

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: )  
 ) AS 2021-001  
PETITION OF MIDWEST )  
GENERATION, LLC FOR AN )  
ADJUSTED STANDARD FROM ) (Adjusted Standard)  
845.740(a) AND FINDING OF )  
INAPPLICABILITY OF PART 845 )  
(JOLIET 29 STATION) )

**NOTICE OF FILING**

To: See attached Service List

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Pollution Control Board Petitioner Midwest Generation, LLC's Post-Hearing Brief in Support of its Petition for an Adjusted Standard and Finding of Inapplicability for the Joliet 29 Station, a copy of which is herewith served upon you.

Dated: September 13, 2022

MIDWEST GENERATION, LLC

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**CERTIFICATE OF SERVICE**

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing, and Petitioner Midwest Generation, LLC's Post-Hearing Brief in Support of its Petition for an Adjusted Standard and Finding of Inapplicability for the Joliet 29 Station was electronically filed on September 13, 2022 with the following:

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Dated: September 13, 2022

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

MIDWEST GENERATION, LLC	)	
	)	
Petitioner,	)	PCB AS 21-01
	)	
ILLINOIS ENVIRONMENTAL	)	
PROTECTION AGENCY	)	
	)	
Respondent,	)	

**PETITIONER MIDWEST GENERATION, LLC’S POST-HEARING BRIEF IN SUPPORT OF ITS PETITION FOR AN ADJUSTED STANDARD AND FINDING OF INAPPLICABILITY FOR THE JOLIET 29 STATION**

Midwest Generation, LLC (“MWG”) has met its burden under Section 28.1 of the Illinois Environmental Protection Act (the “Act”) for an adjusted standard from the Part 845 Illinois Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments at 35 Ill. Adm. Code 845 (“Illinois CCR Rule”) for its three ponds at its Joliet 29 Station (“Joliet 29” or “Station”) in Joliet, Will County, Illinois. Therefore, MWG requests that the Board enter an order:

- (a) Finding that Joliet 29 Station Ponds 1 and 3 are not “CCR surface impoundments” under Section 3.143 of the Illinois Environmental Protection Act, 415 ILCS 5/3.143;
- (b) Granting MWG an adjusted standard to allow the decontamination and reuse of the existing liner and ancillary equipment in Joliet 29 Station Pond 2.

**I. INTRODUCTION**

Both MWG and the Illinois Environmental Protection Agency (the “Agency”) agree that the Illinois CCR Rule is inapplicable to Ponds 1 and 3. (See Agency September 22, 2021 Recommendation). The undisputed facts show that both ponds are process water basins that do not accumulate coal combustion residuals (“CCR”), and thus are not “CCR surface impoundments” under Section 3.143 of the Act. 415 ILCS 5/3.143.

The Board should also grant MWG an adjusted standard to allow MWG to decontaminate and reuse the existing high density polyethylene (“HDPE”) liner and the ancillary equipment, after

it removes the remaining CCR contaminated material within the sand and gravel layers in Pond 2. The evidence has shown that the existing HDPE liner can be decontaminated and is suitable for reuse in place when Pond 2's operation is changed to a low-volume waste pond, including the retention of stormwater.

MWG presented three expert witnesses whose unrebutted testimony and related reports established four critical facts that adequately address and resolve the Agency's concerns regarding the liner's reuse:

- 1) CCR was not used to construct Pond 2 or for the installation of the HDPE liner;
- 2) The underlying Poz-o-Pac liner material is not CCR. Poz-o-Pac is a cementitious product, and the CCR used to make the Poz-o-Pac is a coal combustion by-product ("CCB"). 415 ILCS 5/3.135;
- 3) The groundwater is not impacted by CCR constituents and there is no potential for future groundwater contamination; and
- 4) The HDPE liner is in good condition.

The hearing record establishes that there is no rational basis to require MWG to conduct any testing of the underlying Poz-o-Pac or soil, which would risk impairing the integrity of the existing HDPE liner, because the evidence shows no CCR is present. Instead, as MWG has proposed, the only testing required is a visual inspection and wipe-testing to confirm that the liner is competent and decontaminated.

Importantly, both the Illinois EPA and MWG agree that the Federal CCR Rule (40 CFR §257) does *not* require removal of the liner. Also, when adopting the general closure by removal regulation, the Board did not consider whether a competent liner could be reused when a pond is closed by removal. However, the Board considered and modified the Illinois CCR Rule to allow reuse of a competent liner when retrofitting a CCR surface impoundment. The factors the Board relied upon to allow liner reuse during retrofitting equally apply here and support the requested adjusted standard.

**II. MWG HAS SATISFIED THE ADJUSTED STANDARD FACTORS**

The Agency and MWG agree that the Illinois CCR Rule is inapplicable to Ponds 1 and 3 at the Joliet 29 Station because both ponds are process water basins that do not accumulate CCR. This is no different than the Board's determination that the Service Water Basin at MWG's Powerton Station was not a CCR surface impoundment because it is a process water basin. *In the Matter of: Midwest Generation LLC's Petition for an Adjusted Standard and Finding of Inapplicability for the Powerton Station*, PCB21-2 (Feb. 17, 2022). For the same reasons, the Board should find that Ponds 1 and 3 are not CCR surface impoundments and not subject to Part 845. Because there is no dispute that MWG has satisfied the adjusted standard factors for Ponds 1 and 3, this Post-Hearing Brief focuses on MWG's petition to reuse the liner in Pond 2.

The adjusted standard MWG seeks for reuse of the liner in Pond 2 has almost the same language that the Illinois EPA originally proposed in the Illinois CCR Rulemaking (PCB20-19), which is effectively the same as the applicable federal CCR rule.<sup>1</sup> However, in consideration of the Board's requirement to conduct visual inspection and analytical testing for reuse of a liner to retrofit a CCR surface impoundment in Section 845.770(a), MWG proposed a similar requirement.

The proposed language is:

“MWG may close by removing and decontaminating all areas affected by releases from Pond 2 at the Joliet 29 Station. CCR removal and decontamination of Pond 2 is complete when the CCR in Pond 2 and any areas affected by releases from the CCR surface impoundment have been removed. MWG must conduct visual inspection and analytical testing to demonstrate that the geomembrane liner in Pond 2 is not contaminated with CCR constituents. MWG must submit the results to Illinois EPA.”

Part 845 does not include a specific justification for an adjusted standard. Because there is no specific level of justification, pursuant to Section 28.1(c) of the Act, the Board may grant an adjusted standard if the Board determines from the facts presented that:

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<sup>1</sup> Illinois EPA's proposed CCR language had some minor non-substantive differences to the federal CCR rule. Compare Proposed Illinois EPA 35 Ill. Adm. Code 845.740(a) and 40 C.F.R. §845.102(c).

