

Buckley, Jill

From: Hillyer, Kirsten <hillyer.kirsten@epa.gov>
Sent: Monday, February 14, 2022 2:55 PM
To: Bacher, David
Cc: Huggins, Richard; Behan, Frank; Celeste, Laurel
Subject: Will County - CCR Part A Demonstration, Request for Additional Information

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Dear Mr. Bacher,

It has taken EPA longer than expected to issue a proposed determination on the demonstration submitted pursuant to 40 C.F.R. § 257.103(f)(1) for the Will County Power Plant. Therefore, EPA needs to determine whether you are on track to meet the date to cease receipt of waste requested in the demonstration. In light of this and as provided for under 40 C.F.R. § 257.103(f)(3)(ii), EPA is requesting additional information to complete its review of the demonstration for the Will County Power Plant.

EPA requests that you submit the following:

1. A narrative explaining the progress made and current activities and phase/step at the facility to achieve alternative capacity.
2. A discussion of the issues that led to the delay (if a delay has occurred) to the requested date to cease receipt of waste.
3. An updated requested date to cease receipt of waste (if the original date requested has changed).
4. An updated narrative justifying the new date to cease receipt of waste (if the original date requested has changed).

Please post this additional information to the CCR compliance website pursuant to 40 C.F.R. §§ 257.103(f)(1)(ix)(A), 105(i)(14) and 107(i)(14). Please submit this information no later than close of business on March 1, 2022.

If you have any questions, please reach out to me.

Sincerely,

Kirsten Hillyer
Environmental Engineer
U.S. Environmental Protection Agency
Office of Resource Conservation & Recovery (ORCR)
Materials Recovery & Waste Management Division (MRWMD)
NEW Phone: (202) 566-0542

March 1, 2022

Richard Huggins
Branch Chief, Energy Recovery and Waste Disposal, U.S. EPA
One Potomac Yard
2777 S. Crystal Drive
Arlington, Virginia 22202-3553

Submitted via e-mail.

RE: Will County Generating Station, Midwest Generation LLC
CCR Part A Demonstration, Request for Additional Information

Chief Huggins,

The purpose of this correspondence is to provide the information the United States Environmental Protection Agency (U.S. EPA) requested via e-mail on February 14, 2022 regarding the progress made to date in developing alternative disposal capacity to South Ash Pond 2 at the Will County Generating Station ("Station") as proposed in Midwest Generation LLC's (MWG) Demonstration for a Site-Specific Alternative Deadline to Initiate Closure ("Demonstration") that was submitted on behalf of the Station on November 30, 2020. MWG's responses to the four questions posed by the U.S. EPA in the subject e-mail are enclosed.

We look forward to working with the U.S. EPA as we continue developing alternative disposal capacity for South Ash Pond 2. Please contact me at (302)-540-0327 or david.bacher@nrgenergy.com to address any questions or concerns regarding this submittal.

Sincerely,



David Bacher
Senior Regional Manager
Environmental Business, NRG Energy, Inc.

CC: Kirsten Hillyer (U.S. EPA)
Frank Behan (U.S. EPA)
Laurel Celeste (U.S. EPA)
W. Stone (NRG)
S. Shealey (MWG)
J. Buckley (MWG)
W. Shander (MWG)
T. Dehlin (S&L)

Enclosure: Midwest Generation LLC's Responses to U.S. EPA's February 14, 2022 Request for Additional Information on CCR Part A Demonstration for Will County Generating Station's South Ash Pond 2

MIDWEST GENERATION LLC'S RESPONSES TO U.S. EPA'S FEBRUARY 14, 2022 REQUEST FOR ADDITIONAL INFORMATION ON CCR PART A DEMONSTRATION FOR WILL COUNTY GENERATING STATION'S SOUTH ASH POND 2

1. A narrative explaining the progress made and current activities and phase/step at the facility to achieve alternative capacity.

