

**CLOSURE AND POST-CLOSURE PLAN  
LINCOLN STONE QUARRY  
JOLIET #9 STATION  
OCTOBER 2016**

This closure and post-closure plan has been prepared in accordance with 40 CFR Part 257.102(b) and 40 CFR Part 257.104(d) for Lincoln Stone Quarry (Quarry) at the Joliet #9 Station, operated by Midwest Generation, LLC (Midwest Generation), in Joliet, IL. Currently, the Quarry is a landfill being operated under Illinois Environmental Protection Agency Permit No. 1994-241-LFM, Modification No. 22, dated June 9, 2016. This closure and post-closure plan describes the schedule and steps necessary for closure and post closure and methods for compliance with closure and post-closure requirements for the Quarry.

**1.0 Closure Narrative**  
**[257.102(b)(1)(i)]**

The closure of the Quarry will be accomplished by leaving the coal combustion residual (CCR) in place and covering with a final cover system in accordance with 40 CFR Part 257.102(d). The closure will achieve the closure performance standards in accordance with 257.102(d)(1)(i) through (v).

**2.0 CCR Removal and Decontamination**  
**[257.102(b)(1)(ii)]**

The closure of the Quarry will occur by leaving the CCR in place in accordance with 257.102(d).

**3.0 Closure with CCR Left in Place**  
**[257.102(b)(1)(iii)]**

The Quarry will be closed by leaving the CCR in place in accordance with 257.102(d). As required, a final cover system (FCS) will be installed over the CCR in accordance with 257.102(d)(3)(ii).

The closure will be implemented using the following methods and procedures:

1. Unneeded portions of the pipelines in the Main Quarry will be demolished as necessary and hauled from the site to a disposal facility or a salvage yard;
2. The Main Quarry will be dewatered to an extent to allow the CCR to be regraded and compacted;
3. The CCR in the Quarry will be regraded to a more uniform elevation to allow for the placement of the FCS. The CCR will be compacted to stabilize it prior to placement of

the FCS and to reduce the potential for future settling;

4. The FCS will be installed over the regraded and compacted CCR. The FCS will consist of the following components (from the bottom layer to the top layer):
  - One (1) foot of imported clean material;
  - An infiltration layer consisting of a clay layer or an equivalent with a permeable no greater than  $1 \times 10^{-5}$  cm/sec;
  - Another layer of one (1) foot of imported clean material;
  - An erosion control layer consisting of six (6") inches of topsoil; and
  - Vegetation (mulch, fertilizer, and seed).

#### **4.0 Maximum Inventory of CCR** **[257.102(b)(1)(iv)]**

The maximum inventory of CCR ever on-site is based upon the current quantity of CCR in the Quarry. The estimated maximum inventory of CCR that will be covered by the FCS is approximately 2,572,178 cubic yards (CY).

#### **5.0 Largest Area of CCR Requiring a Final Cover** **[257.102(b)(1)(v)]**

The FCS will cover a maximum area of approximately 46 acres.

#### **6.0 Closure Schedule** **[257.102(b)(1)(vi)]**

Implementation of closure, as described, is estimated to require 12 months. Closure is estimated to be completed by the end of 2018. Closure design documents will be prepared to support applications for required local, state, and federal permits, construction bidding specifications will be prepared, and contracting of the work for closure will also be performed. Closure construction design documents may include construction drawings for closure, technical specifications, and adequate CCR removal confirmation procedures. All necessary Federal, State, and Local permits required for closure construction will be evaluated and obtained, as necessary, at the time of closure, but are anticipated to include permits from the Illinois Environmental Protection Agency (IEPA), Illinois Department of Natural Resources (IDNR), and Will County. A preliminary schedule of anticipated closure activities and associated dates is included below.

### Closure Schedule

Activity No.	Closure Activity	Schedule
1	Demolition of Sluice Pipelines	2 Months
2	Dewatering	3 Months
3	Regrade and Compact CCR	3 Months
4	Installation of the Final Cover System	3 Months
5	Closure Certification	1 Month

It is not feasible to complete the closure activities within six months due to the significant amount of water to be dewatered from the Quarry and the surface area that will be covered by the regrade CCR. In addition, if it is not feasible to complete the closure activities within six months due to other factors such as those stemming from permitting and/or the climate and weather, MWG will place in the operating record a narrative demonstrating why it is not feasible to complete the closure in the time allowed pursuant to 40 CFR Part 257.102(f)(2)(i).

