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LETTER OF TRANSMITTAL

TO: Mr. Darin LeCrone, P.E.
Manager, Permit Section
Division of Water Pollution Control
1021 North Grand Ave. East
Springfield, IL 62794 - 9276

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| Date: 9/9/2024 | Job No.: Log No. 2021-100001 |
| Re: Springfield CWLP | |
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REMARKS: This is a response to Agency comments for Application Log No. 2021-100001, which includes the Hydrogeologic Report, Groundwater Monitoring Program and Statistical Procedures, and the Geotechnical Investigation Report for Unstable Areas Demonstration, Safety Factor and Liquefaction Analysis for Coal Combustion Residuals Surface Impoundments.

Copies: 1

By: Brad Hunsberger



CITY WATER, LIGHT AND POWER
CITY OF SPRINGFIELD, ILLINOIS
MISTY BUSCHER, MAYOR
DOUG BROWN, CHIEF UTILITY ENGINEER

September 9, 2024

Mr. Darin LeCrone, P.E.
Manager, Permit Section
Division of Water Pollution Control
1021 North Grand Avenue East
PO Box 19276
Springfield, IL 62794-9276

Re: City Water, Light and Power – Lakeside and Dallman Ash Ponds
Log No. 2021-100001
Bureau ID #W1671200052
Coal Combustion Residuals Surface Impoundment Operating and Construction Permit
Application Review Letter

Dear Mr. LeCrone:

Provided herein are responses and/or supporting documentation to address the comments in the Coal Combustion Residuals (CCR) Surface Impoundment Operating and Construction Permit Application Review Letter dated October 10, 2023 and the Comments on Statistical Methods Proposed in Initial Operating Permit dated January 17, 2024. The responses are provided in Attachment A and Attachment B, respectively. Application forms and certifications were provided in the original Operating Permit Application received by the Illinois EPA on October 28, 2021 and the Closure Construction Permit Application received by the Illinois EPA on February 1, 2022.

Documents cited in this response previously submitted separately to Illinois EPA as well as cited documents posted to our public Illinois CCR Rule Compliance and Data Information web site at www.cwlp.com/IllinoisCCRCompliance.aspx are incorporated by reference in this response and are intended to amend the original applications. Where needed, direct links to the web site are provided. For ease of reference and review, each of the comments received from Illinois EPA have been sequentially numbered.

As indicated in or response, City Water, Light & Power (CWLP) has completed a comprehensive geotechnical and environmental investigation of the surface impoundments between October 2023 and May 2024 to address comments presented by Illinois EPA in the referenced review letters. This information has been used to update the analysis of chemical constituents within the CCR surface impoundments, obtain geotechnical information of the soils beneath the CCR surface impoundments and update our *Hydrogeologic Report, Groundwater Monitoring Program and Statistical Procedures*.

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Dewatering and CCR material stabilization studies were initiated in April 2024 and are anticipated to continue into 2025. Information obtained from these studies will be used to update our pending Closure Construction Permit Application.

CWLP is unsure what information Illinois EPA is seeking in some of their comments and has responded as such. We would appreciate the opportunity for clarification or additional information so that we can address the comments accordingly.

If you have any questions or need additional information please contact Eric Staley of my staff at 217-757-8610 (ext. 1102).

Sincerely,



PJ Becker
Environmental Health and Safety Manager

Cc: Andrews Engineering

ATTACHMENT A
Responses to October 10, 2023
CCR Surface Impoundment Operating and Construction Permit Application Review Letter

1 INITIAL OPERATING PERMIT APPLICATION

1.1 **History of Construction [35 Ill. Adm. Code 845.230(d)(2)(A)]**

- 1.1.1** A survey of the extents of the Lakeside Ash Pond and Dallman Ash Pond and the data inputs that were utilized to create the final cover area estimates must be provided.

Response:

CWLP disagrees that a survey of the extents of the surface impoundments and data inputs utilized to create final cover area estimates are required as part of the History of Construction Report per 35 Ill. Adm. Code 845.220(a)(1) and requests clarification on this comment.

