

**FINAL CLOSURE PLAN  
POND 2  
JOLIET #29 STATION  
JANUARY 25, 2022**

**1.0 Introduction  
[845.720(b)]**

Midwest Generation, LLC (Midwest Generation) currently operates the natural gas-fired generating station, referred to as Joliet #29 Generating Station, located in Joliet, Illinois (“site” or “generating station”). MWG converted the generating station from coal to natural gas in 2016. As part of the previous coal-fired operations, the station operated two ash ponds (Ponds 1 and 2) and a service water basin (Pond 3). MWG removed all of the coal combustion residuals (“CCR”) from Pond 1 and decontaminated the liner before October 2015, and repurposed the pond as a low volume wastewater pond.<sup>1</sup> Pond 3 is a *de minimis* pond and is not a CCR surface impoundment. Pond 2 was used for CCR management/storage until 2019. In 2019, the CCR was removed and all other portions of the exposed liner have been decontaminated. Because Pond 2 was used as a CCR surface impoundment after October 2015, Pond 2 is regulated under the newly promulgated Ill. Adm. Code Title 35, Part 845: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments (State CCR Rule). Pond 2 is not currently in service, and no liquids or wastewater is directed into the pond.

As required by 845.700(b), Midwest Generation will be closing Pond 2. A preliminary closure plan was submitted as part of the Joliet 29 Pond 2 operating permit application and is finalized as part of submitting the construction permit application to execute the closure of Pond 2. This final closure plan has been executed in accordance with 845.720(b), which includes completing a closure alternatives analysis. Pursuant to 845.710, a closure alternatives analysis was completed prior to selecting the closure method that will be used for Pond 2 and described in this final closure plan. The closure alternatives analysis was performed to evaluate the closure methods involving closure by removal and closure in place and is included as part of this final closure plan in Attachment 1.

Midwest Generation has filed a Petition for an Adjusted Standard with the Illinois Pollution Control Board requesting that Midwest Generation may reuse the existing HDPE liner in Pond 2. *In the Matter of: Petition of Midwest Generation for an Adjusted Standard from 845.740(a) and Finding of Inapplicability of Part 845*, PCB AS21-02. With the petition, “Midwest Generation plans to keep the structure of the pond intact for use for non-CCR material”. Approval of the petition would allow Midwest Generation to keep intact the existing inlet and outlet structures as well as the existing 60-mil HDPE geomembrane liner that was installed in 2008. The petition would seek to remove the existing warning layer and seek to decontaminate the existing geomembrane liner.

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<sup>1</sup> As a low volume wastewater pond, Pond 1 receives wastewater from other sources at the Station except CCR.

The closure alternatives analysis report evaluated three different closure methods. The three different methods evaluated consisted of the following:

- Closure by removal in accordance with Section 845.740;
- Closure by Removal based on Midwest Generation's Adjusted Standard Petition;
- Closure in place with a final cover system in accordance with Section 845.740.

The closure alternatives analysis identified that closure by removal based on Midwest Generation's Adjusted Standard Petition is as effective at protecting the environment when compared to the other two options and will cause the least disturbance to the surrounding neighborhood and is selected as the chosen closure alternative. This final closure plan identifies the steps necessary to execute the closure and the schedule to complete the closure for Pond 2.

## **2.0 Closure Narrative** **[845.720(a)(1)(A)]**

The closure of Pond 2 will be by removal in accordance with Ill. Adm. Code 35 Part 845.740(a) and Midwest Generation's Adjusted Standard Petition. The CCR was previously removed from Pond 2 in 2019 and only the warning layer remains within the bottom of the pond. Executing the closure outlined in this plan would be to remove the remaining warning layer and decontaminate the geomembrane liner, inlet trough, and outlet structure.

Executing the closure by removal for Pond 2 is a multi-step process. First, the remaining CCR was removed from the sides of the liner using an excavator to pull down as much of the material as possible from the slopes onto the warning layer. Next the liner side slopes were pressure washed to remove the rest of the material on the slope. The previously described work was completed in 2019. The next steps would be to remove the warning layer from the base of Pond 2 using an excavator or front end loader and hauled off-site for disposal. The excavator or front end loader would also use a rubber surface on the edge of the bucket to protect the geomembrane as the material is scooped. Once the warning layer material is removed from the base, the entire slopes and base of Pond 2 would be pressure washed. The liner slopes and base would be visually inspected and any damages observed would be repaired. After the liner is clean and any necessary repairs are made, wipe samples would be collected and analyzed to confirm the geomembrane liner has been decontaminated. The wipe sampling would be performed in accordance with ASTM D6966-18 and laboratory testing would be performed for metals and other chemical constituents, as necessary. One wipe sample and test would be performed per acre of geomembrane liner in Pond 2. The above described closure process was included in Midwest Generation's petition for an adjusted standard as Exhibit 3.

Once the liner decontamination process is complete and verified, Pond 2 will be used to manage the Joliet 29 station's non-CCR waste streams. These non-CCR waste streams are the service-water/low volume wastewater from the RO sand filter backwash, the west area basin, the former

coal pile runoff pump discharge, and the plant drains, including the Station floor drains, and roof drains and area drains.

### **3.0 CCR Removal and Decontamination** **[845.720(a)(1)(B)]**

Closure of Pond 2 will be through removal in accordance with Midwest Generation's Adjusted Standard Petition and 845.740(a). The first step in the closure process is to remove any precipitation that has accumulated within Pond 2 because Pond 2 has not been in service since the spring of 2019 when the CCR was removed. The accumulated water will be mechanically pumped from Pond 2 and discharged into Pond 1 using filtration as necessary to remove any total suspended solids. Excavating sumps, excavating trenches and utilizing earth moving equipment to pile the warning layer may also occur to promote drainage and further dewater the pond, as needed.

