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# **Notification Constituents in Appendix IV of the CCR Rule Exceeded the Groundwater Protection Standard**

## **Coal Combustion Residuals Rule Compliance**

Facility  
Healy Power Plant  
2.5 Mile Healy Spur Road  
Healy, Alaska

February 28, 2021

## Notification

This notification has been documented in GVEA's facility operations records to satisfy the requirements under §257.105(h)(8) of the CCR Rule, and posted to GVEA's CCR Website in accordance of §257.107(h)(6).

In 2020, groundwater monitoring was performed semiannually to comply with U.S. Environmental Protection Agency's (EPA's) Coal Combustion Residuals (CCR) Rule<sup>1</sup> affecting the four CCR units at the Golden Valley Electric Association, Inc. (GVEA) Healy Power Plant. Groundwater samples collected from the groundwater monitoring system were analyzed for Detection and Assessment Monitoring constituents listed in Appendix III and IV of the CCR Rule. Statistical analyses were completed using the data collected during the last fourteen groundwater monitoring events conducted between 2016 and 2020. These statistical analyses were consistent with the statistical methods previously specified in the *Groundwater Monitoring System and Statistical Method Certification*. Statistical comparisons of Detection Monitoring constituents between compliance and background wells was not necessary to determine whether Assessment Monitoring should continue because the 2020 compliance and background well sample results for the Appendix III constituents were similar to those from previous years. For this reason, statistical comparisons were limited to the Appendix IV constituents as required under the Assessment Monitoring program.

The assessment monitoring program includes laboratory analysis of groundwater for all constituents listed in Appendix IV of the CCR Rule in addition to the statistical comparison of detected Appendix IV constituents with the groundwater protection standards (GWPS) established consistent with 40 CFR §257.95(h). GWPSs were established in 2017 for each detected Appendix IV constituent in accordance with the CCR Rule. These GWPS were updated in 2018 based on revisions to the CCR Rule (referred to as Phase One, Part One<sup>2</sup>), effective August 29, 2018, as discussed further in the *2020 Groundwater Monitoring and Corrective Action Report*.

Statistical analyses were completed to determine whether a statistically significant increase over the GWPS was detected for any Appendix IV Assessment Monitoring constituent. The analyses were performed for Appendix IV constituents with at least one concentration detected above the GWPS at wells that had at least eight samples. Monitoring wells installed in 2018 and 2020 were not included due to an insufficient number of samples. As a result of the analyses, Appendix IV constituents detected at a statistically significant level above the GWPS included arsenic, fluoride, lithium, molybdenum, and selenium. As discussed in the *2020 Groundwater Monitoring and Corrective Action Report*, several factors must be considered when interpreting the results of the statistical evaluations presented in the report. One factor is that a

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<sup>1</sup> Title 40 of the Code of Federal Regulations Parts 257 and 261 (40 CFR 257 and 261) dated April 17, 2015

<sup>2</sup> Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals From Electric Utilities; Amendments to the National Minimum Criteria (Phase One, Part One) dated July 30, 2018.

Bonferroni correction was not applied to the level used to determine statistical significance for individual comparisons. The Bonferroni correction is typically used to maintain a sufficiently low experiment-wide Type I error rate when making multiple comparisons, as in the case of the statistical analysis completed for the Appendix IV dataset. Because the performance standards identified in 40 CFR §257.93(g) require that a Type 1 error rate of no less than 0.01 be maintained for individual comparisons, the Bonferroni correction could not be employed. If the Bonferroni correction could be applied, lithium and selenium would not be considered statistically significantly higher than the GWPS in any well.

An assessment monitoring program will continue at the Healy Power Plant in accordance with §257.95. Groundwater monitoring is scheduled to begin in April 2021. Groundwater monitoring will be performed semiannually at monitoring wells installed prior to 2020. New monitoring wells installed in 2020 will be sampled in four events from April through October 2021 (when ambient temperatures are typically high enough for wells to be free of ice). Results will be summarized no later than January 31, 2022 in the annual groundwater monitoring and corrective action report.