

ILLINOIS POLLUTION CONTROL BOARD

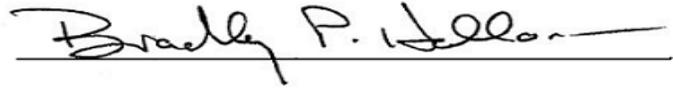
June 23, 2022,

IN THE MATTER OF:)
)
PETITION OF MIDWEST GENERATION)
LLC FOR AN ADJUSTED STANDARD)
FROM 35 ILL. ADM. CODE 845.740(a) AND)
FINDING OF INAPPLICABILITY OF 35) AS 21-1
ILL. ADM. CODE 845) (Adjusted Standard – Land)
)
)

HEARING OFFICER ORDER

To further assist the Board’s understanding of the above-captioned matter, petitioner Midwest Generation LLC and the Agency are directed to address the attached questions at hearing on June 28-29, 2022.

IT IS SO ORDERED.



Bradley P. Halloran

Chicago, Il. 60605
312.814.8917
Brad.Halloran@illinois.gov

Questions for Midwest Generation

1. Please elaborate on why MWG decided to retain the poz-o-pac liner in Pond 2 during the installation of the HDPE liner in 2008. Comment on the remaining estimated lifespan of the current poz-o-pac liner. If the poz-o-pac liner is required to be removed would that also require the disposal of the HDPE liner?
2. The Agency suggests due to the topography of Pond 2's embankments and Highway 6's associated storm drainage, "chloride is moving from the road salts into the topsoil of the Pond 2 embankment and the US Highway 6 storm water drainage ditch during the winter months and then infiltrating to the groundwater beneath and to the north of Pond 2 during the springtime thaw of ice and snow and subsequent rain events." *Id.* at 24-25. Please clarify whether MWG done testing of the soils in Pond 2's embankment to determine their composition and permeability? If not, is it possible to do so? How long would it take to conduct the analyses?
3. Please comment on whether MWG can provide evidence that shows any use of CCR in construction of the existing liner system in Pond 2 was done under beneficial use requirements of the Act and that it does not pose a risk to groundwater quality now or in the future if left in place.
4. MWG states, "during the demolition [of Pond 2] CCR would escape from the basins when the liner is removed, thus requiring excavation of the HDPE liner, the poz-o-pac liner beneath, and approximately six inches of soil below the liner." Pet. at 16-17. Please explain why CCR would escape from the basin during demolition of Pond 2 when the liner is removed if the CCR is removed for beneficial use prior to demolition.
5. Please clarify whether the approximate permitting costs of \$65,000 estimated for Ponds 1 and 3 (Pet. at 18) is for each pond or combined for both ponds.
6. MWG states some CCR that was left in Pond 2 to maintain the integrity of the liner would be removed using a multi-step process. Pet. at 20. How much CCR was left in place? Where will this CCR be disposed? Is there a fugitive dust plan in place for Pond 2 to address dust issues during removal?
7. The Agency states that the poz-o-pac liner material is known to crack substantially over time, so it is likely the poz-o-pac liner damaged because of the use conditions and the nature of the liner and should be removed. 2-4-22 Ag. Rec. at 10-11.
 - a. Is it possible to determine the integrity of the poz-o-pac liner without removing the HDPE liner?
 - b. If not, comment on how MWG can ensure integrity of the poz-o-pac liner other than relying on groundwater monitoring.

8. On page 19 of MWG's response to the Agency's Recommendation, Dr. Radlinski states, "poz-o-pac is formed by a chemical reaction (i.e. the pozzolanic reaction) between the lime and fly ash which forms a hardened cementitious paste. The pozzolanic reaction of lime and fly ash fundamentally alters the chemical composition of the mixture to form cementitious matrix that binds and holds the aggregate particles together."
 - a. Does the pozzolanic reaction render the CCR used inert or just binds it?
 - b. If the poz-o-pac liner is cracked or damaged, is it possible for that material to leach into groundwater?
 - c. Does the poz-o-pac liner contain heavy metals?
9. MWG contends that if Pond 2 were to be contained or constructed with CCR any releases of the primary CCR indicators would have been detected in the previous ten years of groundwater monitoring. MWG Resp. at 2-3. But MWG has also stated that Pond 2 contained CCR up to 2019. Pet. at 9. Please clarify the statements for consistency.
10. On page 3, MWG's Response to the Agency's Recommendation states because the groundwater monitoring results around Pond 2 does not detect any of the CCR primary constituents (boron, barium, and arsenic), that CCR is not present in Pond 2. Please comment on whether the absence detections are sufficient to show absence of CCR in Pond 2.
11. Footnote #6 of MWG's response to the Agency's Recommendation states that Geosyntec collected the boring samples from 2015 but were not available. Please clarify whether the boring logs have been located since the filing of MWG's response. If so, submit the logs into the record.
12. On page 16 of the February 4, 2022 Recommendation, the Agency states MWG is required to present alternative compliance methods. Please comment on whether MWG intends to submit information on alternative compliance methods and their costs.
13. Please clarify whether MWG still intends to continue monitoring the groundwater surrounding Pond 2 after converting it into a process water basin.
14. On pages 8-9, the Federal Highway Associations Report (Exhibit C) states that crack control has been a prime concern for many state agencies when using PSB mixtures.
 - a. Please comment on whether MWG has similar concerns with the use of poz-o-pac liners.
 - b. How has MWG ensured that poz-o-pac liners have not been damaged or started cracking?
 - c.

