

Pawnee Station Inactive CCR Impoundments SSI and Assessment Monitoring Notification

Public Service Company of Colorado (PSCo), an Xcel Energy Company, owns and operates Pawnee Station, a coal-fired, steam turbine electric generating station. Two CCR impoundments, the Ash Water Recovery Pond (AWRP) and the Bottom Ash Storage Pond (BASP), were used for temporary storage of ash transport water and bottom ash prior to dewatering of the ash and disposal at the onsite CCR landfill. The AWRP and BASP 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 two impoundments were physically clean closed in 2017 by removal of all CCR.

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 units, and measure groundwater conditions within the Pawnee Station property boundary.

As a next step, and pursuant to 257.94(e)(1), Xcel Energy is establishing an assessment monitoring program for the CCR impoundments at Pawnee 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 Pawnee we have already completed physical closure of these two impoundments 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 27, 2019

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

From: Matt Rohr, HDR, Inc.

Subject: Pawnee Station Inactive CCR Units – Ash Water Recovery Pond and Bottom Ash 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. Pawnee Station, located in Morgan County, Colorado has two former impoundments that were 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 Ash Water Recovery Pond (AWRP) and Bottom Ash Storage Pond (BASP) were 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 AWRP and former BASP at Pawnee. Groundwater monitoring has been conducted to collect eight rounds of background sampling plus the first detection monitoring event as specified under CCR Rule Part 257.94. The water quality collected from the monitoring well located upgradient of the CCR units has been compiled and statistically analyzed to develop background threshold values (BTVs) for each constituent of interest (COI) for these CCR units. 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 for each COI in the background data. The downgradient monitoring well data from the first detection monitoring were compared against the BTVs and SSIs were identified.

As stipulated in the CCR Rule, eight background groundwater sampling events were completed every three weeks between August 2018 and January 2019. Groundwater monitoring occurs at one upgradient well (PNMW-17) for both former ponds and three downgradient wells associated with each of the CCR former ponds: PNMW-18, PNMW-19, and PNMW-20 for AWRP and PNMW-21, PNMW-22, and PNMW-23 for BASP. 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 26, 2019 and groundwater samples were analyzed for all of the parameters in Appendix III of CCR Rule Part 257. The downgradient monitoring well data

from the detection monitoring event were compared against the BTVs and SSIs were identified, as described below. The annual report will include all laboratory data for the reporting period and a description of the detection monitoring activities.

SSI Determination

Former Inactive Ash Water Recovery Pond

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

MW-18	sulfate, TDS
MW-19	none
MW-20	boron, calcium, chloride, sulfate, TDS

Former Inactive Bottom Ash Storage Pond

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

MW-21	chloride, sulfate, TDS
MW-22	fluoride, sulfate
MW-23	sulfate, TDS

The identification of SSIs begins the process of further investigation at these former ponds. 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. Pawnee Station Background Water Quality Statistical Certification for Compliance with the Coal Combustion Residuals Rule. January 15, 2018 (revised June 2019).