BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	R 2020-019
STANDARDS FOR THE DISPOSAL OF	)	
COAL COMBUSTION RESIDUALS IN	)	(Rulemaking – Water)
SURFACE IMPOUNDMENTS:	)	
PROPOSED NEW 35 ILL. ADM.	)	
CODE 845	)	

NOTICE OF FILING

To: Service List

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Pollution Control Board Midwest Generation, LLC's Second Post-Hearing Comments, a copy of which is herewith served upon you.

Dated: October 30, 2020

MIDWEST GENERATION, LLC

By: __/s/Kristen L. Gale _____

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CERTIFICATE OF SERVICE

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing, and Midwest Generation, LLC's Second Post-Hearing Comment was electronically filed on October 30, 2020 with the following:

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and that copies were sent via e-mail on October 30, 2020 to the parties on the service list.

Dated: October 30, 2020 /s/Kristen L. Gale

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	**)**	
	)	
STANDARDS FOR THE DISPOSAL OF	**)**	
COAL COMBUSTION RESIDUALS IN	**)**	**R20-19**
SURFACE IMPOUNDMENTS: PROPOSED	**)**	**(Rulemaking – Water)**
35 ILL.ADM. CODE PART 845	**)**	
	)	

MIDWEST GENERATION, LLC'S SECOND POST-HEARING COMMENTS

I. Introduction

Midwest Generation, LLC ("Midwest Generation" or "MWG") appreciates the opportunity to provide post-hearing comments to the Illinois Pollution Control Board ("Board") because its interests will be directly and significantly affected by the proposed 35 Illinois Administrative Code Part 845 rule (the "Proposed CCR Rule") regulating the "Disposal of Coal Combustion Residuals in Surface Impoundments." Midwest Generation commends the Illinois Environmental Protection Agency ("Illinois EPA" or the "Agency") for the substantial work it performed on the Proposed CCR Rule, especially on a tight, statutorily-directed, time frame. There are many sections of the Proposed CCR Rule which Midwest Generation will not take issue with, particularly those sections that mirror the Federal Coal Combustion Residual Rule (40 CFR 257) ("Federal CCR Rule").

But there are problems caused by certain of the Proposed CCR Rule requirements that the Board should address to either eliminate or modify them. In these Post-Hearing Comments, Midwest Generation identifies what those problems are along with its recommendations for revisions and modifications. In several instances, MWG does not seek to change the substance of the Proposed CCR Rule but rather simply and reasonably, seeks to build in adequate time to implement its requirements or to add needed clarity to its provisions.

Midwest Generation's recommendations address the following provisions of the Proposed CCR Rule:

(1) Subpart F, Groundwater Monitoring and Corrective Action:

(a) provide adequate time to conduct the initial groundwater evaluation of existing CCR surface impoundments that are not Federal CCR surface impoundments;

(b) provide adequate time before an alternative source demonstration or a corrective action requirement is triggered to ensure that a detection of a release from a CCR surface impoundment is accurate;

(c) streamline the groundwater monitoring program using site-specific information which can more reliably detect a release from a CCR surface impoundment and reduce unnecessary sampling when site conditions are understood;

(d) clarify that an adverse Agency decision pursuant to Section 845.650(d)(4) (Alternative Source Demonstrations) is a final Agency action appealable to the Board and that any corrective action is stayed pending appeal; and,

(e) add clarity to the groundwater monitoring program by including minor language additions;

(2) Leachate Collection System: remove Section 845.420's leachate collection system requirement because it is at odds with the operation of a CCR surface impoundment. Alternatively, either require a leachate collection system only for CCR surface impoundments of over 20 acres or, at the very least, allow for an alternative, equally protective type of collection system;

(3) Permit Application Deadlines: revise the proposed deadlines to provide a schedule that is reasonable and feasible;

(4) Definition of "release": The Agency omitted a definition for "release" in their proposed final rule. However, if the Board decides to include the definition, the Board should revise it so that routine CCR removals from CCR surface impoundments are excluded;

(5) Addition of a CCR Surface Impoundments Definition De Minimis Exception: the CCR Proposed Rule should exclude from regulation those units that contain a de minimis amount of CCR and do not present any environmental or public health risk that requires regulation under the Rule; and,

(6) Section 845.770(a)(1) Liner Removal: adopt the Board's suggested language that only "contaminated liners" need to be removed;

Each of the above concerns is addressed in the comments below.

II. Comments on Specific Provisions of the Proposed CCR Rule

Overall, the Proposed CCR Rule closely follows the U.S.EPA CCR Rule. This is a good overall approach to this rulemaking because the U.S. EPA CCR Rule has been determined to be protective of human health and the environment. Moreover, because MWG's power stations and other power stations have been complying with the Federal CCR Rule for existing CCR surface impoundments, replicating that rule in Illinois should allow for an expeditious transition to the Proposed CCR Rule. But the Illinois EPA deviated from the Federal CCR Rule in critical areas, particularly by failing to account for the substantial variations in size and function of CCR

surface impoundments and whether a given unit is a Federal CCR surface impoundment. CCR surface impoundments in Illinois are significantly different from one another, which admittedly presents challenges in crafting a rule of general applicability. But those challenges can be successfully and safely addressed. MWG is recommending changes that are as protective to human health and the environment, while reasonably accommodating site-specific considerations, such as size, use, and applicability of the Federal CCR Rule.