- (1) factors relating to that petitioner are substantially and significantly different from the factors relied upon by the Board in adopting the general regulation applicable to that petitioner;
- (2) the existence of those factors justifies an adjusted standard;
- (3) the requested standard will not result in environmental or health effects substantially and significantly more adverse than the effects considered by the Board in adopting the rule of general applicability; and
- (4) the adjusted standard is consistent with any applicable federal law.

415 ILCS 5/28.1(c). The evidence presented to the Board demonstrates that MWG has satisfied each factor and justifies the adjusted standard for Pond 2. For each of the four statutory factors, MWG summarizes below the evidence that proves they have been met.

**III. NO HARM TO THE ENVIRONMENT OR HUMAN HEALTH WILL BE CAUSED BY REUSE OF THE POND 2 LINER.**

MWG has demonstrated that allowing MWG to reuse the competent HDPE liner in Pond 2 will not result in any adverse environmental or health effects. No CCR was used to construct Pond 2, and the Poz-o-Pac at the base of the pond is a cementitious product that remains in good condition. Clearly, twelve years of quarterly groundwater monitoring data from the monitoring well network around Pond 2 without exceedances of the Part 845.600 groundwater protection standards for the leading indicators of CCR shows there is no threat of groundwater contamination from Pond 2 that would prevent liner reuse and supports the conclusion that no CCR is part of the pond's construction.<sup>2</sup> Because CCR is not present and there are no CCR impacts to the groundwater around Pond 2, no additional testing of the Pond 2 subsurface or underlying Poz-o-Pac should be required. Also, because the HDPE liner in Pond 2 is in good condition, it may be decontaminated and reused, with confirmatory visual inspection and wipe-testing.

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<sup>2</sup> On November 1, 2021, MWG submitted its operating permit application for Joliet 29 Pond 2 that included proposed groundwater protection standards, pursuant to 35 Ill. Adm. Code 845.230(d)(2)(I) and 845.610(b)(1). Because Illinois EPA has not issued an operating permit for Pond 2, there are no applicable groundwater protection standards at Pond 2. 35 Ill. Adm. Code 845.610(b)(3). MWG's discussion and reference to concentrations of constituents above any groundwater protection standards is not an admission that there is an applicable groundwater protection standard.

**a. Pond 2 is Not Constructed with CCR**

The un rebutted MWG expert opinions and testimony at the hearing demonstrate that CCR was not used to originally construct Pond 2, nor when the pond was relined. Mr. Tom Delhin, a licensed professional engineer, comprehensively and thoroughly reviewed Pond 2 construction drawings, documentation, boring logs, photos, and construction notes to show that CCR *was not* used in any part of the construction or reconstruction of the pond. Based on that review, he also concluded that the Poz-o-Pac at the base of the pond was in good condition. Dr. Mateusz Radlinski, a licensed professional engineer and expert in concrete and cement-based materials, demonstrated that Poz-o-Pac is a cementitious product, which is unlikely to leak constituents, and the CCR ingredients used are coal combustion by-product, *not* CCR.

**i. CCR was Not Used to Construct Pond 2**

Mr. Dehlin's review of the 1978 original construction drawings of Pond 2 demonstrated that "Pond 2's embankments and subgrade consist of natural earthen materials obtained from on-site and/or off-site borrow sources." (6/28/22 Tr., p. 173:9-13).<sup>3</sup> As Mr. Dehlin explained, according to the original construction drawings, the contractors excavated below the existing ground level and removed the material, because the "existing muck [was] not suitable for [the] embankment". (6/29/22 Tr., p. 69:19-70:14; IEPA Ex. G., p. 3-4, and Att. 1, Appen. A-2, Sec. U,<sup>4</sup> *see also* 6/28/22 Tr., p. 177:2-8). The "muck" was replaced with compacted suitable fill, which includes earthen materials such as clay, sands, and gravel. It did not include CCR. (6/28/22 Tr., p. 176:20-177:8, 6/29/22 Tr., p. 70:6-20, IEPA Ex. G, p. 3-4).

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<sup>3</sup> Mr. Dehlin prepared three expert opinions: 2008 Reconstruction of Access Ramp for Pond 2 at Joliet 29, Tom Dehlin, Sargent & Lundy, Dec. 2, 2021 (IEPA Ex. D), Construction Chronology of Pond 2 at Joliet 29 Generating Station, Tom Dehlin, Sargent & Lundy, Jan. 18, 2022 (IEPA Ex. G), Response to Illinois EPA's Recommendation, Tom Dehlin, Sargent & Lundy, March 24, 2022 (MWG Ex. 28).

<sup>4</sup> An identical copy of the History of Construction is also in IEPA Ex. D, Att. 3.

The soil cores taken from the banks of Pond 2 analyzed by three professional consultants confirmed Mr. Dehlin's conclusions - that CCR was not used in the original construction of the embankments or as structural fill material. (6/28/22 Tr., p. 177:9-19). Patrick Allenstein, a professional geologist, drilled and logged soil borings around Pond 2 in 2005 as part of a comprehensive geotechnical investigation at the MWG stations. (6/28/22 Tr., p. 29:17-30:8; MWG Ex. 26, ¶¶ 3-5; IEPA Ex. E). Mr. Allenstein testified that he is familiar with CCR, and because of his experience he can easily recognize CCR in the soil core because it is either black and glassy or brown and sandy, depending upon the type of CCR. (6/28/22 Tr., p. 28:8-19; Ex. 26, ¶6). At the hearing, he reviewed the two soil boring descriptions he logged (GS29-GT-2 and GS29-GT-3) and testified that he did not log CCR as present in the soil cores around Pond 2, other than some at the surface. (6/28/22 Tr. p. 31:13-32:18; MWG Ex. 26, ¶ 8; IEPA Ex. E). Had he observed CCR in the soil cores below the surface, he would have logged the CCR. (6/28/22 Tr. p. 32:19-22; MWG Ex. 26, ¶ 8).

Mr. Allenstein followed this same process in his soil borings work at the other MWG stations during the 2005 investigation. His logging of the other stations' soil cores shows that when he observed the presence of CCR in a soil boring, he identified it, including slag, in the logs he prepared. (6/28/22 Tr., p. 32:23-33:11; Ex. 29, ¶3; IEPA Ex. E, Att. 3). Mr. Allenstein had no reason to exclude CCR from his Pond 2 logs if he had observed it.

The absence of CCR in Pond 2 embankments was confirmed five years later when Patrick Engineering conducted more soil borings at Pond 2 as part of its work to install the monitoring well network. (6/28/22 Tr. p. 36:9-18, 37:16-19). Steve Kroll, a Patrick Engineering professional geologist, testified that as part of the monitoring well installation, Patrick Engineering logged the soil borings. (6/28/22 Tr., p. 37:11-15). While Mr. Kroll did not personally log the soil borings, he trained the person that did. (6/28/22 Tr., p. 37:20-38:16). That training included how to identify

material that is not soil, including ash. (6/28/22 Tr., p. 38:12-18, 39:17-40:9; Ex. 27, ¶¶9-10). Mr. Kroll reviewed the Pond 2 2010 soil borings and confirmed that CCR was not in the soil. He testified that had the Patrick Engineering logger seen CCR he would have identified its presence in these logs. (6/28/22 Tr., p. 40:13-41:5; Ex. 27, ¶ 11).