- d. Comment on how competency of poz-o-pac liners are monitored for cracking/damage.
15. In Exhibit 18 Table 4: Semi Annual Detection Monitoring Statistical Comparisons, there appears to be potentially statistically significant increases of sulfate (MW-03) and boron (MW-04) on 5-7-19 that did not occur in MW-10 (used to determine background).
- a. Please comment on whether these increases are attributable to Pond 2.
 - b. If so, were any preventative measures undertaken to address the increases??
 - c. If not, comment on the reasons for the observed increases.

Questions for Mr. David Nielsen on his Expert Opinion (Pet. Exh. 3)

16. On page 3, you state that “the reuse of geomembrane liners from CCR Surface impoundments that are properly decontaminated and undamaged can enhance the protection of health and the environment when they are repurposed for non-CCR impoundments, including low-volume waste ponds.”
- a. Please comment on whether you have worked on projects involving the decontamination and reuse of geomembrane liners in CCR surface impoundments, which are subject to regulations like the Board rules under Part 845.
 - b. If so, provide specific information on each project, including location, size, type of liner, decontamination process/methodology as well as the re-purposed use of the impoundment.
17. On page 4, you state, “My research has not found any evidence that geomembrane liners, such as HDPE become contaminated with waste products that are present in CCR.”
- a. Please elaborate on the research you conducted to investigate the potential contamination of geomembrane liners like the HDPE liner in Pond 2.
 - b. Submit into the record relevant studies you found regarding contamination of geomembranes.
18. On page 5, you note, “It is my opinion that performing 1 set of wipe samples and tests per acre is an appropriate testing frequency. This opinion is based on the USEPA guidance that one permeability test should be performed per acre per lift of compacted clay liner.”
- a. Please explain for the record how a wipe test is conducted to determine whether the liner is contaminated.

- b. Explain the rationale for using the testing frequency (one test per acre) for conducting permeability test for wipe testing. Is there any relationship between permeability testing for compacted earthen liner and wipe testing of HDPE liner to support the use of same testing frequency (one wipe test per acre) for the wipe test?
 - c. Considering that Pond 2 is approximately 4 acres (174,240 square feet), comment on whether conducting 4 wipe tests would be adequate to demonstrate that the liner is fully decontaminated.
 - d. Comment on alternative options for testing frequency that would be more representative of the size of the liner.
 - e. How much does it cost to perform a wipe test?
19. On page 5, you provide a calculation of energy use to manufacture 10 acres of HDPE. However, MWG's petition states that Pond 2 is approximately 3.9 acres. Pet. at 14.
- a. Please clarify whether the energy consumption for manufacturing 4 acres of HDPE would equate to 1,720,000,000 BTU.
 - b. To provide a perspective on the energy consumption, what would be the energy cost based on average cost in the U.S.?
 - c. How does the energy cost compare to the cost of replacing the existing HDPE liner with four acres of new liner?
20. On page 6, you note that Pond 1 at Joliet 29 was repurposed with existing liner for the existing non-CCR impoundment.
- a. Please clarify whether Pond 1 was repurposed for non-CCR use under the federal CCR regulations or the Board's regulations.
 - b. Prior to repurposing Pond 1 did MWG decontaminate the liner using a methodology like the one being discussed in this proceeding?
 - c. Did the repurposing of Pond 1 require the Agency's approval?
 - d. Comment on whether there are any significant differences between design and operation of Ponds 1 and 2 that may raise concern with the reuse of decontaminated liner in Pond 2.