A. Subpart F's Groundwater Monitoring Program Should Allow for Collection of Representative Data that Accurately Identifies when a CCR Surface Impoundment is a Source

An important goal of the Proposed CCR Rule should be to ensure that in conducting an investigation of a release to the environment, accurate and representative data is collected that supports a correct determination as to whether a CCR surface impoundment is or is not a source of that release. The Illinois EPA's approach to investigations does not achieve this important goal. The Agency significantly deviated from the Federal CCR Rule's approach and not in a good or improved way. MWG is suggesting modifications that will both improve the reliability of the data collected and accurately identify whether a CCR surface impoundment is a source, while still protecting human health and the environment. For ease of review for the Board and the other participants, MWG provides all of its recommended language modifications for Subpart F of Part 845 in the attached Appendix A.

1. A 180-day Deadline to Establish Background Groundwater Quality for Existing CCR Surface Impoundments Will Not Provide Representative Data

For purposes of establishing groundwater background concentrations, both existing and new impoundments must establish background concentrations by collecting "eight independent samples" within 180 days of the effective date of the rule. (see Proposed §845.650(b)(1)(A)). 180 days is not enough time to collect eight independent groundwater samples that will be representative of background groundwater quality. By comparison, for existing CCR surface impoundments, the Federal CCR Rule provides an additional 18 months (or a total of two years) to collect the same number of independent samples. See 40 CFR 257.94(b). MWG recognizes that the Proposed CCR Rule allows an owner/operator to use pre-existing background data and that the Federal CCR-regulated surface impoundments at its power stations likely already have at least four years of such data to evaluate and use. However, the problem arises for CCR surface

impoundments that will be regulated under the Proposed CCR Rule that are not regulated by the Federal Rule. No such data exists for these existing units, which the Illinois EPA agrees exist at Illinois power stations. 8/11/20 Tr., p. 74:1-24. Because these are existing surface impoundments, requiring development of background groundwater data within 180 days is not just inconsistent with the Federal CCR rule, but is an unreasonably short amount of time in which to accomplish this important task.

Development of background data is integral to developing a sound groundwater monitoring program. Background data establishes the baseline against which subsequently collected groundwater data is compared, and is used in the statistical analysis of groundwater data as the monitoring progresses. Accordingly, it is critically important that the development of background concentration data accurately reflects the actual groundwater passing below the waste boundary, so that the groundwater monitoring program can reliably detect a potential release from a CCR surface impoundment. Ex. 52, p. 10.

There are two important considerations relating to the collection of quality background data – (1) collection of data that represents the seasonal variations and (2) collection of independent data. To develop quality background data, potential seasonal changes in constituent concentrations must be correctly understood. Ex. 52, p. 11. This is particularly true in Illinois where seasonal temperatures and precipitation fluctuate significantly. *Id.* Because of this seasonal variability, a new Illinois solid waste landfill must conduct *a minimum* of four consecutive quarters of groundwater sampling over the course of one year (*e.g.*, all four seasons), to establish background concentrations. 35 Ill. Adm. Code 811.320(d). MWG's expert, Richard Gnat, testified that "limiting the timeframe to 180-days completely eliminates addressing seasonal or temporal fluctuations within the statistical program for analysis of the monitoring results." Ex. 52, p. 11.

Turning to the collection of independent data, U.S.EPA Unified Guidance on the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities ("U.S.EPA Unified Guidance"), recommends collecting a minimum of at least 8 to 10 *independent* background samples before conducting a statistical analysis. Ex. 52, Attachment 4, p. 5-3.[1] One of the important components of an independent sample is that it is spaced in time far enough apart to ensure that the groundwater sampled is not, in effect, the same water. Ex. 52, p. 11. Some CCR

[1] The link to the full guidance document is at https://archive.epa.gov/epawaste/hazard/web/html/index-12.html.

surface impoundments may be located in clayey, silty clay or silty aquifer matrix materials, which generally have lower permeability, meaning the groundwater flows through the matrix at a slower rate. *Id.* Because the groundwater flows at a slower rate, the short timeframe between the sampling events will likely "result in sampling the same water as opposed to providing sampling results on potential water quality variability over time, which is one of the objectives of background development." Ex. 52, p. 11. As Mr. Gnat testified, this may create data that is described as "autocorrelated" – meaning data that is similar between measurements as a function of time between the measurements. *Id.* at p. 12, *citing* Attachment 4 of Ex. 52, p. 3-4. Allowing autocorrelation of samples is contrary to the guidelines in the U.S.EPA Unified Guidance, which states that a background sample should satisfy the key statistical assumptions, including statistical independence by the lack of autocorrelation. Ex. 52, Attachment 4, p. 5-4. In fact, the U.S.EPA Unified Guidance states that "practically speaking, the best way to ensure some degree of statistical independence is to allow as much time as possible to elapse between sampling events." *Id.* In this case, requiring eight samples within 180 days, means that samples would have to be taken every 22.5 days – not enough time to ensure that the groundwater sampled is not autocorrelated. Ex. 52, p. 11. MWG is not alone in expressing concerns about this Proposed CCR Rule requirement. Dynegy's expert witness, Cynthia Vodopivec, also testified that 180 days to collect 8 independent samples is not sufficient to gather a representative sample of groundwater conditions and recommended at least 18-24 months to conduct the sampling effort. Ex. 21, p. 16.

The Agency's response to these concerns does not resolve the problem. The Agency did not challenge the need to consider seasonal variations. It merely stated that the 180-day period is required by Part 257. Ex. 3, p. 24. But this misinterprets Part 257. Part 257 requires 180-days to conduct the background sampling for new CCR surface impoundments, not existing ones. 40 CFR 257.94(b), Ex. 8, p. 472. For this issue, the difference between "new" and "existing" surface impoundments is critical. For existing surface impoundments, Part 257 instead allows two years for the collection of eight independent samples. 40 CFR 257.94(b); Ex. 50, p. 19, Ex. 52, pp. 10.