In 2016, more soil borings were collected as part of MWG's response to the Federal CCR Rule. (IEPA Ex. G, Att. 2).<sup>5</sup> The Geosyntec 2016 boring logs showed primarily clay fill and silty gravel with sand fill. There was no ash present in these logs. (6/28/22 Tr., p 179:19-180:6; IEPA Ex. G, Att. 2).

The absence of CCR from the Pond 2 logs persuasively demonstrates that CCR was not used to construct the Pond 2 embankments. Because the boring logs were drilled through the perimeter of Pond 2, "if ash was used as fill material to construct the pond's embankments when they were built circa 1978, ash material would likely have been encountered in the corresponding boring logs." (IEPA Ex. G., p. 4, *see also* 6/28/22 Tr., p. 181:19-23.<sup>6</sup> The locations of where the "muck" was removed from the Pond 2 embankments in the 1978 drawings are the same areas where the soil borings were done. (6/29/22 Tr., p. 70:6-14). Based upon the absence of CCR in the lower layers of the Pond 2 boring logs and the original construction drawings showing that the embankments were constructed with earthen material, the only reasonable conclusion is that CCR was not used to construct Pond 2. (6/28/28 Tr., p 181:19-182:17; IEPA Ex. G., p. 4). It is also consistent with other expert opinions (*see* § III.b., *infra*) that the groundwater data also did not

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<sup>5</sup> In response to Board Question No. 11, the Geosyntec boring logs are in IEPA Ex. G., Attachment 2. (6/28/22 Tr., 178:19-179:15).

<sup>6</sup> Mr. Dehlin concluded that the ash found at the surface in the 2005 boring logs was merely ash material that fell onto the roadway during excavation of the ponds. (6/28/22 Tr. p. 180:13-181:17; *See also*, IEPA Ex. G, p. 4. ("the bottom ash or slag identified within the upper foot of these borings are more likely to be from bottom ash particles present at the surface of the pond's access roads than ash being used as fill material."))

indicate CCR was present in the soil around Pond 2. (6/28/22 Tr., p. 182:3-17; IEPA Ex. G., p. 4, Att. 5). At the hearing, Illinois EPA provided no rebuttal evidence to any of these expert opinions.

**ii. The Pond 2 Poz-o-Pac is a Cementitious Product That is In Good Condition**

*1. The CCR in the Poz-o-Pac is Coal Combustion By-Product*

The CCR used to make the Poz-o-Pac liner in Pond 2 is coal combustion by-product (“CCB”) as defined in section 3.135 of the Act, because Poz-o-Pac is a cementitious product. 415 ILCS 5/3.135. Dr. Radlinski testified that 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. (6/28/22 Tr., p. 76:10-78:7; MWG Ex. 25, p. 2-3). The pozzolanic reaction of lime and fly ash fundamentally alters the chemical composition of the mixture to form a cementitious matrix that binds and holds the aggregate particles together. (6/28/22 Tr., p. 80:10-81:3; MWG Ex. 25, p. 2-3). Dr. Radlinski also stated that fly ash is commonly used as a supplement or replacement of Portland cement when making concrete to improve concrete properties, and analogizes Poz-o-Pac to concrete, including concrete containing fly ash. (6/28/22 Tr., p. 78:8-78:7; Ex. 25, p. 3). Similarly, Dr. Radlinski stated that the boiler slag used as aggregate is physically encapsulated in the hardened cementitious matrix, like the aggregate particles used in concrete. (6/28/22 Tr., p. 80:10-81:3; Ex. 25, p. 3). Dr. Radlinski concluded that Poz-o-Pac is a cementitious product. (6/28/2022 Tr., p. 89:9-11). Illinois EPA provided rebuttal to Dr. Radlinski’s conclusion.

Section 3.135 of the Act states that CCB means coal combustion waste<sup>7</sup> when used “...as a raw ingredient or mineral filler in the manufacture of the following commercial products: ...**cementious products**...”<sup>8</sup> (415 ILCS 5/3.135(a)(2) (emphasis added)). Because Poz-o-Pac is a

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<sup>7</sup> Illinois EPA agrees that coal combustion waste also means CCR. (6/29/22 Tr., p. 79:18-22).

<sup>8</sup> This appears to be a spelling error in the statute, because “cementious” is not a word in the dictionary. “Cementitious” is defined as “having the properties of cement.” Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/cementitious> (last checked on July 15, 2022)

cementitious product, the CCR used to make Poz-o-Pac is CCB under section 3.135(a)(2) and the Poz-o-Pac is not CCR. (415 ILCS 5/3.135(a)(2)). Cementitious products do not have any conditions on the use of CCR under the Act. (*Id.*) Section 3.135(a-5) of the Act states that only those uses described in Sections 3.135(a)(3)(A) and (a)(7) through (9) are subject to conditions on the use of CCR, including sampling using test method ASTM D3987-85. (415 ILCS 5/3.135(a-5)). At the hearing, Illinois EPA agreed with this interpretation and testified that the uses specified in section 3.135(a), including use as a cementitious product, do not require Agency review and approval. (415 ILCS 5/31.135(b); 6/29/2022 Tr. p. 79:7-11, 84:23:1-85-1).

Millions of tons of pozzolan-stabilized base (“PSB”) material, which includes Poz-o-Pac, are used as road base throughout the United States. *See* IEPA Ex. C, p. 3. The Federal Highway Administrative (“FHWA”) User Guidelines, which the Agency relies upon, states that over 100 projects in Illinois used Poz-o-Pac for state and county roads, by far the largest number of projects in the country. (IEPA Ex. C, p. 2; MWG 39 (State Rt. 195 in Montgomery County, IL is composed of a lime-fly ash base). It further states that “[i]t has been conservatively estimated that since the 1970’s at least 25 to 30 million tons of PSB material have been produced and placed in the United States. One-third to one-half of all the PSB material placed prior to 1990 is thought to have been placed in the metropolitan Chicago area.” *Id.*, p. 3 (emphasis added). Communities surrounding Chicago specifically identify Poz-o-Pac and pozzolanic base materials in their ordinances as acceptable base material for use on residential streets. *See* Village of Long Grove Ord. 6-6-2(A)(11) (Poz-o-Pac is an acceptable base material); City of Morris, IL Municipal Code Sec. 16.12.150 (permitting street construction with “Poz-o, lanic base course”); University Park, IL Code of Ordinances Sec. 1218-05(2) (stating that roadway pavements may be installed with “Pozzolanic mix”); Elmhurst, IL Code of Ordinances Sec. 23.11(2) (stating that “pozzolanic base course” is satisfactory for street construction); Zion, IL Code of Ordinances Sec. 82-107b-

(a)(1)(b) (base course is permitted to be constructed with “Pozzolanic”). Clearly, if Poz-o-Pac land and road applications presented any significant environmental or health threats, there would be evidence of adverse impacts after the decades-long, widespread use of it in Illinois. There is not.

