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

Coal Combustion Residual Rule Compliance

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

February 28, 2020

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 2019, groundwater monitoring was performed semiannually to comply with U.S. Environmental Protection Agency's (EPA's) Coal Combustion Residuals (CCR) Rule¹ 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 both 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 twelve groundwater monitoring events conducted between 2016 and 2019. 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 2019 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 the 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 One²), effective August 29, 2018, as discussed further in the *2018 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. As a result, Appendix IV constituents were detected at a statistically significant level above the GWPS at several monitoring wells and include arsenic, fluoride, lithium, molybdenum, and selenium. As discussed in the *2019 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 Bonferroni correction was not applied to the level used to determine statistical

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

² 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.

significance for individual comparisons, which is typically used to maintain a sufficiently low experiment-wide Type I error rate when multiple comparisons are made such as in the case of the statistical analysis completed for the Appendix IV dataset. If such a correction were to be used, several of the metals discussed above including antimony, lithium and selenium would not be considered statistically significantly higher than the GWPS in any well.

GVEA completed an *Assessment of Corrective Measures* in August 2018 and identified source removal and disposal of CCR material from the four CCR units as the preferred corrective measure to effectively address groundwater impacts associated with the CCR units. Source removal cannot be completed until an alternative disposal option is fully implemented and operating to manage CCR material from Unit 1. At this time, GVEA does not have an alternative process fully in-place to manage Unit 1's waste streams at the facility but continues to make effort towards obtaining an alternative option to manage CCR from Unit 1 and to progress forward with a final remedy selection. Due to the additional time needed to complete modifications to the ash handling systems at Healy Power Plant, GVEA has decided to implement an interim corrective measure to address groundwater impacts in the short term; measures that will reduce releases of constituents into the groundwater and that will help mitigate the migration of contaminated groundwater until final remedy (i.e., source removal, pond closure) is implemented. GVEA is evaluating options and has plans to select and implement an interim remedy in 2020.

An assessment monitoring program will continue at the Healy Power Plant in accordance with §257.95 and is scheduled to be performed semiannually starting April 2020.