

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
PETITION OF MIDWEST GENERATION) R 2021-003
FOR AN ADJUSTED STANDARD) (Adjusted Standard)
FROM 845.740(a) AND FINDING OF)
INAPPLICABILITY OF PART 845)

NOTICE OF FILING

To: See attached Service List

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Pollution Control Board Midwest Generation, LLC's Amended Petition for an Adjusted Standard and a Finding of Inapplicability for Waukegan Station, a copy of which is herewith served upon you.

Dated: September 17, 2021

MIDWEST GENERATION, LLC

By: /s/Kristen L. Gale

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CERTIFICATE OF SERVICE

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing, and Midwest Generation, LLC's Amended Petition for an Adjusted Standard and a Finding of Inapplicability for Waukegan Station was electronically filed on September 17, 2021 with the following:

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and that copies were sent via e-mail on September 17, 2020 to the parties on the service list.

Dated: September 17, 2021

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

**PETITION OF MIDWEST GENERATION
FOR AN ADJUSTED STANDARD FROM
845.740(a) AND FINDING OF
INAPPLICABILITY OF PART 845**

**AS 21-3
(Adjusted Standard)**

**MIDWEST GENERATION, LLC'S AMENDED PETITION FOR AN ADJUSTED
STANDARD AND A FINDING OF INAPPLICABILITY FOR WAUKEGAN STATION**

Midwest Generation, LLC ("MWG") is amending its Petition for an Adjusted Standard from the Part 845 Illinois Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments at 35 Ill. Adm. Code 845 ("Illinois CCR Rule") to allow MWG to decontaminate and retain the existing liner of the West Pond instead of the East Pond at its Waukegan Station. Since MWG filed its Petition for an Adjusted Standard ("Petition"), it has announced that the Waukegan Station will close, which changes the plans for the CCR surface impoundments. MWG no longer needs to use the West Pond to manage coal combustion residuals ("CCR") for future operations. Because MWG has removed most of the CCR in the West Pond, it will instead be used as a low-volume wastewater/stormwater retention basin. By this amendment, MWG seeks to reuse the West Pond's high-density polyethylene ("HDPE") liner. It is now unnecessary to convert the East Pond to a low-volume wastewater pond and to reuse its liner. MWG will close the East Pond pursuant to the Illinois CCR Rule. In sum, this amendment seeks approval to close the West Pond by removal and to reuse its liner instead of the original request to reuse the East Pond's liner. No other changes to the Petition are proposed.

Section 104.418(a) of the Board rules for adjusted standards allows a petitioner to amend its petition at any time and requires a re-notice of the amended petition if the amendment is a substantive change. 35 Ill. Adm. Code 104.418(a). Because MWG's modification reuse the West

Pond's liner instead of the East Pond's is a substantive change, MWG will re-notice the petition pursuant to Section 104.408. Section 104.418(d) of the Board rules states that written amendments to the petition "need not repeat the entire unchanged portion of the original filing provided that a sufficient portion of the original filing is repeated so that the context of the amendment is made clear." 35 Ill. Adm. Code 104.418(d). Here, MWG is only amending the portion of its petition for an adjusted standard to close the West Pond by removal and reuse the liner, as opposed to the originally proposed reuse of the East Pond liner. MWG is not changing nor repeating the following sections of its petition and incorporates these sections into this Amended Petition by reference:

- 1) the Background Sections in Section I of the Petition, specifically:
 - a. Illinois CCR Rulemaking on Liners (Section I.A.)
 - b. Illinois CCR Final Rule (Section I.B.)
 - c. Waukegan Station Background (Section I.C.)
- 2) all sections and discussions regarding the Grassy Field, including but not limited to each of the petition content requirements in Section III of the Petition. MWG is not amending or withdrawing its request for an adjusted standard and finding of inapplicability for the Grassy Field.

MWG continues to seek an adjusted standard finding that Part 845 of the Illinois Pollution Control Board ("Board") rules is inapplicable to the Grassy Field, because there is an existing dispute with the Illinois Environmental Protection Agency ("Illinois EPA") about its proper regulatory status.

The technical reasons to allow MWG to reuse the HDPE liner in the West Pond are identical to the technical reasons in MWG's original petition to reuse the HDPE liner in the East Pond. Thus, often in this Amended Petition, MWG simply replaces "East Pond" with "West Pond." MWG also relies upon the affidavit of Christopher Lux; the affidavit and expert report of David Nielson, P.E.; and the documents attached in support of the original Petition. MWG is also submitting supplemental affidavits by Mr. Lux (Exhibit 24) and Mr. Thomas Dehlin (Exhibit 25),

a colleague of Mr. Nielson, for the specific information related to the closure by removal of the West Pond and the reuse of its liner. Mr. Dehlin is substituting for Mr. Nielson due to medical reasons and in order not to delay filing this amended petition.