In the Demonstration, MWG detailed plans to replace South Ash Pond 2 with a multiple technology system consisting of a remote submerged scraper conveyor (SSC) and a new low volume waste basin, which would provide alternative disposal facilities for the coal combustion residual (CCR) and non-CCR waste streams, respectively, currently being managed in the Station's South Ash Pond 2. The intent of this multiple technology system was to provide a holistic solution that (1) would provide alternative disposal capacity to South Ash Pond 2 pursuant to the U.S. EPA's CCR Rule and (2) would separate the CCR and non-CCR wastestreams that were commingling in South Ash Pond 2 to set up the Station for compliance with the forthcoming updated effluent limitations guidelines (ELG) for bottom ash transport water in the U.S. EPA's recently-revised ELG Rule¹. MWG planned to install the remote SSC within the footprint of South Ash Pond 3 to take advantage of the Station's existing infrastructure and therefore reduce design and construction time. South Ash Pond 3 was selected for the site of the new remote SSC in part because the Station had taken the pond out of service in early October 2020 for routine cleaning, so repurposing the area for this alternative disposal facility would take less time than at South Ash Pond 2 or other potential sites evaluated in the Demonstration. For similar reasons, MWG selected to repurpose an empty, unused stormwater runoff pond south of South Ash Pond 3 as a new low volume waste basin for the Station's non-CCR wastestreams currently being sent to South Ash Pond 2.

After submitting the Demonstration to the U.S. EPA on November 30, 2020, MWG proceeded with developing the proposed alternative disposal facilities for South Ash Pond 2 in accordance with the activities presented in the Project Schedule included in Section 2 and described in Section 3 of the Demonstration. However, on June 17, 2021, MWG's parent company NRG Energy announced that the Station would be retired by June 1, 2022 after unexpectedly failing to "clear" the PJM Interconnection's 2022/2023 Base Residual Auction that was held in mid-May 2021. Given this unexpected retirement, MWG determined it was no longer appropriate to install a remote SSC as proposed in the Demonstration because, in part, the earliest anticipated installation date for the remote SSC was July 27, 2023, approximately 14 months after the planned retirement date for Station. Accordingly, MWG ceased all activities associated with developing a new remote SSC for the Station after the retirement announcement in mid-June 2021. Meanwhile, MWG began developing a plan for decommissioning the Station and operating the site in a post-decommissioned state, which included re-evaluating whether a new low volume waste basin was still necessary to manage the South Area Runoff Basin's overflow and clarifier sludge or if an existing on-site or off-site facility could be utilized. Given the expected significant reduction in the volume of wastewater that will need to be treated after the Station ceases power-generating operations and after its existing process systems have been secured, drained, and flushed, MWG ultimately determined that the South Area Runoff Basin overflow could be re-routed to the Station's clarifiers and that the reduced volume of sludge could likely be disposed off-site.

The following paragraphs summarize the progress MWG made in developing the remote SSC and new low volume waste basin that MWG proposed in the Demonstration prior to the announcement that the Station would be retired by June 1, 2022, and the progress MWG has made since that June 2021 announcement in developing a decommissioning plan for the Station, which included addressing the non-CCR wastestreams currently being managed in South Ash Pond 2.

¹ 40 CFR Part 423, "Effluent Guidelines and Standards, Steam Electric Power Generating Point Source Category."

Original Remote SSC & Low Volume Waste Basin Project

Ash Removal from South Ash Pond 3

As mentioned in the Demonstration, the Station took South Ash Pond 3 out of service for routine cleaning in early October 2020 and began drawing down the surface water in the pond to dewater the CCR stored therein. In accordance with historical Station cleaning practices, the Station has methodically dewatered the pond since taking it out of service.

Budgetary Cost Estimate Update

Upon submitting the Demonstration to the U.S. EPA, MWG began updating the budgetary cost estimate for the remote SSC and new low volume waste basin that was originally prepared in 2019 in accordance with the revisions and refinements that were made and described in the 2020 Demonstration. This revised cost estimate was finished on February 4, 2021.