The warning layer will be removed through mechanical excavation once the pond has been sufficiently dewatered. A mechanical excavator or other type of loading equipment will excavate the warning layer material and load it into dump trucks. Once the warning layer material has been mechanically loaded it will be hauled to a regulated disposal facility. The trucks hauling the warning layer material will transport the material in accordance with 84.740(c)(1), which includes carrying disposal manifests and moving the material in accordance with a transportation plan. As the warning layer material is being excavated and loaded, on-site fugitive dust control measures will be implemented as needed. Any warning layer remnants will be removed through washing/rinsing and/or vacuuming or another method as determined by the cleaning contractor. The warning layer remnants will be containerized and hauled offsite to a permitted disposal facility. In addition, any CCR remnants will be removed from the pond inlet and outlet structures through mechanical means and also by washing/rinsing. The CCR remnants will be containerized and hauled offsite to a permitted disposal facility.

CCR removal and decontamination will be considered complete when the warning layer has been removed from the pond and the inlet and outlet structures have been decontaminated. The decontamination process will be determined through wipe sampling conducted at a ratio of one wipe test every acre of liner and the wipes will be laboratory analyzed. In addition, groundwater monitoring in accordance with 845.740(b) will be conducted for three years after the completion of the warning layer removal and decontamination.

### **4.0 Closure with CCR Left in Place** **[845.720(a)(1)(C)]**

Closure of Pond 2 will be through removal of CCR and decontamination of areas affected by CCR. Therefore, this requirement is not applicable.

## 5.0 Maximum Inventory of CCR [845.720(a)(1)(D)]

The estimated maximum inventory of CCR on-site contained in Pond 2 is approximately 45,000 cubic yards based upon the estimated quantity prior to the pond's cleaning in the spring of 2019.

## 6.0 Largest Area of CCR Requiring a Final Cover [845.720(a)(1)(E)]

Pond 2 will be closed by removing the CCR in accordance with 845.740 and the Adjusted Standard Petition; therefore, this section is not applicable to this closure plan.

## 7.0 Closure Schedule [845.720(a)(1)(F)]

Implementation of closure through removal of CCR is estimated to require 2 years. Closure is anticipated to begin in 2022 and estimated to be completed sometime in 2024. Prior to initiation of closure, a notice of intent to close will be prepared in accordance with §845.730(d) and an Illinois Environmental Protection Agency (IEPA) construction permit will be obtained. A preliminary schedule of anticipated closure activities is included below. Some of the activities noted in the table below can occur at the same time and the schedule time listed is the anticipated time to complete both activities.

**Closure Schedule**

<b>Closure Activity</b>	<b>Estimated Duration</b>
Complete Closure Construction Documents and Obtain IEPA Closure Construction Permit	15 months
Dewater	1 month
Excavate Warning Layer	1-2 weeks
Decontaminate Pond Liner	1 month
Decontaminate Pond Inlet & Outlet Structures	1 month
Closure Certification and Report	6 months

## **8.0 Initiation and Completion of Closure Activities** **[845.730 & 845.760]**

Closure activities will commence when one or more of the following conditions have occurred:

- No later than 30 days after the date on which the CCR unit received the known final receipt of CCR or non-CCR waste;
- No later than 30 days after the removal of the known final volume of CCR for the purpose of beneficial use;
- Within two years of the last receipt of waste for a unit that has not received CCR or non-CCR waste; or
- Within two years of the last removal of CCR material for the purposes of beneficial use.

Upon completion of the IEPA approved closure activities, a closure report and closure certification will be submitted to IEPA in accordance with 845.760(e). The closure report will contain the following information, 1) engineering and hydrogeology reports, including monitoring well completion reports and boring logs, all CQA reports, certifications, and designations of CQA officers-in-absentia required by Section 845.290; 2) photographs, including time, date and location information of the photographs, of the final cover system and groundwater collection system, if applicable, and any other photographs relied upon to document construction activities; 3) a written summary of closure requirements and completed activities as stated in the closure plan and in Part 845; and 4) any other information relied upon by the qualified professional engineer in making the closure certification.

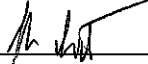
In accordance with 845.760(f), notification of closure of a CCR unit will be made within 30 days of IEPA's approval of the submitted closure report and closure certification. The notification will include certification from a qualified professional engineer, as required by 845.760(e)(2) and will be placed in the facility's operating record.

## **9.0 Closure Plan Amendments** **[845.720(a)(3)]**

This Closure Plan will be amended in accordance with 845.720(a)(3). If a change in the operation of Pond 2 would be substantially affect the content of this Closure Plan or if unanticipated events necessitate revision of the plan. If a change in operation requires amendment to the Closure Plan, the plan will be amended no later than 60 days prior to the change in operation being implemented. If an unexpected event occurs that requires amendment of the Closure Plan, the plan will be amended within 60 days of the unexpected event or within 30 days of the unexpected event if the event occurs after closure activities have commenced. Amendments to this Closure Plan will be certified by a professional engineer registered in the State of Illinois in accordance with 845.720(a)(4).

**10.0 Professional Engineer's Certification**  
**[845.720(a)(4)]**

This Closure Plan has been prepared to meet the requirements of Ill. Adm. Code Title 35 845.720(b).

 1/25/22  
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Joshua D. Davenport, P.E.  
Illinois Professional Engineer