2. *The Pond 2 Poz-o-Pac Is in Good Condition*

The contemporaneous documentation prepared for the relining of Pond 2 with the HDPE liner shows that the existing Poz-o-Pac liner that remained in place was in good condition. The Poz-o-Pac in Pond 2 was installed within the FHWA User Guidelines and “in accordance with recognized and generally accepted construction practices for PSB mixtures.” (6/28/22 Tr., p.185:3-13, IEPA Ex. G, p. 5-6.). Also, it was rarely exposed to heavy use. (6/28/22 Tr., p. 93:10-94:14). Poz-o-Pac’s condition over time depends on its use frequency and intensity. *Id.* The Joliet 29 Station Manager testified that the Station removed CCR from Pond 2 no more frequently than once every five to ten years. (6/28/2022 Tr., p. 23:19-24:4). In other words, during the 30 years that the Poz-o-Pac was the primary liner, large equipment was used to remove CCR from it at most only *six times*. In contrast, Dr. Radlinski explained that Poz-o-Pac and other cementitious products used in roads are subject to daily use from heavy equipment. (6/28/2022 Tr., p. 75:11-17, 79:8-23).

When MWG and its contractors emptied Pond 2, the Poz-o-Pac was in good condition, so much so that it changed the relining project scope. (Ex. G, p. 6). The design engineers deleted the original plan to remove the liner, and revised the identification of the Pond 2 subgrade shown in Section A on Sheet No. C030 from “Native Soil” to “Subgrade Soil.” (6/28/22 Tr., p. 190:4-13, 192:15-18, IEPA Ex. G, p. 6 and Att. 7).<sup>9</sup> In fact, the Poz-o-Pac was in such good condition that a contractor mistook it for bedrock. (6/28/22 Tr., p. 190:18-191:21, IEPA Ex. G., p. 6-7 and Att. 8).

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<sup>9</sup> Mr. Dehlin clarified that “Subgrade soil” does not refer to CCR, but instead is the existing subsurface that did not have to be removed given the decision to leave the intact poz-o-pac liner in place. IEPA Ex. G, p. 6.

The good condition of the Poz-o-Pac is further supported by the engineering decision to lay the new HDPE liner over the Poz-o-Pac liner rather than remove it. HDPE liner must be placed over a smooth subgrade and significant deviations in the subgrade could cause punctures in it. (6/28/22 Tr., p. 197:13-15, IEPA Ex. G, p. 7 and Att. 7). The applicable technical specifications for the liner subgrade in Pond 2 called for “satisfactory soils” that are “free of rock or gravel larger than 3 inches in any dimension.” (6/28/22 Tr., p. 223:5-224:10; IEPA Ex. G, Ex. p. 8 and Att. 7, Section 02300-3, Part 2.01(B)); *See also*, Section 02300-1, Part 1.01(A) (preparation of subgrade includes, “clearing and grubbing vegetation and removing rocks and debris greater than 3 inches in diameter alongside slopes and base of impoundments”) and Section 02300-7, Part 3.05 (B). (IEPA Ex. G, p. 7, Att. 7 (§02300, Part 3.05). Before installing the HDPE liner, the design engineer, contractor, and geomembrane installer each separately certified that the existing Poz-o-Pac subgrade satisfied the technical specifications because it was free of rocks and protrusions and was otherwise suitable to use as a subgrade for the HDPE liner. (6/28/22 Tr., p. 224:17-23, IEPA Ex. G, p. 8 and Att. 10 (A5), (A6)). *See also*, Att. 7, Section 02300-7, Part 3.05 (F); Section 02600-11, Part 3.02 (A) (noting that the installer inspection must verify that “there are no potentially harmful foreign objects present, such as sharp rocks and other deleterious debris” and directs that any such objects to be removed)).

Based on all of this uncontested evidence, Mr. Dehlin concluded that the very nature of the engineers’ decision to leave the Poz-o-Pac in place also demonstrates that it was in good condition. (6/28/22 Tr., p. 197:7-11). His opinion is further supported by the design engineer’s photos, in which Mr. Dehlin did not see “any significant cracking or damage or ruts or something that would be inappropriate to install an HDPE geomembrane liner on.” (6/28/22 Tr., p. 205:8-15, MWG Ex. 28, Att. 1),

**iii. CCR was Not Used in the HDPE Relining Construction**

Mr. Dehlin's undisputed testimony and interpretation of the 2008 Pond 2 relining documents demonstrated that the CCR present in Pond 2 was removed and no CCR was used under Pond 2's new HDPE geomembrane liner, either as a cushion layer or for any other purpose. (MWG 28, p. 2-33).

As part of the Pond 2 relining project, the contractor, Brieser Construction Company ("Brieser"), needed to remove all unsuitable material from the pond and to conduct minor cut and fill work on the embankments to establish the specified slopes. (6/28/22 Tr., p. 201:1-10, IEPA Ex. G, p. 7 and Att. 7). On April 17, 2008, Brieser submitted Field Change Request #2 noting a significant change to the project was necessary because "unsuitable material that [was] deposited in [the bottom of] the pond" needed to be removed. (6/28/22 Tr., p. 201:15-202:17, IEPA Ex. G, Att. 8). Brieser's invoices documenting the relining work describe the removal of approximately 6 inches of CCR from the bottom of the pond. (6/28/22 Tr., p. 203:3-203:20, IEPA Ex. G, Att. 9).

Brieser also regraded the side slopes to achieve a more gradual slope. MWG Ex. 28, p. 3. Originally, the eastern and western embankment of Pond 2 had relatively steep slope of 1-to-1 (*i.e.*, a slope having a 45-degree angle). (6/28/22 Tr., p. 220:7-13, MWG Ex. 28, p. 3). The embankments' steep slopes is also evidence that the embankment materials were not CCR because to maintain this steep soil, a soil with cohesive properties, such as clay, had to have been used. (MWG Ex. 28, p. 3, 6/28/22 Tr., p. 220:20-221:12) ("The natural angle of repose for sandier materials like [CCR] is in the range of 30 degrees, certainly not 45 degrees"). To lengthen the slope, the contractor removed the clay soil from the top of the embankments to smooth the slope to 3-to-1 slope and at the base over the top of the Poz-o-Pac. (6/28/22 Tr., p. 219:13-20, 220:14-19, 222:4-18; Ex. 28, p. 3 and Att. 5). Photos taken during the relining project showed that the slopes were not CCR but rather a dark brown sand and gravel material. (6/28/22 Tr., p. 209:19-23

MWG Ex. 28, Att. 1). The material seen in the photos on the interior Pond 2 slopes were consistent with the soils observed at similar elevations in the three borings taken from Pond 2's embankments. (Ex. 28, p. 2 (citing Att. 2, p. 25-28, Att. 3, p. 3- 4)).

