evaluation and design of potential remedies were collected on August 17-18, 2023 (The results from these samples were received in September 2023), November 15-16, 2023, and February 12-15, 2024 for analysis of additional parameters. These included the following: alkalinity, calcium, dissolved calcium, chloride, iron, dissolved iron, ferric iron, ferrous iron, fluoride, hardness, potassium, dissolved potassium, magnesium, dissolved magnesium, molybdenum, dissolved molybdenum, DO, ORP, pH, sodium, dissolved sodium, specific conductance, sulfate, sulfide, total dissolved solids (TDS), dissolved organic carbon (DOC), total organic carbon (TOC), temperature, and turbidity. Groundwater characterization is ongoing.
- Second 2023 semi-annual assessment monitoring sampling event completed on November 15-16, 2023. The groundwater data was evaluated for SSLs compared to the GWPS. No new constituents exceeded the GWPS and only molybdenum will be considered in the selection of the final remedy.
- Aquifer testing (slug tests) was performed at network monitoring well MW-806R and several N&E groundwater monitoring wells (MW-809 through MW-813, MW-817, and MW-822 to provide additional information to support and/or refine the conceptual site model, assist with design and placement of a pilot test/aquifer test pumping well, and for potential future groundwater contaminant transport modeling for groundwater extraction design. Results indicated lower hydraulic conductivities in the area of concern than what was reported in the DSI for the FAI. Even with the lower hydraulic conductivities, there is still a large range between wells which requires further aquifer characterization.
- Continued review of MNA mechanisms, required geochemistry, geochemical speciation, and potential reagents or biochemical enhancements for enhanced natural attenuation of molybdenum without finding favorable options at this time.

Anticipated activities for the upcoming semi-annual corrective measures selection progress period (March 2024 through August 2024) include the following (subject to change):

- Continue Assessment Monitoring:
    - The third semi-annual assessment sampling event will be performed in May 2024. The groundwater data will be evaluated for SSLs compared to the GWPS. New

constituents identified that exceed the GWPS will be considered in the selection of the final remedy.

- The annual assessment monitoring sampling event was performed in February 2024. The groundwater data will be evaluated for SSLs compared to the GWPS. Any newly detected Appendix IV constituents will be added to the list of parameters for the semi-annual assessment monitoring events. New constituents identified that exceed the GWPS will be considered in the selection of the final remedy.

- Continued groundwater level measurements and groundwater sampling to continue establishing baseline concentrations for the N&E monitoring wells.
- Design and install pilot test/aquifer pump test well(s) to better evaluate the ACM Alternatives that include groundwater pumping. The data obtained will be used to model estimates of potential pumping well spacing, potential horizontal trench design, the quantity of groundwater pumped, radius of influence, effective capture zones, required cleanup times, and contaminant mass removal.
- Continued efforts to establish N&E:
  - Evaluate the groundwater analytical data collected during the prior reporting period that included the N&E monitoring wells; and
  - Continue development of geochemical evaluations.
- Continue evaluation of regulatory requirements listed under § 257.97 in support of selecting a remedy, including updated timelines, and required demonstration elements.
- Continue engineering review of the potential ACM treatment alternatives to fully evaluate corrective measures remedy selection. For these reviews, emphasis will be placed on understanding and investigating alternatives with respect to the impacts of newly gathered hydraulic conductivity and analytical results with respect to groundwater extraction methodologies (vertical wells vs horizontal trench), potential handling of extracted groundwater (NPDES discharge, POTW discharge, treatment before discharge), and feasibility of implementation.
- Provide a semi-annual progress report that summarizes Evergy's progress and status regarding a selection of remedy.