

**Midwest Generation, LLC
Joliet 9 Generating Station
Lincoln Stone Quarry Closure Alternatives Assessment
Public Meeting General Summary**

INTRODUCTION

In accordance with Title 35 of the Illinois Administrative Code (“35 IAC”) Section 845.240, Midwest Generation, LLC (MWG) posted the public meeting notice on the Closure Plans for Joliet 9 Generating Station’s Lincoln Stone Quarry on its publicly available website and provided a copy of such notice to the Illinois Environmental Protection Agency (Illinois EPA or Agency) to email to its listserv for this facility. The bilingual public meeting notice was also mailed to all residents within at least 1 mile of the facility on November 6, 2021, which totaled 4,401 residential mailing addresses. The notice was also posted in 35 public locations within 10 miles of the facility boundary.

The public meetings for Joliet 9 Generating Station’s Lincoln Stone Quarry were held on December 8, 2021 from 6:00 p.m. to 8:00 p.m. and on December 9, 2021 from 10:00 a.m. to 12:00 p.m. The meetings were held virtually, and participants were invited to attend via Zoom or telephone. Twenty-six members of the public attended the December 8th meeting, and twenty-four members of the public attended the December 9th meeting (the remaining attendees were MWG affiliate employees and consultants). Attendees who wished to sign up for a copy of the meeting summary and/or be added to Illinois EPA’s listserv for the facility were asked to sign up via a link to a Google form that was provided within the chat function of the Zoom meeting and posted on MWG’s website, midwestgenerationllc.com. Seventeen attendees requested a copy of the meeting summary, fourteen of whom requested transmittal of their email address to the Agency to be added to the Agency’s listserv for the facility. It was announced that the link would be available on MWG’s public website for two weeks. After an introduction and approximate 45-minute presentation on the proposed closure construction plan, the public was given approximately 1 hour during each meeting to ask questions and provide comments.

This document serves as a summary of the issues and questions raised during the meeting.

MWG proposes to close Lincoln Stone Quarry in place by installing an alternate final cover system (ClosureTurf).

SUMMARY OF ISSUES AND QUESTIONS RAISED DURING THE MEETING

Meeting – General

Several attendees commented on the virtual format of the meeting. MWG had initially intended and even made plans to hold the public meeting in-person. But as the date of the public meeting got closer, case rates in the region were troubling, so it was decided the safest and most prudent thing to do was to hold the meetings virtually. A copy of the presentation is posted on MWG’s public website, midwestgenerationllc.com.

Closure Method

Two members of the public commented their agreement with closing the Lincoln Stone Quarry in place with an approved final cover system. The President of the Will County Environmental Network, a group that has been involved in environmental matters in the vicinity of Lincoln Stone Quarry for over 40 years, stated, in part, at the December 8th meeting:

“The Network believes that covering and maintaining the system design would be the best solution for the closure of this facility. We would be opposed to the removal of the ash for several reasons.”

However, others, including members of other environmental groups, oppose MWG’s proposal.

Groundwater

Several attendees had questions relating to groundwater impacts from the Lincoln Stone Quarry. Groundwater quality and flow conditions for the facility are monitored on a quarterly basis through an Illinois EPA approved groundwater monitoring well network established pursuant to the Lincoln Stone Quarry’s landfill permit issued by the Illinois EPA. The monitoring network consists of both detection wells and assessment wells, which cover all four sides of the facility, including wells that are outside of the Lincoln Stone Quarry property boundary. No private wells have been impacted by the Lincoln Stone Quarry.

In the 2000’s, the groundwater flow direction was reversed by dewatering operations at a nearby active quarrying operation to the south. The reversal of groundwater flow caused elevated concentrations of boron, molybdenum, arsenic, and sulfate to migrate from the south/southeastern corner of the Main Quarry. To mitigate the migration, MWG installed a groundwater extraction system along the southern edge of the Lincoln Stone Quarry. The extraction system has been operating since February 2012. The objective of the extraction system is to establish a sufficient hydraulic trough (*i.e.*, a groundwater low point) to capture water moving toward the south and to re-establish an inward hydraulic gradient from the south property boundary to the north. In addition to the extraction system, Illinois EPA approved a groundwater management zone in the area south of the Lincoln Stone Quarry.

Several attendees asked about the groundwater monitoring program. The complete list of analyzed constituents can be found in 35 IAC Section 845.600(a)(1). Groundwater samples are collected by third parties and are sent to a state-certified environmental analytical laboratory for analysis. The results from each groundwater sampling event are posted on MWG’s public website – midwestgenerationllc.com.