Brieser also rebuilt the access ramp in Pond 2 when it was relined. Mr. Dehlin testified that the access ramp was not built with CCR, but instead Brieser used new material from an offsite source. (6/29/22 Tr. p. 5:12-7:22; IEPA Ex. D).

**iv. “Black silty gravel” Does Not Equate to CCR**

MWG's undisputed testimony demonstrated that the “black silty gravel” described in the 2016 Pond 2 History of Construction was not CCR. The History of Construction relied upon the same three sets of boring logs collected by KPRG, Patrick Engineering, and Geosyntec. (6/28/22 Tr., p. 213:1-16, IEPA Ex. G., Att. 1 (§3, References)). MWG's witnesses that logged the soil borings or reviewed the soil borings testified that the borings showed no CCR. (*see* § III.a.i. *supra*). Also, the color description of “black” in the Pond 2 History of Construction document is meaningless, because it was not based on any standardized system for describing such materials. (6/28/2022 Tr., p. 27:1-17, 39:1-16; 129:10-16). Michael Maxwell, a licensed professional geologist, confirmed that, “[m]erely because the silty gravel was described as black by the person logging the soil core does not automatically mean it is CCR” and because no one used a standardized color system, like the Munsell system, there is no objective way to conclude that the “black” was a true black that could be indicative of CCR or merely a dark color. (MWG Ex. 22, p. 4).

Mr. Maxwell also testified that there are potential borrow sources of dark fill soils available in the area of the Joliet 29 Station that are not CCR. (6/28/22 Tr., p. 132:7-22). He recently conducted a study at a site close to the Joliet 29 station, where they identified dark colored soil throughout multiple acres of the site, but the soil was not CCR. (6/29/22 Tr. p. 132:14 -23, MWG

Ex. 22, p. 4). Similar to Joliet 29 Pond 2, the soils at the other local site were described as a mixture of dark silts and clays, also including sand and gravel. *Id.* Mr. Maxwell testified that had the investigators seen CCR they would have identified it, and their conclusion that the soil was not CCR also was supported by the sampling analysis showing that the soil and groundwater complied with Illinois standards. (6/29/22 Tr., p. 132:24-133:3, 134:4-14; MWG Ex. 22, p. 4).

**b. The Absence of Primary CCR Constituents in Groundwater at Pond 2 Shows that There is No CCR Under or Around the Pond.**

MWG has sampled Joliet 29's groundwater on a quarterly basis for about twelve years,<sup>10</sup> and the leading CCR indicator constituents have never been reported at concentrations exceeding the standards in 35 Ill. Adm. Code 845.600(a)(1) in the wells surrounding Pond 2. (6/28/22 Tr. p.118:6-10; Ex. 22, p. 7). MWG's groundwater expert, Mike Maxwell, testified that in his 26 years of experience working at coal ash sites, the leading indicator of a CCR release "by far and away [] is boron." (6/28/22 Tr. p. 102:18-20).<sup>11</sup> The secondary indicators are calcium, fluoride, sulfate and total dissolved solids ("TDS"). (Ex. 22, Maxwell March Rpt., p. 7; *see also* 80 Fed. Reg. 21342).

Mr. Maxwell's expert opinion is further supported by the data from the nearby Lincoln Stone Quarry ("LSQ") in which the same Joliet 29 CCR was deposited for decades. (6/28/2022 Tr. p. 16:5-18). Mr. Maxwell conducted a comparison – like a fingerprint analysis – of the LSQ groundwater and leachate data and the Pond 2 groundwater data. In the LSQ monitoring wells, boron is consistently present at statistically significant concentrations. (6/28/22 Tr. 120:10-121:6;

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<sup>10</sup> This includes groundwater monitoring pursuant to that began in 2010, groundwater monitoring performed at Joliet 29 Station in accordance with the Federal CCR rule (40 CFR Part 257), and as of 2021, groundwater monitoring performed in accordance with the Illinois CCR Rule (35 Ill. Adm. Code Part 845). *See* Rec. Ex. G, Attachment 5 (WCG Dec. 6, 2021 Report); Ex. 23 Affidavit of Richard Gnat, ¶¶ 4,5.

<sup>11</sup> Mr. Maxwell prepared two opinions: Expert Opinion in Support of Midwest Generation, LLC's Petition for Adjusted Standard Joliet 29 Station, PCB 21-1, December 6, 2021 (IEPA Exhibit G, Att. 5) and Supp. Expert Opinion in Response to Recommendation of the Illinois EPA, March 21, 2022 (MWG Ex. 22).

Ex. 22, p. 8-9). Similarly, the LSQ leachate showed elevated concentrations of boron, arsenic and barium concentrations. (6/28/22 Tr. p. 122:10-123:8; Ex. 22, p. 9). Based upon the LSQ groundwater and leachate data, Mr. Maxwell concluded boron, arsenic, and barium are “signatures” of the Joliet 29 CCR, with boron being the “key indicator.” (6/28/22 Tr. p. 121:2--123:8). Mr. Maxwell concluded that “the lack of boron at ash Pond 2 is strong evidence that ash Pond 2 is not exhibiting CCR impact,” and the absence of the “signature” constituents of boron, arsenic, and barium in the groundwater at Pond 2 demonstrates that groundwater at Pond 2 is not being affected by CCR. (6/28/2022 Tr. 118:14-20, 121:4-6; 122:18-123:8; Ex. 22, p. 8-9). The Agency has not refuted or presented any response to Mr. Maxwell’s fingerprint analysis.<sup>12</sup>

**i. Cobalt Historic Detections in One Well, which are not above the Illinois CCR Rule Standard, are from Natural Releases from the Soil.**

Cobalt has not been detected above the Illinois CCR Rule Standard of 0.006 mg/l since the Illinois CCR Rule became effective on April 21, 2021. (IEPA Ex. O, Table 1, 35 Ill. Adm. Code 846.600(a)(1)). MWG’s continuing groundwater monitoring also shows that cobalt remains below the cobalt standard in all of the Pond 2 monitoring wells.<sup>13</sup>

Historically, cobalt was occasionally detected above the Part 845 standards, but not the Part 620 Class I groundwater standard, in only one well (MW-4) at Pond 2. While the Part 845 standards are not applicable to the detections before April 21, 2021, the isolated and intermittent detections of cobalt in monitoring well MW-4, with none of the other CCR indicators, do not demonstrate that CCR is present in the soil around Pond 2.<sup>14</sup> Cobalt is not a primary indicator

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<sup>12</sup> The Agency did not even know that MWG placed CCR from Joliet 29 into the LSQ. (6/29/2022 Tr. p. 93:11-94:6).

<sup>13</sup> MWG’s Joliet #29 Generating Station, Data Summary Posting, 2Q2022, found at [http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/JOT\\_AP2\\_%20GMXXX22-2.pdf](http://3659839d00eefa48ab17-3929cea8f28e01ec3cb6bbf40cac69f0.r20.cf1.rackcdn.com/JOT_AP2_%20GMXXX22-2.pdf). The MWG website is: <https://midwestgenerationllc.com/illinois-ccr-rule-compliance-data-and-information/#location0>.

