MWG
Midwest Generation, LLC
Waukegan Generating Station
401 E. Greenwood Ave.
Waukegan, Illinois 60087

March 15, 2024

***Re: AS 2021-003 Comment***

Dear Members of the Pollution Control Board:

I am a Licensed Professional Engineer in the state of Illinois, previously licensed by the Nuclear Regulatory Commission (NRC) as a Senior Reactor Operator (SRO) and have a Bachelor of Science Degree in Electrical Engineering from the Illinois Institute of Technology. During my professional career and academic course work I have studied various engineering and physical science subjects including chemistry, physics, fluid flow, thermodynamics, heat transfer and many other technical topics. I have been directly involved in the design, operation, maintenance, and management of various electrical generating facilities for approximately 37 years. **In my professional opinion, an ash field or slag field is fundamentally different in design and operation than an ash pond, slag pond or surface impoundment.** Consequently, the Waukegan Generating Station historic "Grassy Field" should not be considered an ash pond, slag pond or CCR surface impoundment.

Ash is produced in the boiler during the combustion process. The lighter fly ash is carried through the boiler by the flue gas and is removed by the fly ash system. The heaviest ash falls out of the fireball and into the bottom of the furnace. This bottom ash falls through the opening in the boiler bottom into slag tanks located below. Clinker grinders grind the large pieces of bottom ash into manageable size and the bottom ash is mixed with ash sluice water. When the East and West Ponds were constructed, the bottom ash and ash sluice water was sluiced to the ash pond in a high velocity ash sluice water flow stream. The ash sluice water is separated from the ash in the ash pond by gravity as the high velocity sluice water reduces its velocity when it discharges into the large surface area created in the ash pond, the heavier ash falls to the pond bottom. The ash sluice water slowly moves from the ash pond inlet; across the ash pond to the far end where it is returned to the ash sluice water system via the recycle pumps. The ash pond design features (berms, discharge weir, wet-well, and recycle pumps) facilitate ash sluice water being accumulated and reused. In short, the ash ponds' purpose is to accumulate ash and water, separate the ash and water through sedimentation, temporarily store the ash and return the ash sluice water back to the system for reuse.

The ash field or slag field was fundamentally different from an ash pond or slag pond because the ash field did not collect ash sluice water. The ash field's purpose was to separate the water from the ash by the heavy ash collecting on the ground while the ash sluice water, did not accumulate but instead infiltrated through the sandy bottom or flowed across the ash field to drain off to the low laying areas. The ash field had no design features to accumulate the ash sluice water, nor did it incorporate any wet-well or sump and recycle pumps to return the water to the system for reuse.

Therefore, the Waukegan west historic grassy field should not be considered an ash pond, slag pond or CCR surface impoundment. Furthermore, I have read Mr. Thomas Dehlin's "Classification of Grassy Field" report dated July 21, 2023 and agree with his conclusion that the Waukegan historic "Grassy Fields Ash Field" does not meet the definition of a CCR surface impoundment.

Please feel free to reach out should you have any questions or if you would like to discuss further.

Respectfully,

Phillip J Raush, P.E.
Plant Manager
Waukegan Generating Station