Further, acknowledging that the Proposed CCR Rule's broader definition of CCR surface impoundment as compared to the Federal CCR Rule, the Agency agreed that existing CCR surface impoundments not regulated by the Federal CCR Rule may not have any groundwater

data to supplement the eight independent samples collected within 180 days. 8/13/20 Tr., p. 140:21-141:17. The Agency also acknowledged that autocorrelation may occur, but dismissed that concern by stating that autocorrelated samples can still qualify as "independent" samples. Ex. 3, p. 25. When asked to explain how autocorrelated samples may properly be characterized as "independent," the Agency was unable to do so. 8/13/20 Tr. p. 142:2-143:7. Instead, the Agency agreed that the groundwater sampled over a short period of time "could be very similar groundwater." 8/13/20 Tr., p. 142:15-16. The Agency's unsubstantiated position is contrary to both standard scientific practice and the U.S.EPA Unified Guidance, which clearly states that the best way to ensure independence is to allow time between sampling events. Ex. 52, Attachment 4, 5-4. In short, the Agency has not provided a scientific basis for its attempt to significantly reduce the time to conduct the background sampling for existing CCR surface impoundments when that reduction will not account for seasonal variations and seriously minimizes the ability to collect independent data – both of which are necessary to develop representative background data is developed.

MWG recommends that the final rule be modified to allow at least 18 months, but preferably two years, of groundwater sampling to develop the background data for the existing CCR surface impoundments that do not have an existing groundwater monitoring system compliant with the Federal CCR Rule. It makes no sense to arbitrarily shorten the time period allowed for the establishment of background groundwater concentrations, particularly where it lacks any scientific support and flies in the face of well-established principles concerning seasonal variability and the collection of truly "independent" sampling events. Based on the record, the accuracy and reliability of background data should prevail over a mere preference to "speed up" this process.

2. It is Unreasonable to Require Corrective Action and/or Evaluation of an Alternative Source After Detection of One Constituent in One Quarter

The Proposed CCR Rule's groundwater monitoring program is unreasonable because it requires definitive action by an owner or operator based on only one detection of a single constituent (with an immediate resample) in one quarter. In contrast, the Federal CCR Rule applies a much sounder two-tiered approach. Under the Federal CCR Rule, the owner or operator first conducts detection monitoring of the Appendix III parameters, and if there is an exceedance, then the owner or operator conducts assessment monitoring. 40 CFR 257.94, 257.95. The Proposed CCR Rule eliminates the detection monitoring tier, and shortens the evaluation of

whether there is a release from a CCR surface impoundment from 360 days to merely 90 days. Ex. 52, p. 13. The immediate resample requirement in the Proposed CCR Rule is not an adequate substitute for the Federal CCR Rule's assessment monitoring requirement. An immediate resample is not the same as waiting to take a second sample in the next quarter. Instead, the resample merely confirms that the initial detection was not an analytical or sampling error. Ex. 52, p. 14. It will not provide any information as to whether the elevated detection is due to a release from the CCR surface impoundment or an anomaly that will not be detected again. *Id*.

A single detection of one constituent, even with an immediate resample, in one quarter is not sufficient to determine whether there is a release from a CCR surface impoundment. As Mr. Gnat testified, one detection could be a transient anomaly that is wholly unrelated to the CCR surface impoundment. Ex. 52, p. 14. In Mr. Gnat's experience, such unexplained inconsistencies in groundwater results do occur, and not every detection of a standard is explainable. (See Gnat answer to Illinois EPA Question 5, Ex. 50, p. 21-22). Hence, the Proposed CCR Rule needs to incorporate enough time and flexibility to address inconsistencies in groundwater results. When there is a large set of groundwater data over a long period of time, one detection of one constituent in one quarter should not require an immediate corrective action. *Id*. Instead, a technically sound approach is to first take another independent sample in the subsequent quarter to determine whether the elevated detection was merely an anomaly, or actually indicative of a potential release from a CCR surface impoundment. Ex. 50, p. 21. Dynegy's expert, David Hagen, also addressed this issue. His report included an evaluation of fourteen years of groundwater data for a CCR surface impoundment, which demonstrated that even though a boron exceedance was detected on two isolated occasions over the course of 14 years, the two exceedances were not indicative of a release from the CCR surface impoundment. Ex. 34, pp. 30-31.[2]

Requiring another round of groundwater sampling after an initial exceedance detection is even more important when the constituent is usually not detected. The U.S.EPA Unified Guidance states that in those instances, the Double Quantification Rule should be employed. Ex. 52, p. 15, citing Attachment 4, p. 6-11. The Double Quantification Rule states that an exceedance

[2] Mr. Hagan's analysis actually supports allowing for additional time to observe the groundwater conditions before requiring action. However, in the interest of addressing the Agency's desire to act, MWG is limiting its recommended extension to one additional sampling event.

of a constituent that has not previously been detected is only confirmed if that constituent is detected in quantified measurements in two consecutive sample sampling events. *Id*.