<sup>14</sup> Other than cobalt, the only groundwater constituent that exceeds the Part 845 standards is chloride. MWG and the Agency agree that the elevated chloride levels are attributable to road salt applied to nearby U.S. Highway 6. (6/28/2022 Tr., p. 106:3-11, Agency Rec., p. 21, 24; IEPA Ex. A, ¶ 34 (citing IEPA Ex. M)).

constituent of CCR. (MWG Ex. 22, p. 7). If CCR material were the source of the cobalt detected in the groundwater at MW-4, the overall groundwater quality signature at MW-4 would be more indicative of CCR. (*see* § III.b. *supra*, MWG Ex. 22, p. 9). But as described above, none of the other CCR indicators—not even one of the other constituents commonly attributed to CCR – has exceeded the Part 845 standards at MW-4. *Id.*

The cobalt in the groundwater is due to the elevated chlorides from road salt application on the adjacent Channahon Road. Cobalt is a well-documented, naturally occurring constituent in background soils in Illinois, specifically in soils in Will County. (6/28/2022 Tr. p. 123:12-16; MWG Ex. 22, p. 9-10). TACO has a background soils concentration for cobalt of 8.9 mg/kg in Counties Within Metropolitan Statistical Areas, which includes Will County. (MWG Ex. 22, p. 9 (citing 35 Ill. Adm. Code 742, Appx. A, Tbl. G)). Similarly, a statewide study shows that cobalt is detected in the soil throughout the state, including in Will County, at elevated concentrations ranging from 6.9 mg/kg to 10.9 mg/kg. (6/28/2022 Tr. p. 124:14-125:6; MWG Ex. 22, p. 10).

The naturally occurring cobalt in the soil is mobilized by the high concentrations of road salts in the stormwater runoff from Channahon Road, which release heavy metals through the process of ion exchange. (6/28/2022 Tr., p. 126:10-128:24; MWG Ex. 22, p. 11, MWG Ex. 30). The positively charged cations in the road salt attach to the negatively charged soil particles, releasing the trace metals to the soil, including cobalt. (6/28/2022 Tr. p. 126:20-23, MWG Ex. 22, p. 11-12, MWG Ex. 30). The mobilized cobalt leaches into the groundwater, where it migrates toward the Pond 2 monitoring well. *Id.* At Joliet 29, the highest concentration of cobalt in MW-4 was detected in February 2017 at 0.016 mg/l, significantly lower by orders of magnitude than background soil concentrations. (6/28/2022 Tr. p. 125:14-16; MWG Ex. 22, p. 10). At a level of 0.016 mg/l, it would only take a small fraction of the natural cobalt in soil to leach into the groundwater to cause this groundwater concentration detected in MW-4. (MWG Ex. 22, p. 10-11).

**c. There is No Potential For Environmental Harm Caused by Pond 2**

There is no potential for future environmental harm from allowing the reuse of the liner in Pond 2. Even assuming for argument's sake that some CCR was present in the pond embankments or subsurface, without any evidence there is, the twelve years of quarterly groundwater sampling results and the undisputed evidence that the Pond 2 HDPE liner is in good condition, demonstrate there is absolutely no threat of harm from a release.

**i. There is no Potential for Groundwater Contamination from Pond 2**

The Pond 2 Poz-o-Pac and embankments have been exposed to the elements for 44 years, a more than adequate amount of time to show any impact from CCR if it were present in the embankments or the Poz-o-Pac liner. (6/28/22 Tr., p. 135:9-18, 137:8-15). And yet, for the twelve years of quarterly groundwater monitoring “the groundwater has not exhibited concentrations that would be indicative of a CCR impact...” (6/28/22 Tr., p. 136:23-137:1). The absence of groundwater contamination after all this time and years of monitoring demonstrates that the Poz-o-Pac and the soil in the embankments are not a potential source of contamination. (6/28/2022 Tr. p. 138:2-8, 160:17-161:2).

As Dr. Radlinski explained, there is little risk to groundwater from the Poz-o-Pac. In response to Mr. Rao's question on whether the Poz-o-Pac is “nonleachable,” Dr. Radlinski stated that the chemical formed in the chemical reaction, calcium silicate hydrate, “is a water insoluble material.” (*Id.* p. 84:5-14). He explained that the USEPA recognizes the beneficial encapsulated use of CCR in concrete materials, such as Poz-o-Pac, and there is no minimum requirement for monitoring or testing for a potential of a release to the environmental from encapsulated CCR. (*Id.* pp. 85:17-86:3).<sup>15</sup> He ended his response to Mr. Rao's question by stating:

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<sup>15</sup> The definition of CCB treats CCR encapsulated in cementitious products similarly. 415 ILCS 5/3.135(a)(2).

“Quite frankly, you know, there are literally thousands of miles of concrete pavements in the United States and worldwide, concrete with -- you know, pavements with -- made with concrete fly ash, and it's just not a -- they get a lot of rain and otherwise precipitation, a lot of exposure and potential for leaching, and to my knowledge it's just not a concern.”

*Id.*, p. 86:4-11

The Agency’s own evidence, the FHWA User Guideline, shows that Illinois has over 100 projects that used fly ash as a stabilized base and subbase, and yet the Agency shows no concern about potential leaching from those projects. (IEPA Ex. C, p. 2).

Dr. Radlinski further opined that it is “highly unlikely” even a cracked Poz-o-Pac liner would leach material into groundwater. (6/28/22 Tr., p. 86:18-87:1). The Poz-o-Pac liner at Pond 2 is covered by a multicomponent waterproofing system – the HDPE liner. For water to reach the Poz-o-Pac, it would first have to flow through this HDPE waterproofing system. (*Id.* p. 87:1-8). And there is no evidence of cracking of the Poz-o-Pac that would allow exposure if somehow water got through the HDPE liner. (*Id.* p. 87:10-12). Based upon the totality of the evidence, Dr. Radlinski concluded there was no concern that leaching from the Poz-o-Pac into groundwater would occur. (*Id.*, p. 88:9-10). MWG’s expert Mr. Dehlin came to the same conclusion following his exhaustive investigation of the Pond 2 Poz-o-Pac. (See § III.a.ii.2 (*supra*); IEPA Ex. G, Att. 1-11, MWG Ex. 28, Attachments 1-6). In Mr. Dehlin’s expert opinion, the Poz-o-Pac in Pond 2 was in good condition; it was rarely exposed to heavy machinery; it is now covered with the HDPE liner, and is “not subject to the elements.” (6/28/2022 Tr. pp. 194:8-16, 195:3-11, 196:6-12, 197:7-11)

