



INDIANA-KENTUCKY ELECTRIC CORPORATION

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WRITER'S DIRECT DIAL NO:
740-289-7259

August 28, 2023

Delivered Electronically

Mr. Brian Rockensuess
Commissioner
Indiana Department of Environmental Management
100 N. Senate Avenue
Mail Code 50-01
Indianapolis, IN 46204-2251

**Re: Indiana-Kentucky Electric Corporation
60-Day Extension for Assessment of Corrective Measures Timeline**

Dear Mr. Rockensuess:

As required by 40 CFR.257.106(h)(7), the Indiana-Kentucky Electric Corporation (IKEC) is providing notification to the Commissioner of the Indiana Department of Environmental Management that an Assessment of Corrective Measures has been initiated for the confirmed Statistically Significant Increase (SSI) of Appendix IV constituent Arsenic at Clifty Creek Station's West Boiler Slag Pond. Site specific conditions and/or circumstances outside IKEC control have resulted in considerable delays in site characterization activities being performed in support of the Assessment of Corrective Measures.

Part 40 CFR 257.96(a) of the rule allows for an extension to the timeline of Assessment of Corrective Measures efforts of no more than 60 days. Due to delays encountered during site characterization activities, it is IKEC's intention to utilize the permitted 60-day extension at this time. A report detailing the circumstances encountered that contributed to the delay was prepared by AGES, Inc. and certified by Stantec, OVEC's Qualified Professional Engineer. The report was placed in the facility's operating record as well as on the company's publicly accessible internet site, and can be viewed at <http://www.ovec.com/CCRCompliance.php>

If you have any questions, or require any additional information, please call me at (740) 289-7259.

Sincerely,

A handwritten signature in black ink that reads "Jeremy Galloway".

Jeremy Galloway
Environmental Specialist

JDG:tlf

August 25, 2023

Ms. Jacqueline Harmon P.E.
Principal, Project Manager
Stantec
10200 Alliance Road, Suite 300
Cincinnati, OH 45242

**RE: Request for 60-Day Extension for an Assessment of Corrective Measures
for CCR Program – 2023
Indiana-Kentucky Electric Corporation (IKEC)
West Boiler Slag Pond – Clifty Creek Station – Madison, IN**

Dear Ms. Harmon:

On behalf of Applied Geology and Environmental Science (AGES), Inc., we would like to thank you for the opportunity to submit this request for an extension for the above-referenced project.

BACKGROUND

On December 19, 2014, the United States Environmental Protection Agency (U.S. EPA) issued their final Coal Combustion Residuals (CCR) regulation which regulates CCR as a non-hazardous waste under Subtitle D of Resource Conservation and Recovery Act (RCRA) and became effective six (6) months from the date of its publication (April 17, 2015) in the Federal Register, referred to as the “CCR Rule.” The rule applies to new and existing landfills, and surface impoundments used to dispose of or otherwise manage CCR generated by electric utilities and independent power producers.

The Clifty Creek Station, located in Madison, Indiana, is a 1,304-megawatt (MW) coal-fired generating plant operated by the Indiana-Kentucky Electric Corporation (IKEC), a subsidiary of the Ohio Valley Electric Corporation (OVEC). The Clifty Creek Station has six (6) 217.26-MW generating units and has been in operation since 1955. Beginning in 1955, boiler slag was disposed of in the West Boiler Slag Pond (WBSP) at the site; this pond was therefore designated as a CCR unit. Since the beginning of the program, the WBSP had been operating under a Detection Monitoring program in accordance with §257.94 of the CCR Rule. In 2022, a Statistically Significant Increase (SSI) for an Appendix III constituent (Fluoride) was identified; therefore, the unit entered into Assessment Monitoring. All wells included in the CCR groundwater monitoring network for the unit were sampled for Appendix IV constituents and Groundwater Protection Standards (GWPSs) were established.

During the first Assessment Monitoring event conducted in September 2022 and the December 2022 re-sampling event, Arsenic was detected above the GWPS of 10 micrograms per liter (ug/L) in wells WBSP-

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15-08 and WBSP-15-09. Based on the resampling results and statistical evaluation, the Arsenic SSIs for those two (2) wells were confirmed at the WBSP.

In 2023, IKEC pursued an ASD for Arsenic at the WBSP for the exceedances described above. The ASD was based on a study regarding Cobalt, which is described below, and recent experience at other CCR sites that may have the same type of issue occurring associated with Arsenic. According to the recent study (Hostetler, Rehm, Karkowski and Kron 2020), Total Cobalt concentrations in groundwater are believed to be an artifact of stabilized turbidity and not a release of Cobalt from a source area. Due to the low level and micro-scale of the suspended sediment, it does not appear to impact the turbidity of the samples as measured in Nephelometric Turbidity units (NTUs). Based on recent experience at other CCR sites, this same type of issue may also be occurring for Arsenic.