The Agency's sole support for requiring a corrective action within 90 days of detection of a constituent above the groundwater protection standard ("GWPS") is its claim that it is consistent with Part 257 because Part 257 requires corrective action following a detection above the GWPS. Ex. 3, pp. 25-26. But this explanation ignores Section 257.94, the Detection Monitoring section. Section 257.95, which Illinois EPA cites to support its position that a single detection requires corrective action, does not trigger corrective action following a single sampling event. Section 257.95 relies upon Section 257.94, which requires that there be a detection of a statistically significant increase in a sampling event. 40 CFR 257.94(e)(1); Ex. 52, p. 13. Once there is a detection of a statistically significant increase under Section 257.94, then assessment monitoring begins in Section 257.95, which is at least one more sampling event, although the rule allows for more. 40 CFR 257.95(d); Ex. 52, p. 13. Only when there is statistically significant concentration exceeding the groundwater protection standards, is initiation of corrective action is required. 40 CFR 257.95(d)(3); Ex. 52, p. 13. The Agency has provided no other basis for its decision to require initiation of corrective action following one detection of a single constituent in one quarter. Ex. 3, pp. 25-26.

MWG appreciates that Illinois EPA's goal is to begin corrective actions at sites it believes are causing groundwater contamination without unnecessary delay. In fact, Illinois EPA stated that it prefers not to wait for three or four months of sampling before deciding the results were important. 8/13/20 Tr., p. 132:16-19. Yet, the Agency concedes that "the more samples you take, the more confidence you would have that it's a realistic value." 8/13/20 Tr., p. 132:14-15. However, before an owner or operator is required to commence corrective action, which may not be necessary, it is entirely reasonable to allow a few months' additional time to allow the collection of additional data to rule out the likelihood of an aberration.

Where, as here, the Agency fails to present sufficient evidence to support a part of its proposed rule, the Board should reject that part of the Agency's proposal as it did in the Clean Construction or Demolition Debris Rulemaking ("CCDD Rulemaking"). *In the Matter of: Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100*, PCB12-9(B), August 6, 2015. In the CCDD Rulemaking, the Agency proposed a requirement to conduct groundwater monitoring at the clean

construction or demolition debris fill operations. *In the Matter of: Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100*, PCB12-9, Illinois EPA Statement of Reasons, July 29, 2011. Following numerous hearings, including creating a subdocket dedicated to the Agency's proposal for groundwater monitoring (PCB 12-9(B)), the Board rejected the requirement, finding that the record did not provide evidence that a groundwater monitoring system was required because there was no evidence that the safeguards adopted would fail. *In the Matter of: Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100*, PCB12-9(B), Aug. 6, 2015, pp. 65-66. The Board's opinion was upheld by the Illinois Supreme Court. *Cty. of Will v. Pollution Control Bd.,* 2019 IL 122798 (2019).

Based upon the expert testimony of Mr. Gnat and Mr. Hagen and the absence of information from the Agency supporting its unnecessarily aggressive deadline, the Board should modify the rule so that at least two sampling events are allowed in order to increase the level of confidence that the results warrant the commencement of corrective action. Otherwise, an owner/operator may be required to expend efforts and costs to address an apparent release that never existed. Ex. 50, p. 21. "[I]t is not prudent to 'rush to judgment' on potential corrective measures when the end result may be that the measures selected are not appropriate or effective." Ex. 52, p. 3.

MWG requests Section 845.650(d) be modified so that initiation of corrective measures assessment and/or an alternative source demonstration commences upon detection of a constituent above the applicable GWPS in two consecutive quarterly sampling events. The additional time to conduct another groundwater sampling event will still be significantly shorter than the Federal CCR Rule, and it will also provide greater confidence that the detections are a "realistic value."

3. The Groundwater Monitoring Program Should Allow for Consideration of Site-Specific Conditions

The Proposed CCR Rule's groundwater monitoring program is a "one-size-fits-all approach" that does not allow reasonable modifications which are necessary to address unique or site specific circumstances of the surface impoundments. Specifically, it does not allow a reduction in the number of constituents analyzed through a demonstration that the CCR within

the impoundment does not leach that constituent. The proposed program also does not allow a reduction in sampling frequency and groundwater elevation measurements even if it can be demonstrated that the groundwater flow is understood and there is no threat to the environment. The Proposed CCR Rule should be modified to allow an owner or operator to streamline the groundwater sampling program such that the focus is appropriately on the constituents stored in a specific unit and to allow reduced sampling events and measurements when the groundwater data warrants it.

a) **The Final Rule Should Allow a Reduction in the Number of Groundwater Constituents Analyzed Based Upon Site-Specific Data**

Section 845.650 of the Proposed CCR Rule requires that all units analyze groundwater for all Section 845.600 constituents throughout the life of the CCR surface impoundment, including its post-closure care. There is no room in the proposed language to allow a constituent that hasn't been detected over many consecutive years of sampling to be eliminated from the program. Requiring the analysis of all twenty Section 845.600 constituents for over 30 years regardless of the results of that analysis is unreasonable, absolute, and overly strict. The absolute uniformity of the Agency's approach does not increase the likelihood of a detection of a release from a CCR surface impoundment and hence, is not necessary to adequately protect the environment and human health. By tailoring the groundwater program to the constituents leached from the CCR, the owner or operator's monitoring program will still detect releases from a CCR surface impoundment and not generate a plethora of useless but costly data, as explained further below. *See* Ex. 52, p. 16, and Ex. 50, p. 31.