Available construction documentation of the Lakeside Ash Pond and Dallman Ash Pond were provided in the February 1, 2022 Closure Construction Permit Application. The extents of the Lakeside Ash Pond and Dallman Ash Pond were based on multiple surveys defining the extents of the perimeter berms for the impoundments. These include on-site surveys as well as aerial surveys. LiDAR surveys were conducted most recently in 2018 and 2023. The extent of the impoundments have not changed since construction of the berms.

The final cover design was based on the October 15, 2018 LiDAR survey. Drawings containing that information were provided in the Plans and Specifications located in Attachment 8 to the Closure Construction Permit Application.

Final cover construction details will be provided in a Construction Certification Report which will be signed and sealed by a licensed professional engineer in the State of Illinois.

In the meantime, now that no additional CCR or non-CCR material will be sent to the surface impoundments, CWLP has been able to engage an engineering firm to evaluate dewatering and material stabilization studies as well as evaluation of cover designs and options that will be used to update the final cover design provided to the Agency.

- 1.1.2** Impacts of the FEMA flood zone on the foundation and construction of the current CCR surface impoundment must be evaluated.

Response

The current FEMA flood zone map is inaccurate. The flood zone highlighted by FEMA is based on topographic contours from a USGS quadrangle map from 1965, which did not show the Lakeside impoundment that existed at that time. The Dallman Ash Pond was not shown as it had not been constructed yet. However, the FEMA floodplain elevations were based on the old topographic information.

FEMA identifies the 100-year floodplain at the Dallman Ash Pond as elevation 545 feet above mean sea level (msl). The berm elevation at the northwest corner of the Dallman Ash Pond (lowest point) is approximately 553 feet above msl. The perimeter berm elevations around the impoundments increase to the south by approximately 10 feet to transition to the top of dam/bridge elevation. Therefore, there is no chance the structures will be inundated by floodwaters from the Sugar Creek floodplain during a 100-year storm event.

The maximum surcharge pool analysis was not evaluated since the ash ponds are no longer in operation. Flooding around the ash ponds would be short term and would not lead to saturation of the embankment soils to an extent that would require additional stability modeling. CWLP has completed a comprehensive geotechnical investigation and has prepared an updated location restriction documentation for 35 Ill. Adm. Code 845.340 Unstable Areas and Floodplains. The certification addressing the unstable areas and floodplains and construction of the CCR surface impoundments is provided in Appendix A of Attachment A.

1.2 Demonstration of Location Standards Compliance [35 Ill. Adm. Code 845.230(d)(2)(D)]

- 1.2.1** To comply with the application requirements of 35 Ill. Adm. Code 845.230(d)(2)(D), the applicant must provide a demonstration with certification from a qualified professional engineer attesting that the CCR surface impoundments meet the requirements in Part 845 Subpart C. Attachment 6 mentions that the CCR surface impoundments comply with four location standards, however, only two demonstrations and certifications were provided in the initial operating permit application. CCR surface impoundments meeting the location standards in Part 845 Subpart C must provide a demonstration and certification as part of the initial operating permit application.

Response

Certification provided in Attachment 6 included Wetlands and Fault Areas. CWLP has completed a comprehensive geotechnical investigation and has prepared updated location restriction documents for 35 Ill. Adm. Code 845.330 Seismic Impact Zones and 35 Ill. Adm. Code 845.340 Unstable Areas and Floodplains. The certifications for these location restrictions are provided in Appendix A of Attachment A.

- 1.2.2** The Source Water Assessment Protection (SWAP) map indicates that there is an underground mine located under the Dallman Ash Pond. The structural integrity of the Dallman Ash Pond in an event of disruption due to an unstable area and local human-made feature must be addressed in accordance with Section 845.340.

Response

As part of the geotechnical investigation conducted between October 2023 and May 2024, CWLP completed a 100-foot boring in the northwest corner of Dallman Ash Pond. Within the 100-foot boring was approximately 32.5 feet of overburden with primarily shale and claystone bedrock. The Unstable Areas and Floodplains demonstration provided in Appendix A of Attachment A provides the breakthrough, pillar and floor failure analyses.