I. Brief Background

On May 11, 2021, MWG filed its Petition seeking an adjusted standard from the closure by removal requirements to reuse the HDPE liner in the East Pond to hold low-volume wastewater (“LVW”) and stormwater.¹ MWG also stated that it would install a submerged scraper conveyor on the West Pond for management of CCR.

On June 17, 2021, MWG announced it will cease burning coal to generate electricity at the Waukegan Station in June 2022. Ex. 24, Lux Aff., ¶4. Because the Station will not continue to burn coal, it does not need to manage the generation of CCR. MWG will close the East Pond under the Illinois CCR Rule. Because MWG already has removed most of the CCR in the West Pond, MWG will proceed to close the West Pond by removal under Section 845.740. Similar to MWG’s original petition, because the West Pond has an HDPE liner in good condition, and can be decontaminated, MWG plans to reuse the HDPE liner as part of its reuse of that pond for non-CCR purposes instead of removing and replacing it.

Reusing the West Pond as a stormwater retention basin is the most reasonable reuse of the pond. The Waukegan Station needs a basin to manage the LVW, including stormwater, from the decommissioned plant. Ex. 25, Dehlin Aff. ¶12. If MWG cannot reuse the HDPE liner in the West

¹ “low volume waste wastewater” is a term from the Clean Water Act Steam Electric Power Generating Effluent Guidelines and Standards (40 CFR Part 423, the “ELG Rule”). It is wastewater that does not contain CCR and includes wastewater from all ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, stormwater, cooling tower basin cleaning wastes, recirculating house service water systems, and wet scrubber air pollution control systems whose primary purpose is particulate removal. Sanitary wastes, air conditioning wastes, and wastewater from carbon capture or sequestration systems are not included in this definition. 40 C.F.R. § 423.11(b)

Pond, MWG would either have to build a small LVW/stormwater basin at the Station or install an identical HDPE liner in the West Pond. However, both of these options have significantly higher burdens in time and costs. It will take significantly longer to either build a new basin or to remove and replace the liner in the existing West Pond. There are also significant construction and capital costs with little or no environmental benefit. In fact, the reuse of the West Pond's HDPE liner is more environmentally beneficial. Because there is no sound technical or legal basis to require removal of the existing and competent West Pond liner, MWG's request to reuse the existing HDPE liner in the West Pond should be granted.

II. Application of Automatic Stay

MWG filed its petition within 20 days of the effective date of the Illinois CCR Rule, so the operation of the Illinois CCR Rule is stayed. 415 ILCS 5/28.1(e). This amended petition is not a new petition, and does not cancel the stay of the operation of the Illinois CCR Rule on MWG's CCR surface impoundments and the Grassy Field.

III. Analysis and Petition Content Requirements

The Board requires that certain information be included in each petition for an adjusted standard. 35 Ill. Adm. Code §104.406. Within each heading, MWG presents the required information for the West Pond.

a) Standard from which Adjusted Standard is Sought.

The rule-of-general applicability for which MWG requests an adjusted standard is at 35 Ill. Adm. Code Part 845.740(a). Because a competent geosynthetic liner may be decontaminated and because the federal CCR rule allows decontamination, MWG requests that the Board grant an adjusted standard from the Illinois CCR Rule allowing for decontamination of a liner when a CCR surface impoundment is closed by removal.

b) Whether the regulation was promulgated to implement the CWA, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation and Liability Act, or the State programs concerning RCRA, UIC, or NPDES:

Part 845 implements Sections 12, 22 and 22.59 of the Act. 35 Ill. Adm. Code 845. Section 22 of the Act provides the Board authority to adopt regulations to promote the purpose of Title V, Land Pollution and Refuse Disposal, the Title implementing the requirements of RCRA. Part 845 was not promulgated to implement the state RCRA program, which is Section 22.4 of the Act. *Big River Zinc Corp. v. Illinois EPA.*, 1991 Ill. ENV. LEXIS 350, PCB 91-61 (May 6, 1991), p. *12 (Regulations or rules adopted pursuant to Section 22.4 implement the state's RCRA program).

c) Level of Justification as Specified by the Regulation.

Part 845 does not include a specific justification for an adjusted standard. Because there is not a specific level of justification, the applicable level of justification are the following factors identified in Section 28.1 of the Act:

- (1) factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
- (2) the existence of those factors justifies an adjusted standard;
- (3) the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
- (4) the adjusted standard is consistent with any applicable federal law.

415 ILCS 5/28.1.

d) Nature of Petitioner's Activity that is the Subject of the Proposed Adjusted Standard.