The hearing testimony establishes that the constituents which may leach from CCR are dependent upon the source of the coal, the generating unit's combustion process, and the handling process post-combustion. If those three inputs and operations are the same, then the primary chemical composition of the CCR is consistent throughout the CCR entering a surface impoundment. Ex. 50, p. 29; Ex. 52, p. 9. Once the chemical composition of the CCR is determined, if certain constituents listed in Section 845.600 are absent, there is no reason to continue analyzing the groundwater for those constituents throughout the operating life and post-closure monitoring of the CCR surface impoundment. This approach is consistent with the U.S.EPA Unified Guidance, which recommends that reductions in the number of constituents can be effective in detecting releases. Ex. 52, Attachment 4, p. 6-10. In fact, the Guidance states

that the overall goal should be to "select only the most reliable monitoring constituents for detection monitoring purposes." *Id.* Implicit in the recommendations to reduce the constituents analyzed is to reduce "noise" in the data via either anomalies detected in the environment or alternative sources unrelated to the CCR surface impoundment. By reducing the "noise" of too many constituents, an actual release is more readily detectable and there is less likelihood of false positives unrelated to the CCR surface impoundment. Moreover, the Agency is already requiring the chemical analysis of the CCR in Section 845.220(a)(2)(A) as part of the construction permit process. The Agency testified it believes this information will be useful as part of the evaluation to determine which type of closure (i.e., removal or closure in place), including considerations of groundwater monitoring. 8/11/20 Tr. p. 155:13-156:19.

The Agency justifies the "one size fits all" approach, claiming it would be simpler (Ex. 4, p. 24) and that having site specific data is "confusing." 8/13/20 Tr., p. 118:14-18. But generating monitoring data for more than thirty years for the section 845.600(a) twenty constituents is anything but simple and can lead to more confusion. When collecting volumes of data over long periods of times, the variability of the relevant environmental conditions often leads to unexplained detections that are unrelated to the source material. Ex. 50, p. 21; Ex. 52, p. 15-16. The Agency's explanation that it is simpler to evaluate numerous constituents over 30 years is not persuasive. While it may be "simpler" for the Agency to administer such a uniform regulatory construct, empowering the Agency to authorize modifications to a monitoring program when good cause is demonstrated by the applicant is a well-established practice in Illinois environmental programs that should be incorporated here.

MWG is proposing additional language in Section 857.650 that allows an owner or operator to conduct a leachate characterization of the CCR placed into the CCR surface impoundment for all the parameters listed in Section 845.600 and calcium. If the leachate chemistry shows that some of the listed parameters are not detected in the CCR placed into the unit, then the owner or operator may petition the Agency to narrow the list of analytes to the relevant parameters of actual consequence. To address the concerns expressed during the hearing that an analyte leaching from the CCR may not be detected if the CCR changes, MWG is also proposing that the owner or operator analyze the leachate chemistry of the CCR in the CCR surface impoundment at least every five years or if there is a change in coal source, combustion

process, or handling process, and adjust the monitoring parameters if the results require a change.

b) The Final Rule Should Allow for Sampling Frequency Reduction

Similarly, a reduced frequency of groundwater monitoring should be allowed once the groundwater flow regime is established. The Proposed CCR Rule requires monthly groundwater elevations and quarterly groundwater monitoring while the CCR surface impoundment is in service and throughout the post-closure period, without any opportunity for reduction. As Mr. Gnat testified, after the first few years of monitoring, groundwater flow and conditions are sufficiently understood by the Professional Engineer to allow an adequate evaluation and assessment of the effectiveness of the monitoring system. Ex. 52, p. 16. Once the groundwater flow system is understood, including during any flooding events, continuing to measure groundwater elevations on a monthly basis does not provide useful data and is unnecessary. *Id.* Instead, the measurements can and should be conducted quarterly – at the same time as the groundwater sampling.

The final rule also should allow an owner or operator to reduce the sampling frequency once it demonstrates that the CCR leachate is not a threat to groundwater. Mr. Gnat testified that allowing an owner or operator to shift to semi-annual monitoring is consistent with the Illinois landfill regulations. Ex. 52, p. 16. Specifically, Section 811.319(a)(1)(A) of the landfill regulations allows a landfill operator to reduce the monitoring frequency after five years once the "operator demonstrates that monitoring effectiveness has not been compromised, that sufficient quarterly data has been collected to characterize groundwater, and that leachate from the monitored unit does not constitute a threat to groundwater." 35 Ill. Adm. Code 811.319(a)(1)(A). Dynegy's Mr. Hagan also testified that Section 845.650(b) should allow for reduced monitoring frequency as long as certain conditions are met. Ex. 34, p. 28. In its answer to Dynegy Question 51, the Agency agreed it has previously approved CCR surface impoundment closure plans that allow an owner or operator to reduce the monitoring frequency and would consider language to allow it here proposed by the Board. Ex. 3, p. 48.

The Board should modify Section 845.650(b) to allow an owner or operator to measure groundwater elevation at the same frequency required for groundwater sampling following either 36 months of groundwater measurements or the potential effect, if any, of flooding events is

documented. Along with proposed language to incorporate this change, MWG also has proposed language that allows an owner or operator to reduce the sampling frequency once it demonstrates that monitoring effectiveness has not been compromised, that sufficient quarterly data has been collected to characterize groundwater, and that leachate from the monitored unit does not constitute a threat to groundwater – the same criteria as the Board has applied to landfills in Section 811.319(a)(1)(A) of the Standards for New Solid Waste Landfills Rule. In consideration of comments made during the hearing, MWG also recommends that the owner or operator obtain a certification from a qualified professional engineer for both modifications, and submit the certification as part of annual report required in Section 845.550.