Conceptual Design Refinement

On February 4, 2021, the Illinois Pollution Control Board (IPCB) published the Second Notice of its proposed regulations for CCR surface impoundments ("Illinois CCR Rule") for review by the Illinois Joint Committee on Administrative Rules (JCAR), a bipartisan legislative oversight committee that reviews administrative rules proposed by Illinois state agencies before they are adopted into the Illinois Administrative Code. As detailed in the Demonstration, the IPCB had concluded the public-hearing phase of the rulemaking process for adopting the Illinois CCR Rule as authorized by Illinois Public Act 101-0171 when the Demonstration was submitted to the U.S. EPA on November 30, 2020. The Second Notice regulations published by the IPCB on February 4, 2021 included the IPCB's opinion on the Illinois EPA's proposal for the Illinois CCR Rule (included as Appendix D to the Demonstration), which the IPCB largely accepted with some modifications.

Although JCAR still had to review the IPCB's Second Notice regulations before the Illinois CCR Rule could be adopted into the Illinois Administrative Code, MWG considered those regulations to be "close enough to final" to start refining the general arrangement for the remote SSC presented in Appendix A to the Demonstration. Accordingly, between February and April 2021, MWG refined the conceptual design for the remote SSC and its corresponding enclosure by:

- Revising two design features for the remote SSC.
 - Specifying a hydraulic chain tensioner for the remote SSC instead of an electric one. Except for a small air compressor for the air-operated valves, this design revision eliminated the need for air compressors and corresponding piping that were included in the conceptual design submitted with the Demonstration.
 - Including modifications to the existing crushers' hydraulic power units for speed control to prevent potential overload to the remote SSC in the remote SSC vendor's scope of work.
 - As part of these design changes, MWG requested and received a proposal from a potential SSC vendor that would then be used as an input into an updated budgetary cost estimate.
- Reducing the footprint required for the SSC enclosure area by removing, relocating, or optimizing the space required for the various mechanical and electrical components that would support the remote SSC operations. This design change reduced the volume of concrete that would be required to construct the enclosure's foundation and perimeter walls.
- Minimizing the heights of the perimeter walls, which further reduced the volume of concrete required to construct the enclosure.
 - Instead, the fabric enclosure sides would be extended to compensate for the decreased height of the perimeter walls.
 - As part of this design change, MWG requested and received a proposal from a potential vendor that would then be used as an input into an updated budgetary cost estimate.

- Configuring the foundation to slope towards a single collection trench that would gravity-drain to South Ash Pond 3's concrete overflow trough.

As MWG refined its conceptual design for the remote SSC, MWG also adjusted its budgetary cost estimate for the project from the February 2021 version. This cost estimate ultimately provided a necessary input to the Station's bid price for supplying electricity to the 2022/2023 Reliability Pricing Model for the ComEd Zone of the PJM Interconnection, the regional transmission organization (RTO) to which the Station belongs. As described later in this narrative, PJM Interconnection routinely holds Base Residual Auctions (BRA) to procure a target electrical capacity for the region in future years in a least-cost manner. The February 2021 cost estimate and subsequent updates were used to support the Station's bid price for the 2022/2023 BRA which opened in mid-May 2021.

Final Illinois CCR Rule & Closure Prioritization Category Designations

In mid-April 2021, the Illinois CCR Rule was finalized and adopted as the new Part 845 to Title 35 of the Illinois Administrative Code (35 Ill. Adm. Code 845). The Illinois CCR Rule became effective on April 21, 2021, approximately three weeks later than the anticipated effective date of March 30, 2021. Immediately upon adoption of the Illinois CCR Rule, MWG began preparing the initial operating permit applications required by 35 Ill. Adm. Code 845.230(d)(1) for the Station's South Ash Ponds 2 and 3 and the preliminary closure documents that would eventually be incorporated into the ponds' closure construction permit applications.