Description of Waukegan Station: The Waukegan Station is located at 401 East Greenwood Ave, Waukegan, Lake County, Illinois, employs approximately 67 people and has operated since approximately 1923. Ex. 1, ¶¶ 3,4, 6. As a coal powered electric generating station,

Waukegan generates two types of coal ash from the burning of coal to generate electricity: fly ash and bottom ash. Ex. 1, ¶7. Fly ash consists of lightweight particles and is collected via dry system using electrostatic precipitators. Ex. 1, ¶8. Bottom ash consists of heavier particles that fall to the bottom of the furnace and is mixed with water and conveyed out of the plant via a pipe to either the West Pond or East Pond. Ex. 1, ¶9. MWG contracts with a third-party to remove the fly ash and bottom ash for beneficial reuse. Ex. 1, ¶10.

Pursuant to the federal CCR rule and permit no. 2016-EB-61340, MWG is monitoring the groundwater upgradient and downgradient of both the West and East Ponds. Ex. 11. The Alternate Source Demonstrations for both ponds demonstrate that the ponds are not a source of constituents in the groundwater. Ex. 15.

West Pond: The West Pond is “U-shaped” and was originally constructed in 1977 with a geosynthetic liner, and is approximately 10 acres. Ex. 25, ¶12. In 2004, MWG relined the West Pond with a high-density polyethylene (“HDPE”) liner. Ex. 1, ¶¶13-14. As part of the liner system, at the base of both ponds there is a cushion layer of sand and a warning layer of white limestone. Ex. 1, ¶27. The East Pond and West Pond alternate receiving the CCR waste streams and non-CCR waste streams (including stormwater), thus only one pond (East Pond or West Pond) is in service at a time. Ex. 1, ¶16. The CCR settles out of the water into the pond in service, and the water is reused to transport additional bottom ash from the Station to the Pond. Ex. 1, ¶17. The CCR is temporarily stored in the pond in service until the pond is full, at which time the CCR is removed. Ex. 1, ¶18. When ash is removed from the impoundments at Waukegan, MWG takes specific care to prevent the pond liners from being damaged. Ex. 1, ¶19. The East Pond and West Pond have markers to notify the machine operators, and MWG ensures that before each dredging, all operators in the ponds know to avoid the liners. Ex. 1,

¶20. Trained personnel from third-party contractors operate the machinery to remove the ash. Ex. 1, ¶21. The operators in the pond are careful and methodical to ensure the liners are not damaged. Ex. 1, ¶22. The machine operators leave ash material on the slopes of the liners and on the bottom above the warning layer to avoid any damage to the liner. Ex. 1, ¶23. Also, because most of the bottom ash collects on one side of the U-shaped ponds, the contractor only dredges half of the pond, and at times even less. Ex. 1, ¶24. Once MWG has completed removing the ash from a basin, MWG inspects the basin to verify that the ash was removed without damaging the liner, and makes any required requires, and only after the inspection is the basin placed back in service. Ex. 1, ¶25.

In compliance with the federal and Illinois CCR rules, MWG is closing the West Pond by removing the CCR. To date, MWG has spent approximately \$2,548,351 to remove a majority of the CCR from the West Pond. Ex. 24, ¶¶ 9, 10. MWG needs a basin at the Waukegan Station to collect LVW, including stormwater during significant rain events. Ex. 25, ¶12. Because the West Pond has an HDPE liner that is in good condition, and can be decontaminated, MWG plans to reuse the HDPE liner instead of removing and replacing the liner to reuse the West Pond as a LVW basin.

e) Efforts Necessary to Comply with Regulation

West Pond: If MWG cannot repurpose the West Pond to manage the LVW at the station, it would either have to (i) build a new three-acre pond at a different on-site location or (ii) remove the existing liner and reline the West Pond with an identical HDPE liner. Both options entail significantly higher costs, in time and capital. Further, replacing the existing liner is a total waste of a completely good, competent geosynthetic liner, with no added environmental benefit by doing so.