**ii. Pond 2 has a Competent HDPE Liner That Can be Effectively Decontaminated**

In the Board’s Illinois CCR Opinion and Second Notice Order, it determined that a competent, uncontaminated existing geomembrane liner may be left in place if the owner or operator demonstrates that the liner is not contaminated with CCR constituents. *In the Matter of: Standards*

*for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed new 35 Ill. Adm. Code 845, PCB20-19, February 4, 2021 Order, p. 99.* The Agency does not dispute that (IEPA Rec. p. 21). MWG has demonstrated that the Pond 2 HDPE liner is in good condition and can be decontaminated. The Board should allow its reuse to hold the plant low volume wastewater.<sup>16</sup>

Pond 2 has a multi-layered liner system. The HDPE geomembrane primary liner is an “effectively impermeable plastic liner[] used in a variety of waste containment applications.” (6/29/22 Tr., p. 9:8-10). HDPE liners are a proven commodity. They are used in municipal solid waste landfills, hazardous waste landfills, other industrial landfills, and hazardous waste surface impoundments to prevent the waste from leaking. (6/29/22 Tr., p. 9:16-23). As shown in Attachment 1 to Mr. Dehlin’s March 2022 expert report, the Pond 2 HDPE liner is cushioned by a geotextile layer (both on top and on the bottom). (MWG Pet., p. 8, Ex. 28, p. 5, 6/29/22 Tr., p. 8:12-24). The geotextile cushion layers provide additional protection from punctures and damage to the HDPE liner. (6/29/22 Tr., p. 8:12-24)). The “widely used professional/academic book,”<sup>17</sup> Designing with Geosynthetics, explains that the use of geotextile on both sides of a HDPE liner provides “about twice as much protection as if the HDPE was just left alone.” (6/29/22 Tr., p. 11:16-12:6, MWG Ex. 28, p. 6 and Att. 12). Because of the double layers of geotextile surrounding the HDPE liner, Mr. Dehlin concluded that there is little likelihood that the HPDE has sustained any punctures. (6/29/22 Tr., p. 11:16-23, 14:20-24, MWG Ex. 28, p. 6). In addition, during the few CCR removals heavy machinery did not touch the liner. Instead, there is a 6-inch layer of gravel, a 12-inch layer of sand, and a geotextile layer on the base of the pond, over the HDPE liner, and

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<sup>16</sup> MWG’s analysis of the liner is equally applicable to the ancillary equipment, and Illinois EPA has presented no evidence that the equipment is contaminated.

<sup>17</sup> <https://geosynthetic-institute.org/newbook.htm>.

the CCR on the sides of the pond were flushed off the sides with a hose. (Ex. 1, ¶ 23, 6/28/2022 Tr. p. 18:11-19).

Similarly, Mr. Dehlin concluded that Pond 2 had not suffered degradation due to exposure to the elements. For most of the 14 years since MWG relined Pond 2, the pond was full, shielding the geomembrane from the elements. (6/29/22 Tr. p. 12:18-13:7, MWG Ex. 28, p. 7). Because the geomembrane is white, it does not absorb as much heat, providing greater resistance to long-term degradation. (6/29/22 Tr., p. 13:14-14:16, MWG Ex. 28, p. 6 and Att. 9 & 10). Based on these facts, Mr. Dehlin concluded that the Pond 2 liner has decades of service remaining. (6/29/22 Tr., p. 15:10-16:8, Ex. 28, p. 7).

In response to a Board question, Mr. Dehlin also researched whether an HDPE liner *could* become contaminated with CCR constituents. His research showed that was unlikely because they were highly resistance to chemicals. (6/29/22 Tr., p. 19:18-29:8). The first study showed that HDPE resists absorbing chemicals including heavy metals, which is why HDPE geomembranes “are the material-of-choice for most landfill liners.” (6/29/22 Tr., p. 24:17-25:3, MWG 36, pp. 460, 463-464). Similarly, another study showed that HDPE liners are most susceptible to chemicals with a similar composition, such as petroleum products permeating through it. (6/29/22 Tr., p. 27:2-19, Ex. 37, p. 332). However, there was only negligible penetration through the liner of heavy metal ions from concentrated acid solutions and, “HDPE geomembranes may be seen as virtually ideal barriers for heavy metals.” (6/29/22 Tr., p. 28:2-9, Ex. 37, p. 332). Mr. Dehlin noted that because CCR is not a concentrated acid solution, there is a less than negligible penetration of the heavy metals through the HDPE. (6/29/22 Tr., p. 29:1-8).

When MWG installed the HDPE liner it followed the quality assurance and quality control measures to ensure that the liner was not compromised. Mr. Dehlin testified that the time the liner was most susceptible to tears, punctures, and rips was when the cushion and warning layers,

composed of sand and gravel, were placed on top of the liner. (6/29/22 Tr., p. 60:13-18, 66:8-12). Which is why the design engineers conducted an electronic leak location test on the entire HDPE liner after the sand and cushion layer were installed. (6/29/22 Tr., p. 64:1-6, 65:10-66:1, IEPA Ex. G, Att. 10 (A-9)). Two holes were detected, which were immediately repaired. IEPA Ex. G, Att. 10 (Att. D, May 22 & 23, 2008 Daily Field Report). However, after Pond 2 was placed in service, Mr. Dehlin concluded there was not a risk of puncture to the liner. (6/29/22 Tr., p. 66:8-67:3).

**d. MWG has Adequately Demonstrated That CCR is Not Present, and No Additional Information is Necessary**

Requiring MWG to test the Pond 2 embankment material or the Poz-o-Pac utilizing test method ASTM D3987-85, or the “shake test,” is unnecessary and overly burdensome. The purpose of the “shake test” is to demonstrate that CCR used in certain ways may qualify as CCB. 415 ILCS 5/3.135. But, MWG has demonstrated through witness testimony, boring logs, photographs, documentation and expert testimony that CCR was not used to build Pond 2 nor during the relining. (*see* §§ III.a.i and III.a.iii, *supra*). Also, the CCR used to make the Poz-o-Pac is CCB under Section 3.135(b), without requiring testing nor Agency review and approval. (415 ILCS 5/31.135(b), 6/29/2022 Tr. p. 79:7-11, 84:23:1-85-1). Finally, the Poz-o-Pac is a cementitious product, and not CCR. (*see* § III.a.ii, *supra*). There is no rational basis for MWG to prove the soil and Poz-o-Pac used to build Pond 2 is CCB when none of the materials are CCR in the first place.

MWG has also demonstrated the absence of the potential for groundwater contamination of Pond 2, or the “leaching potential” of the material in its embankments and Poz-o-Pac. The extensive groundwater monitoring data showing no exceedance and the absence of the signature constituents of CCR is adequate evidence that Pond 2’s embankments and Poz-o-Pac are not leaching coal ash constituents. (6/28/22 Tr., p. 152:23-153:2). Thus, the Board already has sufficient information without the shake test to determine that as constructed, and even before the

proposed decontamination of the HDPE liner, Pond 2 does not have the potential to cause groundwater contamination from CCR.