The first sets of closure documents MWG began preparing for these two ponds were the closure category designations required by 35 Ill. Adm. Code 845.700(c) and the preliminary written closure plans required by 35 Ill. Adm. Code 845.720(a). On May 21, 2021, 30 days after the Illinois CCR Rule became effective, in accordance with the relative timeframe presented in the Project Schedule, MWG submitted the closure prioritization category designations for South Ash Ponds 2 and 3 and corresponding justifications for the designations to the Illinois EPA. Based on the criteria set forth in 35 Ill. Adm. Code 845.700(c), both ponds were designated as Category 7 CCR surface impoundments. As stated in the regulation, a Category 7 CCR surface impoundment has the lowest priority for closure. Thus, the forthcoming closure construction permit applications submitted for South Ash Ponds 2 and 3 will be at the lowest priority for the Illinois EPA to review and process. Accordingly, the Illinois CCR Rule does not require these permit applications to be submitted to the Illinois EPA until August 1, 2023, while the corresponding closure or retrofit construction permit applications for Category 1, Category 2, and Category 3 CCR surface impoundments were due to the Agency by February 1, 2022.

Remote Bottom Ash System Process Flow Diagram

In May 2021, MWG started preparing the process flow diagram (PFD) for the remote SSC system. This included identifying the piping, equipment, and instrumentation required to operate the remote SSC and how these new components would be integrated into the Station's existing bottom ash-handling system.

PJM Auction Results & Announced Retirement of Station

As mentioned earlier in this narrative and in the Demonstration, the Station is located in the ComEd Zone of the PJM Interconnection, an RTO that coordinates the electric transmission systems in all or parts of 13 states and Washington, D.C. To ensure the region's electrical reliability needs are met, PJM Interconnection routinely holds BRAs to procure a target electrical capacity for the region in future years in a least-cost manner. On May 19, 2021, PJM Interconnection opened the 2022/2023 BRA and the Station submitted its bid price for supplying electricity to the RTO. On June 2, 2021, PJM Interconnection posted the results for the 2022/2023 BRA, and the Station unexpectedly did not meet the RTO's Resource Clearing Price (*i.e.*, the Station did not "clear" the forward capacity auction).

Based on this disappointing and unexpected result in PJM Interconnection's 2022/2023 BRA, MWG's parent company NRG Energy announced on June 17, 2021 that the Station would be retired by June 1, 2022. After this announcement was made, MWG immediately began re-evaluating the Station's needs for

alternative disposal capacity to replace South Ash Pond 2. Given the Station's pending retirement, MWG determined that it was no longer appropriate to install a remote SSC as proposed in the Demonstration because, in part, the earliest anticipated installation date for the remote SSC was July 27, 2023, approximately 14 months after the planned retirement date for the Station. However, the Station will need to continue managing stormwater at the site as and after the Station facilities are decommissioned. Accordingly, MWG began developing a plan for decommissioning the Station and operating the site in a post-decommissioned state, which included re-evaluating whether a new low volume waste basin was still necessary to manage the South Area Runoff Basin's overflow and clarifier sludge or if an existing on-site or off-site facility could be utilized.

As part of its re-evaluation of the Station's needs for alternative disposal capacity for the South Area Runoff Basin's overflow and clarifier sludge, MWG considered the original cessation of waste deadlines requested in the Demonstration for South Ash Pond 2, a potential request to the U.S. EPA to continue operating the pond pursuant to 40 CFR 257.103(f)(2) instead of 40 CFR 257.103(f)(1), and the compliance requirements and timeframes stipulated by the Federal CCR Rule and Illinois CCR Rule. Despite the unexpected announcement that the Station would be retired, MWG still sought to have alternative disposal capacity for the two subject non-CCR wastestreams by April 28, 2023, the alternative deadline that MWG requested in the Demonstration to cease placing non-CCR wastestreams in South Ash Pond 2. Although the retirement of the Station would allow MWG to continue operating South Ash Pond 2 under 40 CFR 257.103(f)(2), MWG determined that it would not be feasible to complete closure of South Ash Pond 2 by October 17, 2023 as required by 40 CFR 257.103(f)(2)(iv)(A) given the anticipated time required to permit and construct a new stormwater retention basin and to close the South Ash Pond 2. As previously mentioned, South Ash Pond 2 has the lowest closure priority for the Illinois EPA (Category 7) relative to other CCR surface impoundments at Illinois power plants.