There is space at the Waukegan Station to build a three-acre basin (a third the size of the nine-acre West Pond) that is reasonably expected to be able to manage both LVW from the decommissioned plant and stormwater while also avoiding flooding at the Station. Ex. 25, ¶12. However, reuse of the larger West Pond provides significantly greater retention capacity and hence, provides even more protection against flooding. Ex. 25, ¶13. The cost to build a smaller LVW/stormwater pond is approximately \$1,373,000 and would take a significant amount of time. Ex. 25, ¶¶12, 15. MWG would have to design the new basin, apply for construction permits, and build it, including excavation and construction of dikes. Ex. 25, ¶15. As Mr. Dehlin points out, the Federal CCR Rule requires termination of all flows into CCR surface impoundments as soon as technically feasible. Ex. 25, ¶14. Here, because MWG needs a basin to accumulate the LVW, MWG cannot close the West Pond or East Pond until it has a basin that can perform that function. In Mr. Dehlin's opinion, because it is technically feasible to close and repurpose the West Pond as an LVW pond, doing so instead of building a new pond is consistent with the Federal CCR Rule's direction to cease use of CCR ponds as soon as technically feasible. Ex. 25, ¶¶14, 15. And in Mr. Dehlin's expert opinion, using the larger West Pond for LVW reduces the risk of large industrial flood events, because it has a larger surge capacity for extreme rain events and has a longer retention time before the water discharges from the permitted outfall. Ex. 25, ¶13.

The other option of relining the West Pond with an identical HDPE liner is also far less preferable. MWG has removed most of the CCR in the West Pond for beneficial use, as described in Section III.d. *infra*. It is also removing the remaining CCR on the slopes and bottom of the West Pond, as well as the sand and limestone layers at the base of the pond. Ex. 1, ¶¶23-26, Ex. 24, ¶11. If MWG must then also remove the liner, then the complete demolition

of the West Pond is necessary. Because the pond would not be decontaminated prior to liner removal, MWG would have to conservatively assume that during the liner removal and demolition, CCR may escape from the West Pond, thus requiring excavation not only of the liner, but also approximately six inches of soil below the liner. *Id.* The total volume of liner and underlying soil removed would be approximately 8,425 cubic yards (“CY”), which would be hauled off-site for disposal in a landfill. Ex. 25, ¶6. Hauling a total quantity of 8,425 CY of soils offsite the site would require 560 trucks based on a 15 CY per truck capacity. *Id.*, ¶7. The total cost for transport and disposal of the liner and soil, including the labor and material costs, would be approximately \$338,000 *Id.*, ¶8. Following removal and disposal, MWG would have to replace the liner with a new HDPE liner essentially the exact same as the current West Pond liner that provides effectively the same protection. *Id.*, ¶9. The cost to install a virtually identical liner would be approximately \$372,000, making the total cost to install an identical liner approximately \$710,000. *Id.*, ¶10.

In comparison, the approximate cost to clean and conduct confirmatory wipe samples of the West Pond would be approximately \$105,000, a savings of over \$600,000. *Id.*, ¶11.

f) **Proposed Adjusted Standard and Efforts Necessary to Achieve the Proposed Standard**

West Pond: MWG’s requested proposed adjusted standard includes the same language that the Illinois EPA originally proposed in the CCR rule, which is effectively the same as the federal CCR rule.² In consideration of the Board’s requirement to conduct visual inspection and analytical testing for reuse of a liner to retrofit a CCR surface impoundment in Section

² Illinois EPA’s proposed CCR language had some minor non-substantive differences to the federal CCR rule. Compare Proposed Illinois EPA 35 Ill. Adm. Code 845.740(a) and 40 C.F.R. §845.102(c).

845.770(a), MWG is also proposing a similar requirement here for the reuse of the liner. The proposed language is:

“MWG may close by removing and decontaminating all areas affected by releases from the West Pond at the Waukegan Station. CCR removal and decontamination of the West Pond is complete when the CCR in the West Pond and any areas affected by releases from the CCR surface impoundment have been removed. MWG must conduct visual inspection and analytical testing to demonstrate that the geomembrane liner in the West Pond is not contaminated with CCR constituents. MWG must submit the results to Illinois EPA.”

To reuse the HDPE liner, MWG would follow the same pattern and practice of CCR removal described herein that has been used to remove CCR for beneficial reuse. Once the CCR in the middle of the pond is removed, MWG will remove the remaining CCR on the sides and base of the pond left in place to protect the integrity of the liner. Ex. 1, ¶26. The contractor will use an excavator with a rubber surface on the edge of the bucket to pull down most of the material from the slopes. *Id.* The contractor will then use a vibrating plate to shake the rest of the material loose to the bottom of the slope, for further removal. *Id.* Then the contractor will use an excavator or end loader with a rubber surface on the edge of the bucket to carefully remove the excess material from the base of the pond. *Id.* At the end, the contractor will power-wash the slopes and base of the pond. Once the sides and the base of the liner is cleaned of CCR materials, MWG will collect wipe samples to confirm that the HDPE liner has been decontaminated of CCR. Ex. 3. The cost to clean and decontaminate the West Pond, including conducting confirmatory wipe samples, is estimated to be approximately \$105,000. Ex. 25, ¶11.