To pursue the ASD, IKEC requested that AGES perform re-sampling of above-referenced wells using a long-purge method that could reduce levels of micro-scale suspended sediments at these wells. Field work was conducted in May 2023. The results of the long-purge method sampling were consistent with previous results and the Arsenic results in wells WBSP-15-08 and WBSP-15-09 exceeded the GWPS. Therefore, because a successful ASD was not able to be completed within the 90-day period of detecting a SSI, IKEC initiated an Assessment of Corrective Measures at the WBSP on May 30, 2023.

The CCR Rule in 40 CFR § 257.96(a) requires that an owner or operator initiate an Assessment of Corrective Measures for any Appendix IV constituent that has been detected at an SSL greater than the GWPS and complete the assessment within 90 days after initiation. The CCR Rule allows up to an additional 60 days to complete the assessment if a demonstration shows that more time is needed because of site-specific conditions or circumstances. This demonstration must be certified by a qualified Professional Engineer.

The purpose of this letter is to present documentation regarding the delays in CCR field work at the WBSP that will result in the need for a 60-day extension for the Assessment of Corrective Measures at the unit. Presented below is a discussion of these delays; additional documentation is included in Attachment A.

SUMMARY OF DELAYS

Based on the results above, IKEC determined that site characterization activities and an Assessment of Corrective Measures would be required for the WBSP. Project field planning began May 31, 2023 (Attachment A). Four (4) new monitoring wells were planned to evaluate groundwater quality at the site boundary along the Ohio River. The field work was anticipated to begin in early Summer 2023. As documented below and in Attachment A, several factors contributed to delays in acquisition of data necessary to complete the Assessment of Corrective Measures:

- **Contractor:** As the field work included the installation of additional monitoring wells, a qualified drilling contractor was needed to safely and efficiently complete the work. Once the field work

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was planned, a qualified drilling contractor was not available to perform the work. Due to the location of the wells to be installed (on a floodplain between the berm of the WBSP and Ohio River), an all-terrain hollow-stem auger drilling rig was required to access the locations safely.

- **Access to Drilling Locations:** Due to ongoing construction at the site and specifically at the WBSP, access to the drilling locations required coordination between site personnel, engineering subcontractors and AGES. Access to the locations was not feasible during several weeks of the summer.
- **Laboratory Delays:** Once the wells were installed and developed, AGES sampled the wells and submitted the samples to Eurofins Environment Testing Northeast, LLC (the analytical laboratory) on August 17, 2023. However, due to delays at the laboratory due to ongoing staffing issues, the results are still pending and are not expected to be reported to AGES until at least August 31, 2023.

As documented in Attachment A, the factors listed above created approximately two (2) months of unforeseeable delays in data acquisition. Without delays, a schedule of 90-days to complete an Assessment of Corrective Measures for groundwater at a unit like the WBSP is extremely aggressive. Based on past experience, a project like this would typically require several months or longer to complete. Given this already aggressive schedule and the delays documented above, on behalf of IKEC, AGES is hereby requesting approval of a 60-day extension to the schedule to complete an Assessment of Corrective Measures at the WBSP.

CLOSING

If you have any questions or comments regarding this request, please feel free to contact me at 412-264-6453.

Sincerely,

APPLIED GEOLOGY AND ENVIRONMENTAL SCIENCE, INC.



Bethany Flaherty
Senior Scientist II



Robert W. King, PG
Senior Consultant

ATTACHMENT A

**Summary of Project Delays-CCR Site Characterization Work at WBSP
Clifty Creek Station
Monitoring Well Installation, Development & Sampling (Critical Path)**

August 28, 2023

Start Date: Initiated an Assessment of Corrective Measures for Arsenic on May 30, 2023

DATE RANGE(S) IN 2023	ACTIVITY
May 31 st through June 16 th	Start-Up Weeks (No delays)
Weeks of June 19 th through July 17 th	No Field Work Conducted Contractor Not Available Staffing and Resource Delays Access Restrictions (39 days lost)
Week of July 24 th	Well Installation Field Work Conducted (No delays)
Week of July 31 st	Aquifer Testing Field Work Conducted (No delays)
Week of August 7 th	Sampling Field Work Conducted (No delays)
August 31 st	Lab Data Received from Eurofins (Anticipated)
Total Days Lost:	39 Days