4. The Final CCR Rule Should Expressly State Agency Nonconcurrence of an Alternative Source Demonstration is Appealable to the Board

In responding to questions posed by the Board, MWG, and Dynegy, the Agency stated that its non-concurrence with an alternative source demonstration submitted pursuant to Section 845.650(d)(4) "is a final Agency decision appealable to the Board pursuant to Part 105 of the Board's rules." Ex. 2, p. 171; Ex. 3, pp. 28, 50. Because the Agency's non-concurrence decision should be final and appealable, MWG is proposing that this clarification should be included in the final CCR Rule.

An alternative source demonstration provides that a source other than the CCR surface impoundment is causing the detected exceedances of Section 845.600 constituents. 35 Ill. Adm. Code 845.650(d). The report must include the factual or evidentiary basis for the conclusions, and "must be certified to be accurate by a qualified professional engineer." *Id.* The professional engineer's certification renders the alternative source demonstration accurate and dependable because of the obligations of a professional engineer before affixing her certification. A professional engineer's "primary obligation is to protect the life, health, property, and welfare of the public." 68 Ill. Adm. Code 1380.300(a)(1). Moreover, a professional engineer may only approve and seal reports "found to be safe for the public health, property, and welfare." 68 Ill. Adm. Code 1380.300(a)(2). They are also required to be "completely objective and truthful in all professional reports, statements or testimony," and may only express a professional opinion on technical subjects when "it is founded upon adequate knowledge of the facts and a background of competence on the subject matter. 68 Ill. Adm. Code 1380.300(c)(1), (2). If a professional engineer fails to follow these obligations, serious sanctions may be imposed, including license

revocation and fines up to $10,000 per violation. 225 ILCS 325/24. Accordingly, the certification of an alternative source demonstration by a professional engineer inherently includes a conclusion that life, health, property, and welfare of the public are protected, that the report is objective and truthful, and is founded upon knowledge of the facts. In other words, an owner or operator has both an adequate record and good faith basis to appeal an Agency non-concurrence in an alternative source demonstration.

When asked whether an appeal of the alternative source demonstration stays the requirement to initiate the assessment of corrective measures, the Agency responded that it was the Board's decision to make. 8/13/20 Tr. p. 150:11-20. Because it would be fair to the owner or operator and not harm the public or the environment, the Board should insert a statement that an appeal of the Agency's nonconcurrence stays the initiation of corrective measures in Sections 845.660, 845.670, and 845.680. In Section 845.650(d)(4), an owner or operator must submit an alternative source demonstration within 60 days of a confirmed detection, and the Agency must respond with a concurrence or nonconcurrence within 30 days. At the same time, the owner or operator must also initiate an assessment of corrective measures pursuant to Section 845.660. However, if an owner or operator disagrees with the Agency's nonconcurrence of its alternative source demonstration, the owner or operator must still initiate corrective action before any opportunity to be heard by the Board. If the owner or operator must implement corrective action even where it is appealing the Agency's decision, irreparable injury may ensue. By the time the Board rules on the appeal, it may be too late. The unnecessary corrective action that will not address the true source of the release will have been implemented to no avail. That outcome is neither fair nor reasonable to the owner or operator who has concluded in good faith that its CCR surface impoundment is not the source of the groundwater contamination based upon a factual or evidentiary basis certified by a professional engineer, who is legally obligated to be objective and truthful. The absence of an automatic stay provision is particularly prejudicial given that there is no requirement that the Agency's non-concurrence must be supported by the opinion or report of a professional engineer.

Importantly, a dispute over whether a CCR surface impoundment is the source of a release would not include releases of physical CCR from a CCR surface impoundment, such as a breach of an impoundment. In those instances, Section 845.660(a)(1) specifically states that "immediately upon detection of a release <u>of CCR</u> from a CCR surface impoundment," the owner

or operator must initiate corrective action.[3] Moreover, there is little or no risk that the public health could be harmed by staying a corrective action in non-CCR release situations both because of the protective nature of the professional engineer's obligations and also because non-CCR releases which may threaten potable water supplies are very unlikely. The undisputed report by Dynegy's expert, Melinda Hahn, showed there were no active potable water supply wells or surface water intakes that were at risk from a CCR surface impoundment in Illinois. Exs. 28 and 29. Hence, allowing a stay does not leave the public health unprotected. Finally, investigation of the release does not cease pending the appeal. The owner or operator remains obligated to conduct the groundwater sampling and to characterize the nature and extent of the release, pursuant to Sections 845.650(b) and 845.650(d)(1).

Therefore, the Board should allow a stay of corrective action pending the appeal of the Agency final decision on an alternate source demonstration. MWG is proposing additional language to insert into Section 845.650(d) to provide that an appeal of the Agency's nonconcurrence of the alternative source demonstration stays the requirement to initiate a corrective action(s) under Subpart F of the Proposed CCR Rule.

5. Minor Modifications Will Add Clarity to the Rule

There are phrases in the Proposed CCR Rule that are unclear and risk causing unnecessary confusion for an owner or operator. For example, Section 845.610(b)(3)(D) states that that groundwater data must be submitted within 60 days of "completion of sampling." As Mr. Gnat testified, "completion of sampling" can be interpreted in more than one way. It may be the date the sample is collected because the act of sampling is "completed", or it may be the date the laboratory analysis of the sample is received. Ex. 52, p. 4. Based upon the Agency's response to MWG question 71.e., MWG believes that the Agency understands "completion of sampling" to be the date the laboratory analytical data is received. Ex. 3, p. 26. To add clarity to the rule that the start date of the 60-day submission deadline is the receipt of the final analytical data, MWG proposes that Section 845.610(b)(3)(D) be modified to clearly state the 60-day deadline runs from the date of receipt of final analytical data.