Mr. Nielson’s expert opinion demonstrates that competent geomembrane liners, including HDPE liners, may be cleaned and decontaminated. Ex. 3. Citing an international study, he explains that a geomembrane is “an essentially impermeable geosynthetic composed of one or

more synthetic sheets.” *Id.* Mr. Nielson did not find “any evidence that geomembrane liners, such as HDPE become contaminated with waste products that are present in CCR,” and he was “not aware of a study that shows that polymer liners become saturated with CCR constituents.” *Id.* To assure that the HDPE liner was not contaminated, Mr. Nielson recommended that MWG conduct visual inspections and collect wipe samples of the HDPE liner to confirm that the HDPE liner was decontaminated. *Id.* In fact, Mr. Nielson identified a study of an HDPE liner, in which the pond owner repurposed an HDPE lined impoundment from holding landfill leachate to holding clean water. *Id.* Mr. Nielson’s expert analysis demonstrates that the East Pond liner may be effectively decontaminated for reuse instead of being removed and disposed.

The Board has found that a competent, uncontaminated existing geomembrane liner may be reused. In its Opinion and Second Notice Order, the Board stated that MWG had raised a valid concern about removing competent, uncontaminated liners, and that it saw “no reason for requiring removal of these liners if they can be used as a supplement to the liner system required by this Part.” *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845*, PCB 20-19, Order, p. 99. The Board found that an existing liner may be left in place if the owner or operator demonstrates that the liner is not contaminated with CCR constituents. *Id.* Consistent with the Board’s direction, MWG has included in its proposed adjusted standard language a requirement that MWG conduct visual inspections and conduct analytical testing to confirm that the liner is not contaminated with CCR constituents.

Because the West Pond is subject to the Illinois CCR Rule, MWG will continue to monitor groundwater surrounding the basin for at least three years, if not longer depending on the results of the groundwater monitoring. 35 Ill. Adm. Code 845.740(b).

g) **Description of Impact on the Environment of Complying with the Regulation vs. Complying with the Adjusted Standard**

West Pond: Allowing decontamination of a competent geomembrane liner has a more favorable environmental impact than removing and disposing the competent plastic liner and the underlying soil. Disposal of approximately 8,425 CY of liner and soil in a landfill regardless of its condition is a waste of landfill space. Ex. 25, ¶6, Ex. 3. And the underlying soil will also be removed and disposed in a landfill because of the assumption that the soil mixed with the CCR during demolition, also unnecessarily increasing the volume of material disposed in a landfill. Transportation of the liner and the soil mixed with CCR would require approximately 560 trucks, in addition to the trucks required to remove the CCR used for beneficial reuse. *Id.*, ¶7.

By comparison, if the liner is reused, then no landfill space or additional trucks would be required. Also, because the liner is in good condition, and the West Pond will be used primarily for retention of low volume wastewater and stormwater, there is little risk of groundwater contamination.

The Board has found that reuse of a competent liner is acceptable for retrofitting a CCR surface impoundment. *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19, Order* (February 4, 2021), p. 99. Because the Board found that a competent liner like the one in the West Pond may be decontaminated and reused as part of a retrofitted CCR surface

impoundment, there is no reason to suggest that a competent liner cannot be reused to repurpose the West Pond to hold LVW and stormwater.

h) Justification of Proposed Adjusted Standard.

Because Part 845 does not include a specific justification for an adjusted standard, the applicable level of justification are the factors identified in Section 28.1 of the Act, specified in Section III.C. above. Each of the Section 28.1 factors is addressed below for the West Pond.

West Pond: In its CCR Rule Opinion, the Board did not identify the factors it considered in requiring removal of the liner, other than referencing the Illinois EPA's statement that the proposed federal CCR rule includes that requirement. In addition to the fact that the federal CCR Rule "proposal" is not binding, it does not require removal but instead proposes to allow either removal or decontamination. MWG is reasonably proposing an adjusted standard that adopts the proposed federal CCR Rule's decontamination alternative.

Allowing decontamination of a competent liner as opposed to its removal and disposal regardless of liner condition will not result in environmental or health effects substantially and significantly more adverse than the effects that may have been considered by the Board. Reuse of a competent liner is more environmentally beneficial than disposal of approximately 8,425 CY of a plastic liner and its underlying soil. Ex. 3. Finally, because the federal CCR rule allows decontamination of a liner, allowing MWG to decontaminate and reuse the liner in the West Pond is consistent with federal law.

i) Reasons the Board may Grant the Proposed Adjusted Standard Consistent with Federal Law.