Instead, the only testing of the liner required is a visual inspection and wipe-testing to confirm the pond is decontaminated. Conducting any sampling of the subsurface would damage the HDPE liner. Mr. Dehlin testified that to collect a sample of the Poz-o-Pac would require drilling through the multi-layered liner system, including the HDPE. (6/28/22 Tr., p. 227:4-11). In his expert opinion, intentionally drilling through the HDPE liner is an “unnecessary action” to test the Poz-o-Pac, when the evidence demonstrates that the Poz-o-Pac is in good condition. (6/28/22 Tr., p. 227:16-21). The same is true to sample the soil in the embankments, and Mr. Maxwell shared in Mr. Dehlin’s conclusions. (6/28/22 Tr., p. 161:7-162:12). Mr. Dehlin also testified that visual inspections adequately verify the competence of the HDPE liner. (6/29/22 Tr., p. 16:17-21). From its manufacturing to installation, the HDPE liner is constantly visually inspected, and Mr. Dehlin confirmed that the same visual inspection would satisfactorily identify any damage to the liner. (6/29/22 Tr., p. 16:21-22:9). While Mr. Dehlin concluded that because of HDPE’s resistance to chemical contamination, no further testing of the liner was required, he testified that a wipe-test of the liner would confirm the absence of contamination. (6/29/22 Tr., p. 17:17-22p. 30:15-24, 66:8-17).

**IV. THE REQUESTED ADJUSTED STANDARD IS CONSISTENT WITH THE FEDERAL RULE**

The proposed adjusted standard is consistent with the applicable Federal CCR rule because that rule allows it:

Closure by removal of CCR. An owner or operator may elect to close a CCR unit by removing **and decontaminating** all areas affected by releases from the CCR unit. CCR removal and decontamination of the CCR unit are complete when constituent concentrations throughout the CCR unit and any areas affected by releases from the CCR unit have been removed and groundwater monitoring

concentrations do not exceed the groundwater protection standard established pursuant to § 257.95(h) for constituents listed in appendix IV to this part. 40 C.F.R. 845.102(c) (emphasis added).

The Agency agrees that MWG is “correct that the federal rule does not explicitly require removal of decontaminated liners for a closure by removal action.” IEPA Rec. p. 28. MWG’s adjusted standard request includes the additional protections that it will conduct both visual inspections and analytical testing for reuse, like the Board’s similar requirements for retrofitting a CCR surface impoundment. See 35 Ill. Adm. Code 845.102(c).

The USEPA’s *proposed* modification to Section 845.102(c), even if adopted, does not require removal of the liner. (85 Fed. Reg. 12456, 12477 (Mar. 3, 2020)) It states:

Closure by removal activities include removing **or decontaminating** all CCR and CCR residues, containment system components such as the unit liner, contaminated subsoils, contaminated groundwater, and CCR unit structures and ancillary equipment.”

Proposed 40 CFR 257.102(c) (emphasis added)

Both current and proposed Federal law allow decontamination of a liner, consistent with MWG’s adjusted standard request.

The Agency’s reliance on a portion of the preambles to the applicable and proposed Federal rule to claim that the liner must be removed is not persuasive. First, a preamble of a federal rule is not an operative part of the rule, and a rule’s interpretation “cannot be controlled by language in the preamble.” *Nat'l Wildlife Fed'n v. EPA*. 42, 286 F.3d 554, 569-570 (D.C. Cir. 2002). Further, the Agency's embrace of preamble language here is disingenuous. It expressly rejected reliance upon the preamble language during the Illinois CCR Rulemaking. In that rulemaking, the Agency said it “utilizes [the] regulation as opposed to utilizing the preamble.” (*In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed new 35 Ill. Adm. Code 845*, PCB20-19, 8/11/20 Tr. p. 70:12-14, p. 71:8-10). The Agency stated that it prefers

to use the regulation language because the Federal Rule has changed over time. (8/11/20 Tr. p. 71:10-11).

Here, there is no need to consider the preamble. Both the existing and proposed Federal rule unambiguously state a CCR surface impoundment may be closed by removing and decontaminating the CCR unit and areas affected by CCR. MWG has demonstrated that it can decontaminate the HDPE liner in Pond 2 and that the groundwater and soils are not affected by CCR. It is clear that MWG's proposed adjusted standard is consistent with Federal law.

**V. THE ADJUSTED STANDARD SHOULD BE GRANTED FOR THE SAME REASON THE BOARD ALLOWED LINER DECONTAMINATION DURING RETROFITTING.**

In its CCR Rule Opinion, the Board considered and overruled the Agency's requirement to remove the liner when a pond is retrofitted. *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed New 35 Ill. Adm. Code 845*, PCB 20-19, Order (February 4, 2021), p. 99. The Board found that when retrofitting a CCR surface impoundment, a competent plastic liner can be reused provided an owner or operator demonstrated that the liner was decontaminated. As the Board stated, "Midwest Generation has raised a valid concern about removing competent, uncontaminated existing synthetic (geomembrane) liners while retrofitting CCR surface impoundments." Board February 4, 2021 Opinion, p. 99.

MWG's concern about removing a competent liner was that it would be a waste to demolish and dispose of a competent liner. *See* PCB20-19, MWG's Pre-Filed Testimony of Mr. David Neilson, Aug. 27, 2020, p. 13. Allowing decontamination of a competent geomembrane liner has a more favorable environmental impact than removing and disposing the competent plastic liner and the underlying soil. This is a waste of landfill space. MWG Ex. 3, p. 6. So is the landfill disposal of the underlying Poz-o-Pac and soil. *Id.* And after the unnecessary disposal of the liners and subsoils, then MWG would have to install an identical HDPE liner. (6/29/22 Tr., p. 37:7-10).

That unnecessary replacement of the HDPE liner with yet another HDPE liner simply makes no sense. The additional energy involved in producing the petroleum-based liner equates to wasting approximately 300 barrels of crude oil. (6/29/22 Tr., p. 48:4-50:22, MWG Ex. 3, p. 5).

Allowing liner reuse preserves landfill space. All that is needed here is to decontaminate Pond 2 by power-washing it. MWG Ex. 3, p 4. The liner is in good condition and well-suited to further use of Pond 2 to retain low-volume wastewater (*i.e.* – process water), thus there is little risk of groundwater contamination. MWG Ex. 3, p. 3-4. There is certainly no future risk of CCR constituents leaching because Joliet 29 no longer generates CCR since it was converted to a natural gas plant a few years ago.

Based on the Board's prior finding competent liners may be reused, there is no basis to deny MWG's request to reuse the liner in Pond 2 to hold non-CCR waste streams.

## **VI. CONCLUSION**

Because MWG has met its burden under the Act, the Board should allow MWG to close Pond 2 by removal of the CCR and decontamination of the liner. MWG also requests that the Board find that Pond 1 and Pond 3 are not CCR surface impoundments and therefore, are not regulated by the Part 845 regulations.

Respectfully Submitted,

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