Groundwater monitoring after closure in place is required for thirty years after completion of closure or the results meet the requirements specified under Section 845.780(c)(2), whichever is later.

Groundwater modeling

Multiple attendees questioned or commented upon the groundwater modeling. The model allows for a mathematical representation of the groundwater flow system. Actual groundwater level data collected from site monitoring wells over many years is used within the model to replicate the flow conditions within the aquifer that currently exist. Once the computer model can sufficiently replicate actual existing field conditions, various proposed engineering scenarios being considered and developed can then be overlain

in the model to assess future short- and long-term effects of a proposed engineering option on changes in groundwater quality and flow conditions.

The initial groundwater model was generated as part of the landfill operating permit renewal which was formally approved by Illinois EPA on August 14, 2015 (Landfill Permit No. 1994-241-LFM, Modification No. 21). The model is very large, has 10 layers, and contains approximately 1.7 million cells horizontally and vertically. To account for the fractured flow system, a cell size of 12.5 feet was established in the vicinity of the Lincoln Stone Quarry, which is extremely small. The model is described in detail in The Revised Groundwater Impact Assessment – Lincoln Stone Quarry Landfill, Addendum to IEPA Application Logs 2004-052 and 2009-211 dated March 13, 2013.

The purpose of groundwater modeling for the proposed construction permit application was to provide feedback to the engineering team to show the effectiveness of each closure scenario. The modeling was done for the overall concepts – complete removal of ash, placement of cap/closure in place, closure in place with hydraulic containment, and closure in place with hydraulic controls. The modeling showed that, even with a slow dewatering over the course of a year, the dewatering required for a closure by removal would dewater (or drawdown) nearby residential wells substantially. Results of the modeling show that while there will be improvement in groundwater quality, there will be residual groundwater impacts downgradient of the Lincoln Stone Quarry for some time, regardless of the closure method chosen. Management of these impacts will require implementation of institutional controls as part of any engineering alternative considered, which may include such items as establishment and monitoring of a Groundwater Management Zone (GMZ) along with a deed restriction precluding installation of water wells within that area and use of the groundwater.

The full groundwater modeling report will be included with the construction permit application that will be submitted to Illinois EPA by February 1, 2022. The permit application will be posted to MWG's website within 14 days of submittal to the Illinois EPA.

Other Closure Concerns

Several attendees asked about the composition of the bottom of the Lincoln Stone Quarry and leachate management. The Lincoln Stone Quarry is an old dolomite quarry; the base and sidewalls are Silurian dolomite which is the type of bedrock found in the surrounding area. Leachate that would be collected and generated in a closure in place scenario would be treated as required by the Illinois EPA prior to being discharged to the Des Plaines river via the existing NPDES permitted outfall. The water must meet permit limits before discharge.

Questions were raised about using rail and barge to transport ash and the rail and conveyor system located at Joliet 9 Station. When the Joliet Stations burned coal, coal was delivered via rail to the Joliet 9 Station. It would be offloaded at Joliet 9 and then transported to Joliet 29 via a conveyor system on a suspension bridge over the Des Plaines River. The system was designed to transfer coal in one direction, from Joliet 9 Station to Joliet 29 Station. It was not designed to transfer CCR (a different material than coal) nor to move material from Joliet 29 to Joliet 9. While the rail line at Joliet 9 is still in place and available for pass through rail operations, the coal dumping and conveyor systems are no longer operational. To use the rail system at Joliet 9 for transport of CCR, new loading and unloading equipment, as well as a new conveyor system, would need to be installed, requiring extensive environmental permitting. Necessary permits include NPDES, stormwater, and air construction permits. A barge loading system is not currently present at Joliet

9, so like the rail system, a new system would need to be installed and would also require extensive environmental permitting.

Several attendees asked about the wet cap closure scenario. A wet cap involves installing a physical barrier, like an engineered sand, that fully caps the containments below the natural water table, so water would be above the physical barrier and be the top surface. A wet closure is an effective and protective means of closure; however, it is not currently permissible under the State or Federal CCR rules.

Multiple questions were asked about the final development of the space once a final cap was installed. Once the impoundment has completed post closure care, the area will be considered passive open space.