The Board may grant this adjusted standard for the West Pond because it is consistent with federal law. The applicable federal CCR rule and the proposed federal CCR rule on closure by

removal allows for decontamination of a liner and does not require removal. 40 C.F.R. §257.102(c) and *proposed* 40 C.F.R. §257.102(c). Also, there are no procedural requirements applicable to the Board's decision on the petition that are imposed by federal law and not required by the Board regulations.

j) **Hearing on the Petition.**

MWG requests a hearing on the Petition.

k) As required by 35 Ill. Adm. Code 104.406(k) and (l), MWG has provided the citations to relevant supporting documents and legal authorities and has provided required information as applicable to its request the Board's finding of inapplicability.

IV. Conclusion

For the reasons stated, MWG requests the Board grant its amended Adjusted Standard Petition and authorize MWG to close the West Pond by removal of the CCR and to reuse the existing liner after its decontamination. Per MWG's original Petition, which is incorporated by reference here, MWG also requests that the Board enter an order which states that the Part 845 regulations do not apply to the Grassy Field at the Waukegan Station.

Respectfully submitted,
Midwest Generation, LLC

By: /s/ Kristen L. Gale
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

**PETITION OF MIDWEST GENERATION
FOR AN ADJUSTED
STANDARD FROM 35 ILL. ADM. CODE
PARTS 811 and 814**

**AS
(Adjusted Standard)**

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PETITION AND AMENDED PETITION FOR ADJUSTED STANDARD FOR THE
WAUKEGAN STATION**

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Exhibit 2	Affidavit of David Nielson, P.E.
Exhibit 3	Expert Opinion of David Nielson, P.E.
Exhibit 4	Pre-filed Expert Testimony of David Nielson on behalf of Midwest Generation, LLC, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>
Exhibit 5	Excerpt of September 30, 2020 Hearing Transcript, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>
Exhibit 6	Excerpt of Midwest Generation, LLC Pre-Filed Answers, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>
Exhibit 7	Excerpt of Agency Final Comment, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>
Exhibit 8	Excerpt of Midwest Generation, LLC's Response Comment, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>

Exhibit 9	Excerpt of August 25, 2020 Hearing Transcript, <i>In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845, PCB 20-19</i>
Exhibit 10	NPDES Permit for the Waukegan Station
Exhibit 11	Illinois EPA Construction Permit, No. 2016-EB-61340, for Waukegan Station
Exhibit 12	Map of Monitoring Wells at the Waukegan Station
Exhibit 13	Demonstration for a Site-Specific Alternative Deadline to Initiate Closure of the East Pond, Nov. 30, 2020
Exhibit 14	Compliance Commitment Agreement for Waukegan Station
Exhibit 15	Alternate Source Demonstration for the East Pond and West Pond, March 11, 2019
Exhibit 16	Closure Plan East and West Pond, Waukegan Station, Oct. 2016
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EXHIBIT 24

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

**PETITION OF MIDWEST GENERATION
FOR AN ADJUSTED STANDARD FROM
845.740(a) AND FINDING OF
INAPPLICABILITY OF PART 845**

**AS 21-002
(Adjusted Standard)**

**SUPPLEMENTAL AFFIDAVIT OF CHRISTOPHER LUX IN SUPPORT OF MIDWEST
GENERATION LLC'S PETITION AND AMENDED PETITION FOR AN ADJUSTED
STANDARD AT THE WAUKEGAN STATION**

I, Christopher Lux, being first duly sworn on oath, depose and state as follows:

1. I am over the age of 18 years and am a resident of Illinois.
2. The information in this Affidavit is based on my personal knowledge or belief in my capacity as Health and Safety Specialist and the Waukegan Station ("Waukegan" or "Station") and the Liaison between Waukegan and the contractor that removes the CCR from the ponds at the Station, and I would testify to such matters if called as a witness.
3. On May 10, 2021, I signed an affidavit that was attached to Midwest Generation, LLC's Petition for an Adjusted Standard and Finding of Inapplicability for Waukegan Station. The information and facts stated in that affidavit continue to be true and correct to the best of my knowledge.
4. The Waukegan Station will cease burning coal to generate electricity in June 2022.
5. Because the Station will not continue to burn coal, it does not need to manage CCR.
6. MWG will close the East Pond pursuant to the Illinois CCR Rule.
7. As the Liaison between the Waukegan Station and the contractor that removes the CCR from the ponds at the Station, I have monitored the removal of the CCR from the West Pond.

8. In approximately June 2020, MWG's contractor began removal of the CCR from the West Pond. The removed CCR is used by a second contractor for its business.

9. To date, MWG has spent approximately \$2,548,351 to remove the CCR from the West Pond.

10. To date, MWG has removed a majority of the CCR in the West Pond.

11. A total of approximately 34,000 tons of CCR including the liner warning layer and equipment access ramps will be removed from the West Pond.

12. An empty and cleaned West Pond can be used to collect stormwater during significant rainfall events to avoid flooding at the Station until it can be treated and discharged.

