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TO: Southern Indiana Gas and Electric Company

FROM: Haley & Aldrich, Inc.
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SUBJECT: Notification of Statistically Significant Levels of Appendix IV Constituents
Pursuant to 40 CFR § 257.95(g) and 40 CFR § 257.105(h)(8)
F.B. Culley Generating Station - West Ash Pond - Newburgh, Indiana

The Southern Indiana Gas and Electric Company (SIGECO) is implementing the 17 April 2015 U.S. Environmental Protection Agency (U.S. EPA) Federal Coal Combustion Residuals (CCR) Rule (40 CFR § 257 and 261) for the F.B. Culley Generating Station West Ash Pond (WAP), located in Warrick County near the communities of Yankeetown and Newburgh, Indiana. The WAP was previously classified as an “inactive” surface impoundment as defined by 40 CFR § 257.53. SIGECO filed a Notice of Intent (NOI) to initiate closure of the WAP and placed the NOI in the facility’s operating record on 17 December 2015. The unit is currently in the closure process.

On 5 August 2016, the U.S. EPA issued a “Direct Final Rule” (effective on 4 October 2016), constituting a vacatur of 40 CFR § 257.100 (the “early closure” provision). The Direct Final Rule applies the requirements of “existing surface impoundments” to ponds that had been previously declared “inactive”. As a result of this order, owners and operators of inactive CCR surface impoundments must comply with the groundwater monitoring requirements for existing CCR surface impoundments.

This notification documents the results of statistical tests conducted to determine if Appendix IV groundwater monitoring constituents detected in samples collected from wells downgradient of the West Ash Pond are present at a statistically significant level (SSL) above groundwater protections standards (GWPS) consistent with the requirements in 40 CFR §257.95.

Detection monitoring events occurred in 2017 and 2018. The results of the sampling events were compared to background using appropriate statistical methods to determine if Appendix III constituents were present at concentrations above background. The result of the statistical analysis identified a statistically significant increase downgradient of the WAP thereby triggering Assessment Monitoring and respective notification of the same.

During the Assessment Monitoring phase, groundwater samples were collected from the CCR monitoring well network. Samples were collected between October 2019 and March 2020 and subsequently analyzed for the Appendix III and Appendix IV constituents as required by 40 CFR § 257.95(b) and 40 CFR § 257.95(d)(1). An additional confirmation round of sampling was conducted in March 2020 to validate the anomalously low concentrations detected in February 2020. Concurrent with the second assessment sampling round, and as required by 40 CFR § 257.95(h), groundwater protection standards (GWPS) were established for the detected Appendix IV constituents. The assessment monitoring sampling results were compared to the GWPS to determine if statistically significant levels (SSL) of Appendix IV constituents were present downgradient of the WAP. The results of this evaluation indicated that lithium and molybdenum were present in groundwater at SSLs above the GWPS.