- 1.2.3** The underground mine must be addressed as specified in Sections 845.230(d)(2)(D) and 845.340(b)(3) by providing the data reports substantiating the statements regarding structural stability. Data may include the following:

- Rock core logs logged with details of discontinuities exhibiting that in the vicinity of the Dallman Ash Pond the rock was stable and did not have evidence of structural instability.
- Instrumentation data that monitors structural stability over time.

Response

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As part of the geotechnical investigation conducted between October 2023 and May 2024, CWLP completed a 100-foot boring in the northwest corner of Dallman Ash Pond. Within the 100-foot boring was approximately 32.5 feet of overburden with primarily shale and claystone bedrock. The Unstable Areas and Floodplains demonstration provided in Appendix A of Attachment A provides the breakthrough, pillar and floor failure analyses.

There is no instrumentation that monitors structural stability over time.

1.3 Documentation and Maintenance of Slope Protection (35 Ill. Adm. Code 845.230(d)(2)(F)].

1.3.1 How are the slope protections for the Lakeside Ash Pond and Dallman Ash Pond meeting the performance standards in Section 845.430(b)?

Response:

CWLP is unsure what additional information Illinois EPA is requesting and seeks clarification.

Section 6, page 12 of the October 28, 2021 Initial Operating Permit Application discusses the manner in which the slopes and pertinent surrounding areas meet the performance standards of 35 IAC 845.430(b)(1-5). This includes a discussion on the grassy vegetation protection against surface erosion, wave action, adverse effects of rapid drawdown, maintenance for observation of and access to the slopes and pertinent surrounding areas during routine and emergency events, the removal of woody vegetation greater than ½ inch in diameter and maintenance of the vegetation at 12 inches in height.

Inspections are conducted by qualified personnel on a weekly and annual basis in accordance with 35 IAC 845.540(a) and (b) respectively. As indicated in the Annual Inspection Report for Coal Combustion Residuals Surface Impoundments that was prepared as part of the Annual Consolidated Report and the weekly inspections posted to CWLP's publicly accessible web site, routine inspections are being conducted of the slopes and pertinent surrounding areas and any observed deficiencies are being promptly addressed.

1.4 Waste Characterization and CCR Characterization (35 Ill. Adm. Code 845.230(d)(2)(B) and 845.230(d)(2)(C)]

The CCR waste characterization must include all waste streams as defined by SW846, incorporated by reference, which includes appropriate number of samples to characterize each waste type and identification of all waste types which includes solids, semi-solids, liquids, and air born parts that come from the CCR. SW846 Chapter 9 defines a minimum number of samples of each waste stream as totaling four and must include additional sampling as warranted. The Agency reviewed the data submitted and found that CWLP must provide, at a minimum, additional sampling for the following waste streams:

- CCR solids and semi-solids-Lakeside Ash Pond
- Non-CCR solids-Dallman Ash Pond
- Contaminated subsoils, if any are above the water table
- Leachate water—Lakeside Ash Pond
- Surface water-Lakeside Ash Pond and Dallman Ash Pond

- Scrubber sludge—Lakeside Ash Pond

Response:

A comprehensive description of the waste streams directed to the impoundments was provided in Section 3 of the Initial Operating Permit Application. The laboratory results were provided in Attachment 5 of the subject document.

For clarification purposes, CCR solids and semi-solids in Lakeside Ash Pond would consist of fly ash and bottom ash from the retired Lakeside Power Station, which ceased sending these materials in 2009. CCR solids exclusively sent to Lakeside Ash Pond consist of sludge from the Flue Gas Desulfurization Waste Water Treatment Plant (FGD WWTP). CCR solids and semi-solids exclusively sent to Dallman Ash Pond consists of bottom ash and fly ash generated from Dallman Units 31, 32 and 33.

Non-CCR solids exclusively sent to Lakeside Ash Pond consist of sludge from the Generating Facilities Waste Water Treatment Plant (FGD WWTP). Non-CCR solids in both Lakeside and Dallman Ash Ponds would consist of lime sludge from the water purification plant.