Decommissioning Plan

Since the June 2021 announcement that the Station would be retired, MWG has been developing a Decommissioning Plan for the Station to address how the Station's different facilities would be retired after the Station shuts down and how the site will be managed post-Station retirement. A key input to the Decommissioning Plan is how the Station's wastewater treatment system, which includes the Station's clarifiers, South Ash Pond 2, and various stormwater run-off ponds, will be managed after the Station shuts down on or around June 1, 2022. Accordingly, MWG analyzed and identified a final disposition for each input to the Station's wastewater treatment system, including the South Area Runoff Pond overflow and clarifier sludge. Given the expected significant reduction in the volume of wastewater that will need to be treated after the Station ceases power-generating operations and after its existing process systems have been secured, drained, and flushed, MWG ultimately determined that the Station's wastewater treatment system could be modified such that the South Area Runoff Basin overflow could be re-routed to the Station's clarifiers and that the reduced volume of sludge could likely be disposed off-site.

Wastewater Treatment System Modification Project

Conceptual Design

To prevent overtopping of the basin during significant storm events, stormwater collected in the South Area Runoff Basin overflows into a concrete trench and is subsequently pumped to South Ash Pond 2 via an 8-inch-diameter pipe. The initial pipe run is underground until it daylights near the ash sluice piping and is routed aboveground with the ash sluice piping to the outside piping valve station east of and adjacent to South Ash Ponds 2 and 3. In total, the length of this 8-inch discharge line is approximately 900 feet from the South Area Runoff Lift Station to the outside piping valve station.

Prior to discharging water from its wastewater treatment system through its National Pollutant Discharge Elimination System (NPDES) permitted outfall to the Chicago Sanitary and Ship Canal, the Station treats the water via two clarifiers to remove suspended solids. The solids collect at the bottom of each clarifier in the form of a sludge, which is intermittently slurried to South Ash Pond 2 for sedimentation to maintain a

working volume in the given clarifier. Recycled sludge is pumped to the pond through a 6-inch-diameter pipe that is mostly underground until it daylights near the outside piping valve station. In total, the length of this 6-inch sludge line is over 1,500 feet from the clarifier sludge pumps to South Ash Pond 2.

Given the expected significant reduction in the volume of wastewater that will need to be treated after the Station ceases power-generating operations and after its existing process systems have been secured, drained, and flushed, the rate at which sludge collects at the bottoms of the clarifiers will be significantly reduced. Consequently, MWG believes it is technically feasible for the clarifier sludge to be pumped into a tanker (truck with a tank trailer) on an as-needed basis. MWG plans to hire a commercial vendor to collect, transport, and dispose of the clarifier sludge at an off-site disposal facility.

Because MWG plans to dispose of the Station's clarifier sludge off-site, the Station will no longer need to use the 6-inch pipe from the clarifiers to South Ash Pond 2 to send sludge to the ash ponds. Because the discharge points for this 6-inch line and the 8-inch line from the South Area Runoff Basin are at the outside piping valve station, MWG could repurpose the 6-inch sludge line to divert overflow from the South Ash Runoff Basin to the clarifiers. To do this, MWG will connect the two lines to provide a continuous route from the South Area Runoff Basin to the clarifiers. Because the 6-inch sludge line currently originates from the sludge pumps at the base of the clarifiers, the line will need to be re-routed from the sludge pumps to the clarifier splitter box so that the South Area Runoff Basin overflow can be conveyed into the clarifiers for treatment. At the South Area Runoff Basin's pumphouse, the two pumps will need to be increased in size to accommodate the additional line losses and elevation changes associated with increasing the basin discharge line from 900 feet to almost 2,500 feet. Once these modifications have been made, the Station's existing clarifiers will provide alternative disposal capacity for the South Area Runoff Basin overflow.