#### **7.0 Closure Activities Initiation** **[257.102(e)]**

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.

In accordance with §257.102(h), notification of closure of a CCR unit will be made within 30 days of the completion of closure of the CCR unit. The notification will include certification from a qualified professional engineer, as required by §257.102(f)(3).

#### **8.0 Closure Plan Amendments** **[257.102(b)(3)]**

This Closure Plan will be amended in accordance with §257.102(b)(3) if a change in the operation of the Quarry would 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 §257.102(b)(4).

## **9.0 Post-Closure Plan**

This post-closure plan has been prepared in accordance with 40 CFR Part 257.104(d) for the Quarry at the Joliet #9 Generating Station, operated by Midwest Generation, in Joliet, IL. This plan describes the schedule and steps necessary for post-closure and methods for compliance with post-closure requirements for the Quarry. The post-closure care period will begin once Midwest Generation has placed the certified notification of closure as required by 257.102(f)(3) in Joliet #9's operating record. This post-closure care plan is based upon the regulatory requirement to maintain and monitor the site for 30 years after closure.

## **10.0 Post-Closure Monitoring and Maintenance Description** **[257.104(d)(1)(i)]**

The post-closure monitoring and maintenance activities will be performed in compliance with 257.10(4)(b). The post-closure care will consist of the following:

- Maintaining the integrity and effectiveness of the final cover system (FCS), including making repairs as necessary;
- Maintaining the groundwater monitoring system and monitoring the groundwater in accordance with 257.90 through 257.98; and
- Maintenance of access controls to the Quarry (fencing and gates).

In accordance with 257.104(b)(1), the FCS will be inspected annually for settlement, subsidence, erosion, stressed vegetation, and stormwater damage to the final cover. The FCS will be repaired if any of the above conditions are observed.

Groundwater monitoring will be performed in accordance with 257.90 through 257.98 for the duration of the post-closure period. Groundwater sampling will be conducted at a minimum of semi-annually during the post-closure care period. The groundwater sampling and analysis methods will be appropriate for environmental groundwater monitoring (257.93(b)).

The access controls for the Quarry will be inspected annually for any damage that may allow for trespassing. The inspection will occur at the same time the FCS is inspected. Any damage noted during the inspections will be repaired.

**11.0 Post-Closure Care Contact Information**  
**[257.104(d)(1)(ii)]**

Environmental Specialist  
Joliet #9 Generating Station  
1601 S. Patterson Road  
Joliet, IL  
815-207-4918

**12.0 Planned Uses of the Property**  
**[257.104(d)(1)(iii)]**

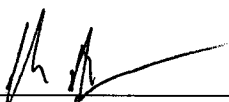
The Quarry will be not developed during the post-closure care period. The Quarry will be inactive during the post-closure care period, and it will only be accessed to perform groundwater monitoring or inspections, as noted above. The groundwater monitoring will not involve access to the FCS. Access to the FCS for inspections will be kept to a minimum.

**13.0 Post-Closure Plan Amendments**  
**[257.102(b)(3)]**

This Post-Closure Plan will be amended in accordance with §257.104(d)(3) if a change in the operation of the Quarry would substantially affect the content of this Post-Closure Plan or if unanticipated events necessitate revision of the plan. If a change in operation requires amendment to the Post-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 post-closure activities have commenced. Amendments to this Post-Closure Plan will be certified by a professional engineer registered in the State of Illinois in accordance with §257.102(b)(4).

**14.0 Professional Engineer's Certification**  
**[257.102(b)(4) & 257.104(d)(4)]**

This Closure and Post-Closure Plan has been prepared to meet the requirements of 40 CFR 257.102(b)(1) and 257.104(d)(1).

  
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Joshua D. Davenport, P.E.  
Illinois Professional Engineer

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