

Cherokee Station Inactive CCR Impoundment SSI and Assessment Monitoring Notification

Public Service Company of Colorado (PSCo), an Xcel Energy Company, owns and operates Cherokee Station, which historically was a coal-fired, steam turbine electric generating station. Cherokee Station ceased burning coal in August 2017 and was reconfigured to burn natural gas. One CCR impoundment, the Cooling Tower Retention Pond (CTRP), ceased receiving CCR prior to October 19, 2015 and therefore met the definition of Inactive CCR Surface Impoundments that first became subject to the groundwater monitoring requirements under the Direct Final Rule effective October 4, 2016 (Extension Rule). The CTRP was physically clean closed in 2017 by removal of all CCR pursuant to 257.102(c).

Protecting the environment is a core value for Xcel Energy

Xcel Energy conducts all of our business in an environmentally responsible manner and that includes regularly monitoring our operations and taking steps to protect our air, water and other natural resources. Pursuant to 40 CFR Part 257.93(h)(2) of the Disposal of Coal Combustion Residuals from Electrical Utilities Rule (Federal CCR Rule), finalized on April 17, 2015, Xcel Energy has made a determination of Statistically Significant Increases (SSIs) over background levels for constituents listed in Appendix III as required by 257.94(a). The attached Memo, Determination of Statistically Significant Increases over Background per 257.93(h)(2), identifies those constituents for which SSIs have been identified. These test results do not indicate there is any impact on local drinking water. The monitoring wells evaluate groundwater immediately adjacent to the CCR unit, and measure groundwater conditions within the Cherokee Station property boundary.

As a next step, and pursuant to 257.94(e)(1), Xcel Energy is establishing an assessment monitoring program for the CTRP at Cherokee Station. The assessment monitoring program will sample and analyze for Appendix IV constituents in groundwater from wells in the certified CCR Groundwater Monitoring System. This next step of the investigation under the rule is intended to obtain additional information about groundwater conditions and to determine whether any corrective actions might be warranted. However, at Cherokee we have already completed physical closure of the impoundment by removal of all CCR. Completion of impoundment clean closure includes removal of CCR constituents and is measured by groundwater monitoring results show that CCR constituent concentrations do not exceed the groundwater protection standards.

Memo

Date: Thursday, June 13, 2019

To: Kristen Carney, Public Service Company of Colorado
Jennifer McCarter, Public Service Company of Colorado

From: Matt Rohr, HDR, Inc.

Subject: Cherokee Station Inactive CCR Unit –Cooling Tower Retention Pond
Determination of Statistically Significant Increases over Background per 257.93(h)(2)

The U.S. Environmental Protection Agency's (EPA's) final Coal Combustion Residuals (CCR) Rule establishes a comprehensive set of requirements for the management and disposal of CCR (or coal ash) in landfills and surface impoundments by electric utilities. Cherokee Station, located in Denver, Colorado has a former cooling tower retention pond that was categorized as inactive as of the October 2015 effective date of the CCR Rule, and became subject to the groundwater monitoring requirements under the Direct Final Rule effective October 4, 2016 (Extension Rule). The cooling tower retention pond (CTRP) was closed in 2017 by removal of all CCR, and all groundwater monitoring reflects conditions after the CCR waste was removed.

The objective of this memorandum is to document the identification of statistically significant increases (SSIs) over background water quality at the former CTRP at Cherokee. Groundwater monitoring has been conducted to collect eight rounds of background sampling plus the first detection monitoring event (completed before April 17, 2019) as specified under CCR Rule Part 257.94 and the Extension Rule. The water quality collected from the monitoring well located upgradient of the CCR unit has been compiled and statistically analyzed to develop background threshold values (BTVs) for each constituent of interest (COI) for this CCR unit. The Background Water Quality Statistical Certification (HDR 2019) documents the background sample events and describes the data evaluation performed to select the appropriate statistical method in the background data. The first detection monitoring event was conducted in February 2019. The downgradient monitoring well data were compared against the BTVs and SSIs were identified.

Hydrogeologic characterization of the site is provided in the Cherokee Station Groundwater Monitoring System Certification (HDR 2019). Groundwater monitoring occurs at four wells around the CCR unit: MW-14 (background well) and at downgradient wells MW-15, MW-16, and MW-17 for comparison against background water quality.

As stipulated in the CCR Rule, eight background groundwater sampling events were completed every three weeks between August 2018 and January 2019. Background groundwater samples were analyzed for all of the parameters in Appendices III and IV of CCR Rule Part 257.

Background sampling is described in detail in the Background Water Quality Statistical Certification (HDR 2019). The first detection monitoring event was conducted on February 11, 2019 and verification samples were collected on April 9, May 7 and June 3, 2019. The downgradient monitoring well data from the detection monitoring events were compared against the BTVs and SSIs were identified. Detection monitoring groundwater samples were analyzed for all of the parameters in Appendix III of CCR Rule Part 257. The annual groundwater monitoring and corrective action report will include all laboratory data for the reporting period and a description of the detection monitoring activities.

SSI Determination

The concentrations of Appendix III COIs from each downgradient monitoring well at the former Inactive Settling Pond were compared against the BTVs and the COIs with SSIs are listed below.

MW-15	chloride, sulfate and TDS
MW-16	sulfate and TDS
MW-17	none

The identification of SSIs begins the process of further investigation at Cherokee. Within 90 days of triggering an assessment monitoring program Public Service Company of Colorado will either sample and analyze for Appendix IV constituents under an assessment monitoring program or document that the SSI resulted from an alternative source, an error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality.

References

HDR, 2019. Groundwater Monitoring System Certification - Compliance with the Coal Combustion Residuals Rule Cherokee Station. February 26, 2019.

HDR, 2019. Background Water Quality Statistical Certification for Compliance with the Coal Combustion Residuals Rule. January 12, 2018 (revised June 2019).