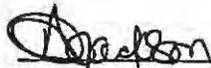
Under penalties as provided by law pursuant to Section 1-109 of the Code of Civil Procedure, the undersigned certifies that the statements set forth in this instrument are true and correct, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that he verily believes the same to be true.

FURTHER AFFIANT SAYETH NOT.



Christopher Lux

Subscribed and Sworn to before me
On September 17, 2021.



Notary Public

My Commission Expires: 10/30/2022

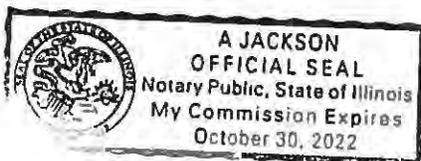


EXHIBIT 25

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:

**PETITION OF MIDWEST GENERATION
FOR AN ADJUSTED STANDARD FROM
845.740(a) AND FINDING OF
INAPPLICABILITY OF PART 845**

**AS 21-002
(Adjusted Standard-RCRA)**

**AFFIDAVIT OF THOMAS DEHLIN IN SUPPORT OF MIDWEST GENERATION
LLC'S PETITION AND AMENDED PETITION FOR AN ADJUSTED STANDARD AT
THE WAUKEGAN STATION**

I, Thomas Dehlin, being first duly sworn on oath, depose and state as follows:

1. I am over the age of 18 years and am a resident of Illinois.
2. The information in this Affidavit is based on my personal knowledge or belief in my capacity as Project Engineer with Sargent & Lundy, and I would testify to such matters if called as a witness.
3. I work directly with and under the oversight of David Nielson related to the Waukegan CCR surface impoundments, including evaluation of reuse of the liners at the MWG Stations. Because Mr. Nielson has a medical issue, I am substituting as an expert.
4. Exhibit 2 to the Petition for an Adjusted Standard for the Waukegan Station is David Nielson's affidavit in support. I have reviewed Mr. Nielson's affidavit and the information and facts stated continue to be true and correct to the best of my knowledge.
5. Exhibit 3 to the Petition for an Adjusted Standard for the Waukegan Station is the expert opinion by David Nielson that a geomembrane liner of a CCR surface impoundment does not need to be removed. Instead, a geomembrane liner can be decontaminated such that it may be used for another purpose, such as for use as a low volume waste (LVW) (includes stormwater) pond, which

is non-CCR waste stream. I have reviewed the conclusions in Exhibit 3 and in my expert opinion those conclusions apply to the West (CCR) Pond at the Waukegan Station.

6. If MWG is required to remove the liner in the West Pond, due to the presence of the CCR in the pond when demolition of the liner begins, it would be assumed that during the demolition CCR would escape from the West Pond when the liner is removed, thus requiring excavation of the liner and approximately six inches of soil below the liner. The total volume of the liner and underlying soil removed would be approximately 8,425 cubic yards (CY), which would be hauled off-site for disposal in a landfill.

7. Hauling a total quantity of 8,425 CY of soils from the Station would require 560 truckloads based on a 15 CY per load capacity.

8. The total cost for removal, transport and disposal of the liner and soil, including the labor and material costs, would be approximately \$338,000.

9. The new liner that would be installed in the West Pond would be almost the same as the liner currently lining the West Pond and provide effectively the same level of protection.

10. The cost to install a new liner would be approximately \$372,000, including labor and material costs.

11. In comparison, the approximate cost to clean and conduct confirmatory wipe samples of the West Pond would be \$105,000.

12. In my expert opinion, as a minimum, the Waukegan Station needs a basin, about one third of the size of the West Pond, to adequately manage the LVW from the decommissioned plant and stormwater and avoid flooding at the Station. I have reviewed the Waukegan Station site, and there is space at the Station to build a new 3-acre LVW/stormwater surface impoundment at the Station.

In comparison, the West Pond is approximately 10 acres. The cost to build a smaller LVW/stormwater pond is estimated to be \$1,373,000.

13. In my expert opinion, a larger LVW/stormwater retention pond reduces the risk of large industrial flood events because it has a larger surge capacity for extreme rain events and has a longer retention time before the water drains from the permitted outfall.

14. On November 30, 2020, MWG submitted a Demonstration for a Site-Specific Alternative Deadline to Initiate Closure of the East Pond (“Demonstration”) to the US EPA. In the Demonstration, MWG committed to a schedule to cease sending all non-CCR waste streams to the East Pond by mid-June 2023. The Federal CCR Rule also requires MWG to terminate all flows into this CCR surface impoundment as soon as technically feasible.