Several questions were raised about truck traffic arising from transporting CCR off site. High volumes of truck traffic would occur if a closure by removal option is selected. The trucking route would depend on the final disposal location but is expected to travel through some portions of residential neighborhoods since there are only 3 ways to access the Lincoln Stone Quarry, from the north and south via Brandon Road and from the east via Patterson Road. Removing the ash by extensive truck traffic would increase the risk of vehicle accidents and would result in a significant amount of greenhouse gas emissions. Under the preferred closure scenario, there would be minimal trucking (orders of magnitude less than closure by removal), because MWG would only need to truck the final cap materials into facility.

Questions were raised regarding beneficial use of the ash within Lincoln Stone Quarry. The process of evaluating the market for beneficial use of ash is done by MWG's commercial marketing team. MWG routinely evaluates the market for sources that would accept ash for beneficial use and at this time, MWG has not identified a source. With regard to the closure of Lincoln Stone Quarry, beneficial reuse of ash would have the same effect as closure by removal, requiring significant dewatering and truck traffic.

A question was asked about hydraulic controls presented in the Closure Alternatives Analysis. Hydraulic controls may be able to control the groundwater flow around the Lincoln Stone Quarry. However, due to the geology of the Lincoln Stone Quarry, it is unknown if hydraulic controls could be installed or technically effective.

Residential Well testing

Several attendees inquired about residential well testing, referring to a public meeting held in August 2019 for Lincoln Stone Quarry. At that meeting, MWG offered to sample residential wells and of a total of nine residents sought testing. As MWG was in the planning process for well sampling, the Covid-19 pandemic began and for safety of the residents and sampling team, MWG delayed execution of sampling.

Additionally, at the time of the 2019 meeting, MWG was unaware that the City of Joliet had restricted the use of groundwater for potable use in a large portion of the neighborhood northeast of Lincoln Stone Quarry due to sulfate contamination from a different industrial source. MWG will follow up with the residents who requested well water testing at the 2019 meeting and are not connected to the public water supply. MWG does not plan to offer testing to any additional residents.

MWG and prior operators of Lincoln Stone Quarry has been monitoring the groundwater flow direction and quality around the Lincoln Stone Quarry for decades pursuant to the Lincoln Stone Quarry's landfill

permit issued by the Illinois EPA. Groundwater from Lincoln Stone Quarry is not moving toward the northeast and is not impacting residential well water quality.

Financial Assurance

Questions were asked about what financial systems are in place to ensure long-term monitoring is completed after closure. Owners of CCR surface impoundments are required to provide financial assurance to ensure the completion of closure, completion of post-closure care, and, when applicable, remediation of releases from CCR surface impoundments. Pursuant to its landfill permit, to the best of its knowledge, MWG has had financial assurance for closure of Lincoln Stone Quarry dating back to the 1980s. Pursuant to the Illinois CCR rule, MWG has provided financial assurance in the form of a performance bond to Illinois EPA.

ClosureTurf

MWG has not completed any CCR surface impoundment closures under Part 845. ClosureTurf has been approved for use for CCR surface impoundments or landfills at more than 100 sites in the US, including a closure at the Meridosia Power Plant in Illinois. Geosyntec Consultants has been involved in multiple projects that have successfully used ClosureTurf. The design and engineering of the ClosureTurf cap is expected to last for over 1,000 years, based upon accelerated testing to determine how long materials will last in the real world. The Illinois CCR Rule also requires routine inspections of final cover system and any repairs needed would be made.

Closure Costs

Questions were asked about closure costs. Costs were not determinative in selecting closure by removal. The Bipartisan Infrastructure Investment Bill signed into law in November 2021 was not a consideration in any of the closure scenarios evaluated because the law is geared for public infrastructure, not private.

Future Use

Several members of the public commented upon or questioned the future use of Lincoln Stone Quarry, specifically around making the space accessible for public access. MWG is currently not able to suggest or predict future uses other than passive open space.

SUMMARY OF REVISIONS, CHANGES, AND CONSIDERATIONS

Public engagement is an important part of the permitting process. Midwest Generation valued the opportunity to hear and consider the comments of community members and others who participated in the public meetings. At this time, we are proceeding with our proposal for closing Lincoln Stone Quarry in place by installing an alternate final cover system (ClosureTurf) as presented at the public meetings. Taking public comments into consideration, and with additional deliberations after the public meetings, our full analysis continues to indicate that our proposed plan – which remains subject to regulatory review and approval – prioritizes the environment and community well-being.