21. On page 6, you note that when HDPE liner is removed from an impoundment at least 6 inches of subsoil would have to be removed and disposed of as well to confirm the removal of all CCR contaminated sub-soils.
 - a. In case of Pond 2, which has a poz-o-pac liner below the HDPE liner, is there a need to excavate the subsoils below the poz-o-pac liner?
 - b. If not, would there be a need to transport liner material using 200 dump truck loads for the 4-acre pond?
 - c. Also, please provide an estimation of the number of truck loads that would be required if the poz-o-pac liner as well as 6 inches of subsoil is excavated for disposal.

Questions for the Agency

1. Why is the poz-o-pac liner in Pond 2 more of a concern for groundwater contamination than the poz-o-pac liners in Ponds 1 and 3?
2. Does the poz-o-pac liner pose a threat of CCR groundwater contamination even if the “CCR material” in the liner has been changed in a chemical reaction and physically encapsulated?
3. The FHWA Report included in the Agency’s February 4, 2022 Recommendation is from 2006, is the Agency aware of any more recent discussion of the poz-o-pac liners or PSB material having problems with structural stability?
4. The Agency’s February 2022 Recommendation on page 20 states, “While a geotextile cushion was installed beneath the HDPE liner, there are other factors that may cause damage to the liner. In addition to overburden stress, liners installed in impoundments that are exposed to sunlight and weather conditions suffer degradation that buried HDPE liners do not.” Please comment on whether the Agency has conducted any inspection of the existing HDPE liner that indicates any damage to the liner. If not, please explain the rationale for concluding that the HDPE liner system may be damaged or compromised.
5. The Agency states that the cobalt analytical results exceed the GWPS of 0.006 mg/L under Section 845.600 at MW-04 as recently as October 22, 2020.” 2-4-22 Rec. at 24. However, in Table 2 of Exhibit 11 and Table 1 of Exhibit O, the cobalt measurement for October 22, 2020, does not appear to be in agreement. Table 2 of Exhibit 11 has cobalt measured as 0.0041 mg/L and Table 1 has the measurement for cobalt as 0.0082 mg/L.
 - a. Please elaborate on the discrepancy in the data between the two tables.
 - b. Comment on whether the differences are due to different sample results.

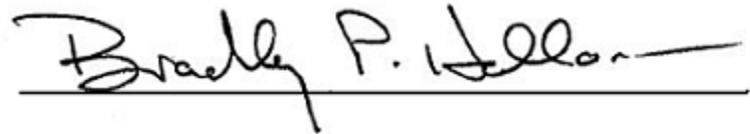
6. On pages 13 and 14 of the February 2022 Recommendation, the Agency states that beneficial use of CCR for structural fill, foundation backfill, antiskid material, soil stabilization, pavement, or mine subsidence must meet the following requirements: cannot be mixed with hazardous waste before its use, must be tested using method ASTM D3987-85, cannot exceed the Class I GWQS. Further, CCR must also be used “in an engineered application or combined with cement, sand, or water to produce a controlled strength fill material and covered with 12 inches of soil unless infiltration is prevented by the material itself or other cover material.”
 - a. Please explain why the treated “CCR material” in the poz-o-pac liner does not fit under the definition of “beneficial Use”.
 - b. Comment on whether MWG can demonstrate that the use of CCR in poz-o-pac liner is a “beneficial use” outside using the shake test?

CERTIFICATE OF SERVICE

It is hereby certified that true copies of the foregoing order were e-mailed on June 23, 2022, to each of the persons on the attached service list.

It is hereby certified that a true copy of the foregoing order was delivered to the following on June 23, 2022:

Don Brown
Illinois Pollution Control Board
James R. Thompson Center
100 W. Randolph St., Ste. 11-500
Chicago, Illinois 60601



Bradley P. Halloran
Hearing Officer
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, Illinois 60601
312.814.8917

@Consents electronic service.

AS 2021-001@
Susan M. Franzetti
Nijman Franzetti LLP
10 S. LaSalle Street
Suite 3600
Chicago, IL 60603

AS 2021-001@
Kristin Laughridge Gale
Nijman Franzetti LLP
10 S. LaSalle Street
Suite 3600
Chicago, IL 60603

AS 2021-001@
Stefanie N. Diers
IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794

AS 2021-001
Christine M. Zeivel
IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794

AS 2021-001@
Greg Stucka
IEPA
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794