Similarly, the requirements for a hydrogeologic site characterization would benefit from clarifying language to ensure that the person in the field collecting the data correctly understands

[3] The phrase "of CCR" is underlined because it is not in the Proposed CCR Rule, but the Illinois EPA proposed it in its First Post Hearing Brief filed on September 24, 2020 on page 6 of Attachment 3.

them. Section 845.620(b)(4) requires that "nearby pumping wells and associated uses of the groundwater" be identified. "Nearby" is a vague term. The Agency stated that it did not specify a search radius because it believes that information is site specific. Ex. 3, p. 23. MWG disagrees. The area should be defined to be within 2,500 feet of the CCR surface impoundment, because that is the same distance required in Section 1600.210 of the Board rules to identify water wells, as part of the procedures for Potable Water Supply Well Surveys. 35 Ill. Adm. Code 1600.210. Section 1600.210 serves a similar general purpose as this portion of the Proposed CCR Rule. It is persuasive precedent that a specific radius of 2,500 feet should be included in the final rule. Additionally, it is not clear whether the information requirements in Sections 845.620(b)(13) and (b)(15) may be satisfied by using available data and information without having to physically drill to 100 feet to collect that information. The Agency has indicated that using available local data and site-specific information is sufficient. See Agency response to MWG Question 64 at Ex. 3, p. 5. Accordingly, MWG requests the Board add language to clarify that available site-specific or local information may be used.

B. The Board Should Reject the Agency's Proposal for a Leachate Collection System, or Alternatively Only Require a Leachate Collection System for CCR Surface Impoundments Over 20 Acres or Allow Some Other Collection System

Section 845.420 of the Proposed CCR Rule requires a leachate collection system for any new CCR surface impoundment and any retrofitted CCR surface impoundment per Section 845.770(a)(2). The Board should remove Section 845.420 from the final rule. Requiring a leachate collection system in a CCR surface impoundment is clearly not practical given the inherent nature of operating a CCR surface impoundment. It also is not necessary to protect the public health or environment and there is no scientific finding that including a leachate collection system will significantly decrease the risk to human health or the environment. In short, installing and operating a leachate collection system in a CCR surface impoundment is unreasonable, impractical, and could create unintended negative consequences. Ex. 54, pp. 7-8. But nevertheless, the Agency believes a leachate collection system is a useful tool. Giving the Agency some benefit of the doubt, the usefulness of a leachate collection system is at best limited to larger CCR surface impoundments that are more likely to close-in-place. Therefore, if the final rule is to include a leachate collection system requirement, it should only apply to CCR surface impoundments that are over 20 acres. At the very least, the final rule should allow for an equivalent system that is as protective as a leachate collection system.

1. Requiring a Leachate Collection System for a CCR Surface Impoundment is Impractical and Contrary to its Operation

The Agency has not provided a sufficient scientific or technical basis to support its proposal that a CCR surface impoundment must also have a leachate collection system. The Agency's thinking is that because Part 257 requires both CCR landfills and CCR surface impoundments to have the same composite liner system, CCR surface impoundments also should be required to have a leachate collection, like CCR landfills. 8/12/20 Tr., p. 156:12-20. But the commonality of function associated with composite liner systems as between CCR landfills and surface impoundments does not extend to leachate collection systems. The Agency critically fails to consider how CCR surface impoundments operate and that their operation is distinctly different from that of a CCR landfill. This operational distinction is key. It explains why a leachate collection system is not necessary or useful for a CCR surface impoundment. It is also why the Federal CCR Rule, the Human and Ecological Risk Assessment of Coal Combustion Residuals ("U.S.EPA Risk Analysis") that was used to support the Federal CCR Rule, and industry standards for CCR surface impoundments do not support the Agency's position. As more fully explained below, the Board should delete Section 845.420 from the final rule.

By definition, CCR surface impoundments are designed to both collect CCR and the water that transports the CCR from the power station to the impoundment. 415 ILCS 5/3.143. The CCR surface impoundment provides a passive form of treatment, called "sedimentation," whereby the CCR falls to the bottom of the surface impoundment. Ex. 50, pp. 38, 55. The transport water passes through the impoundment to be recycled back into the power station to move more CCR from the power station to the surface impoundment. *Id.* Within the impoundment, the CCR transport water also serves as a fugitive dust suppressant. Ex. 50, p. 61.

MWG's expert, David Nielson, explained that operating a leachate collection system in a CCR surface impoundment is not practical because the purpose of a CCR surface impoundment is to treat and store the transport water before it is recycled – not to "collect" it and hence remove it from the recycling process. Ex. 50, p. 55. Moreover, operating a leachate collection system in a CCR surface impoundment also threatens to dry out the CCR because once the transport water is removed it results in a fugitive CCR dust risk. Ex. 54, p. 7. Additionally, simultaneously operating both a leachate collection system and the pump system necessary to recycle the transport water would require "tank like" water storage capacity to allow the system to operate. *Id*., p. 8. Mr. Neilson further stated that when the sluice system from the power station is not

operating meaning CCR and transport water are not flowing into the impoundment, the leachate collection system is not operating as the name suggests. *Id*. Instead, it is more like a "filtration system that constantly circulates the transport water without serving any other purpose." *Id*.