Analytical results for all of the referenced waste streams were provided in the initial application. Additionally, there is currently no surface water present in Lakeside Ash Pond. As such, no analytical information for these waste streams is available.

Dallman and Lakeside Ash Ponds ceased receiving all CCR and non-CCR waste streams on October 15, 2023. CWLP understands 35 Ill. Adm. Code 845.230(d)(2)(B) to require analysis of chemical constituents found within the CCR to be placed in the CCR surface impoundments. CWLP disagrees any additional analysis of chemical constituents found within the CCR to be placed in the CCR surface impoundments for all waste streams as defined by SW846, including TCLP/SPLP analysis is required or warranted per 35 Ill. Adm. Code 845.230(d)(2)(B). Additionally, CWLP disagrees there is a requirement to use SW 846 under 35 Ill Adm. Code 845.230(d)(2) for purposes of waste characterization of constituents found within the CCR to be placed in the CCR surface impoundments and requests clarification.

CWLP also disagrees that 35 Ill Adm. Code 845.230(d)(2)(B) or (C) requires leachate water analysis, surface water analysis or contaminated subsoils, if any above the water table and request further clarification.

CWLP agrees that additional geochemical analysis of in-place materials resulting from all waste streams contained within the surface impoundments is appropriate and warranted in accordance with 35 Ill Adm. Code 845.230(d)(2)(C). In May 2024, four borings were advanced in Lakeside Ash Pond (L1, L3, L4 and L5) and four borings were advanced in Dallman Ash Ponds (D1, D2, D3 and D4) for the purpose of obtaining representative samples of in place materials and porewater. Each boring was advanced with hollow stem augers and solids samples were collected via split barrel samplers. While drilling, a porewater sample was collected from the approximate midpoint of each boring. Once the final depth was obtained, a PVC monitoring well was constructed using 10-foot prepacked screens and isolated in the bottom 12 feet of the impoundment for the purpose of collecting additional porewater samples at a later date. As stated above, representative CCR materials and pore water were collected from each borehole and analyzed via TCLP for the parameters identified in Section 845.620(a)(1). A drawing showing the boring locations and the analytical results are provided in

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Appendix B of Attachment A. A drawing showing the boring locations, boring logs, and well completion reports are provided in Appendix C to Attachment A (Groundwater Monitoring Program and Statistical Procedures).

Subsequent to well development, the four wells within Lakeside Ash Pond and the four wells in the Dallman Ash Pond were sampled on July 18, 2024. A final report from the testing laboratory has not been provided at this time. When complete, copies of the analyses will be provided to the Illinois EPA.

1.5 Emergency Action Plan (35 Ill. Adm. Code 845.230(d)(2)(G))

- 1.5.1** The Emergency Action Plan must be updated to include the submittal of activation records to the Agency and documented in the operating record in accordance with Section 845.520(f).

Response

CWLP is unsure of what additional information Illinois EPA is seeking to be updated and requests clarification on this comment.

35 IAC 845.520(f) requires the owner or operator of the CCR surface impoundment to submit records documenting all activations of the EAP to the Agency and place the documentation in the facility's operating record as required by Section 845.800(d)(10).

The facility EAP would only be activated when events or circumstances involving the CCR surface impoundment that represent a safety emergency are detected, either by identifying conditions during structural stability assessments, annual inspections or inspections by qualified individuals.

To date, no such circumstances have warranted the activation of the EAP and therefore no such information is available or required to be provided to the Agency or placed in the facility operating record.

CWLP does conduct and document the annual face to face meetings and exercise with local emergency responders and this documentation is provided on our publicly available web site and is placed in our operating record.

- 1.5.2** The Emergency Action Plan must address floodplain areas as specified in Section 845.520.

Response

As stated in the response to the comment in 1.1.2 above, the FEMA flood zone map is incorrect. Additionally, there is no reference to floodplains in Section 845.520. Clarification is requested for this comment.

1.6 Fugitive Dust Control Plan [35 Ill. Adm. Code 845.230(d)(2)(H)]