15. In my expert opinion, the time required to locate, design, permit and install a new LVW/stormwater retention basin at the Waukegan Station would take significantly longer than repurposing the West Pond, and defeat the goal of expediently terminating all non-CCR waste streams into the East Pond as required by the Federal CCR Rule. This additional time to construct a new LVW/stormwater retention basin would include excavation and dike building, whereas the majority of the CCR has been removed from the West Pond and less time will be required to remove the protective layer and decontaminate the liner in the West Pond than to construct a smaller pond.

Under penalties as provided by law pursuant to Section 1-109 of the Code of Civil Procedure, the undersigned certifies that the statements set forth in this instrument are true and correct, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that he verily believes the same to be true.

FURTHER AFFIANT SAYETH NOT.

Thomas Dehlin

Thomas Dehlin

State of Texas §

County of Dallas §

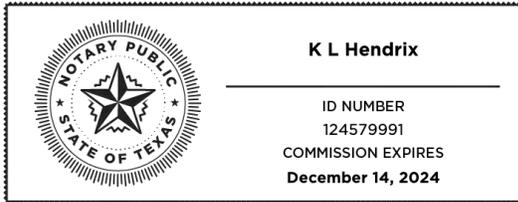
Subscribed and Sworn to before me

On September 17th, 2021 by Thomas Dehlin.

[Signature]

Notary Public

My Commission Expires: 12/14/2024



Notarized online using audio-video communication

Education

M.S., Civil & Environmental Engineering – University of Illinois at Urbana-Champaign – 2013

B.S., Civil & Environmental Engineering – University of Illinois at Urbana-Champaign – 2012

Registrations

Professional Engineer – Illinois (License No. 062.069314)

Professional Engineer – Wyoming (License No. 17542)

Proficiencies

- Design of new coal combustion residual (CCR) surface impoundments
- Evaluation of existing CCR surface impoundments
- Design of closure schemes for CCR surface impoundments
- Design of shallow and deep foundation systems
- Design of structural steel framing systems
- Structural analysis

Responsibilities

As a project engineer, Mr. Dehlin is responsible for providing technical support for and supervision of civil engineering-related design criteria, calculations, specifications, and construction drawings. He is primarily responsible for projects related to the management of coal combustion residuals at coal-fired power plants and for analyzing existing and designing new structural systems for power plants and heavy industrial facilities. Mr. Dehlin prepares and reviews evaluations of existing CCR surface impoundments, designs for new CCR surface impoundments and final cover systems over existing CCR surface impoundments, and designs for reinforced concrete foundations and structural steel framing systems.

Experience

Mr. Dehlin has seven years of experience in civil engineering services and has been actively involved in coal combustion residual management projects since the U.S. Environmental Protection Agency finalized the Federal CCR Rule, “Standards for the Disposal of Coal Combustion Residuals In Landfills and Surface Impoundments” (40 CFR 257 Subpart D), in April 2015. He has evaluated new and existing CCR surface impoundments for compliance with the Federal CCR Rule’s location, design, and operating criteria; has participated in annual inspections of existing CCR surface impoundments; and has designed

new CCR surface impoundments and final cover systems for closing existing CCR surface impoundments. He has also prepared and reviewed design drawings, construction specifications, and permit applications for new CCR surface impoundments and final cover systems for closing existing CCR surface impoundments.

Mr. Dehlin's relevant experience with Sargent & Lundy (since 2014) includes:

Coal-Fired Power Plant, Wyoming (2017 – Present)

- Design for conversion of an existing low-volume waste pond into a zero-liquid discharge CCR surface impoundment for evaporation and storage of CCR and non-CCR wastestreams (total impoundment area greater than 250 acres)
- Development of project design criteria, construction specifications, and permit applications

Five Coal-Fired Power Plants, Illinois and Texas (2016 – Present)

- Development of conceptual designs and budgetary cost estimates for several different CCR management technologies to replace six ash ponds at three coal-fired power plants
- Served as Owner's Engineer to develop hazard potential classification assessments, histories of construction, structural stability assessments, safety factor assessments, inflow design flood control system plans, and closure and post-closure plans for six federally-regulated ash ponds

Three Coal-Fired Power Plants, Indiana (2015 – Present)

- Design for final cover systems to close two ash pond systems comprised of 12 total ash ponds (total impoundment area greater than 160 acres), including development of construction specifications and permit applications and participation in public meetings on closure designs
- Participate in annual inspections of six federally-regulated ash ponds and preparation of annual inspection reports for compliance with the Federal CCR Rule
- Design and development of construction specifications for new emergency spillways for two ash ponds at one coal-fired power plant
- Served as Owner's Engineer to develop periodic hazard potential classification assessments, histories of construction, structural stability assessments, safety factor assessments, inflow design flood control system plans, emergency action plans, closure and post-closure plans, and location restriction compliance documentation for nine federally-regulated ash ponds