Implementation

To implement the preceding modifications to the Station's wastewater treatment system, MWG will need to analyze the new discharge route for the South Area Runoff Basin to determine the upgrades required for the pumps currently conveying the basin's overflow to South Ash Pond 2; design the connection between the existing 8-inch basin discharge line and 6-inch sludge line; design the sludge line extension from the clarifiers' sludge pumps to the clarifiers' splitter box; procure the new pumps, pipe materials, and pipe fittings; install the new mechanical components; and evaluate commercial vendors to manage the clarifier sludge off-site. MWG is currently performing the engineering and design work associated with determining the new pump sizes required and pipe routes to tie the two systems together. MWG anticipates having the engineering and design work and subsequent material procurement completed by the time the Station begins decommissioning work on or around June 1, 2022.

Because these proposed construction activities are modifying an existing industrial wastewater treatment system, MWG will need to obtain construction and operating permits from the Illinois EPA, Division of Water Pollution Control before constructing and operating the proposed modifications, respectively. To ensure the South Area Runoff Basin overflow line is tied into the existing clarifiers as soon as technically feasible, MWG intends to apply for a joint construction and operating permit for this work in accordance with 35 Ill. Adm. Code 309.205. Pursuant to 35 Ill. Adm. Code 309.224, MWG intends to file a joint construction and operating permit application for these modifications with the Illinois EPA at least 90 days before the work is expected to start. Per 35 Ill. Adm. Code 309.225, the Illinois EPA will then have 90 days to review and take action on the permit application. Based on these timeframes and assuming the Illinois EPA grants the permit pursuant to the initial application submittal, MWG expects to start implementing the proposed modifications to the South Area Runoff Basin pumps and discharge line by the fall of 2022.

2. A discussion of the issues that led to the delay (if a delay has occurred) to the requested date to cease receipt of waste.

As detailed in our response to Question 1, MWG had to change its plans for developing alternative disposal capacity for South Ash Pond 2 in June 2021 after NRG Energy announced that the Station would be retired by June 1, 2022. However, MWG has been developing a Decommissioning Plan for the Station with the intent of having alternative disposal capacity for the Station's South Area Runoff Basin and clarifier sludge by April 28, 2023, the alternative deadline that MWG requested in the Demonstration to cease placing non-CCR wastestreams into South Ash Pond 2. Assuming the Illinois EPA grants the joint construction and operating permit application within 90 days of MWG applying, and assuming no significant material procurement delays, MWG expects to start making the proposed modifications to the Station's wastewater treatment system in the fall of 2022 and have the non-CCR wastestreams currently being managed by South Ash Pond 2 contained to the Station's clarifiers as soon as technically feasible but no later than April 28, 2023. If MWG considers an extension necessary based on delays in material procurement, permitting, and/or construction, then MWG will file a request for additional time in accordance with 40 CFR 257.103(f)(1)(vii) immediately upon determining that additional time is necessary to complete the project.

3. An updated requested date to cease receipt of waste (if the original date has changed).

Per our response to Question 2, MWG is not requesting an updated date to cease receipt of waste in South Ash Pond 2 at this time.

4. An updated narrative justifying the new date to cease receipt of waste (if the original date requested has changed).

Per our response to Question 2, MWG is not requesting an updated date to cease receipt of waste in South Ash Pond 2 at this time. Although MWG expects to cease receipt of waste in South Ash Pond 2 by the originally requested deadline of April 28, 2023, MWG will file an extension request in accordance with 40 CFR 257.103(f)(1)(vii) for additional time to operate South Ash Pond 2 while the proposed wastewater treatment system modifications are being made immediately upon determining that additional time is necessary to complete the project.