Given these inherently conflicting operational problems, it is not surprising that in its exhaustive U.S.EPA Risk Analysis, the U.S.EPA concluded a leachate collection system is not necessary to protect human health and the environment. Ex. 54, p. 4. The U.S.EPA concluded that composite liners alone were sufficient because modeling showed they "effectively reduced risks from all pathways and constituents far below human health and ecological criteria in every sensitivity analysis conduct." Ex. 54, p. 5, quoting Ex. 1 of Ex. 50, p. ES-7. Additionally, the U.S.EPA found no damage cases for composite-lined units. Ex. 54, p. 5 and Ex. 1 of Exhibit 50, p. 5-47. Because U.S.EPA concluded that leachate collection systems were not necessary to protect human health and the environment, the Federal CCR Rule does not require a leachate collection system for new CCR surface impoundments. Ex. 8, 40 CFR 257.71, 257.72. U.S.EPA's thorough risk study of CCR surface impoundments demonstrates that a leachate collection system above a composite liner will not provide any additional protection of human health or the environment than the composite liner system alone. Ex. 54, p. 9. As Mr. Nielson testified, no statistically significant risk from the presence of a hydraulic head (water above the liner system) in a CCR surface impoundment has been identified and he found no scientific studies that support the practice of limiting the head in CCR surface impoundments. Ex. 50, p. 40, 42. Additionally, Mr. Nielson's research did not identify any other state or jurisdiction that required a leachate collection system for a CCR surface impoundment. Ex. 54, p. 8.

In its testimony, the Agency explained that it included a leachate collection system for CCR surface impoundments because the Federal CCR Rule requires composite liner for both CCR landfills and surface impoundments. The Agency apparently reasoned that because the same liners are required for both, then the CCR landfill leachate collection system requirement should also apply to surface impoundments, even though the Agency agreed that landfills and CCR surface impoundments operate differently. Ex. 3, p. 15; 8/12/20 Tr., pp. 136:7-12, 149:3-12, 150:11-21; 154:8-17. The Agency provided no other support for the leachate collection system requirement. Ex. 3, p. 15; 8/12/20 Tr., pp. 140:7-11, 154:8-17. It also could not identify any evidence of a composite liner in a CCR surface impoundment having leaked. 8/12/20 Tr., p. 150:22-151:13. The Agency did not conduct a risk assessment in preparation of the Proposed

CCR Rule and did not review the U.S.EPA Risk assessment. Ex. 3, p. 37, Q. 3; 8/11/20 Tr. p. 59:23-60:2. As noted above, the U.S.EPA Risk Assessment came to the opposite conclusion as the Agency, based upon a thorough analysis of CCR surface impoundments. Ex. 1 of Ex. 50, p. ES-7, 5-47; 40 CFR 257.71, 40 CFR 257.72.

CCR landfills and surface impoundments operate differently and those operational differences warrant different treatment under the Proposed CCR Rule. Ex. 50, p. 38. Landfills do not collect liquids and the waste in a landfill is compacted by machinery. *Id*. By comparison, a primary purpose of a CCR surface impoundment is to hold the CCR transport water used to move the CCR out of the power station. Ex. 50, p. 55. A leachate collection system undermines the primary purpose of a CCR surface impoundment, because it will drain the water out of the impoundment, leaving the ash exposed and susceptible to generating fugitive dust emissions. The Agency has no answer for how a power station is supposed to address this major operational problem that its leachate collection system requirement creates.

The Agency attempts to justify the leachate collection system requirement by pointing to statements in the U.S.EPA Risk Assessment that releases from CCR surface impoundments reduce dramatically once the hydraulic head is reduced. MWG's First-Post Hearing Comment, p. 1, citing U.S.EPA Risk Assessment, pp. 5-28 – 5-29. But these U.S. EPA statements were not limited to or focused upon impoundments that had composite liner systems. Most of the CCR surface impoundments analyzed by the U.S.EPA did not have a composite liner and at least some lacked any liner at all. Ex. 54, p. 5. Certainly, the absence of a composite liner system is going to be a material factor in whether there are releases from a CCR surface impoundment. The Agency has not presented any evidence showing that the addition of a leachate collection system to an impoundment fitted with a composite liner will have any significant effect on the potential for a release from that impoundment. Moreover, the fact that U.S. EPA did not find it necessary to require a leachate collection system based on the very same risk assessment study that Illinois EPA is relying upon shows that the study's discussion of the hydraulic head issue does not support the Agency's proposal.

If there truly was a significant hydraulic head issue presented by CCR surface impoundments with composite liners, it would logically follow that the Federal CCR Rule would at least have regulated the depth of water allowed in an operating impoundment. But it did not. Similarly, the Proposed CCR Rule does not do so either. 35 Ill. Adm. Code 845.420; 8/12/20 Tr.,

p. 160:11-17. Because the Agency recognizes that a CCR surface impoundment owner or operator needs flexibility to properly operate an impoundment, it proposes that while a leachate collection system must be installed, that system does not have to operate during the entire time the CCR surface impoundment is in use. Ex. 3, p. 16; 8/12/20 Tr., p. 141:15-24, 144:21-24; 160:11-17.

The Agency has stated that its concern about hydraulic head on a liner primarily stems from the post-closure care period if the CCR surface impoundment is closed in place rather than by removal. 8/12/20 Tr., pp. 142:16-143:2, 144:24-145:7. The Agency's position is still unpersuasive. It is unreasonable to require the installation of a system that is not required to be operated for the active life of the CCR surface impoundment. Ex. 50, p. 60. As Mr. Nielson testified, the Illinois CCR Rule should not require installation of a leachate control and removal system "that would be idle until closure, since other dewatering options are available" to address the need to dewater an impoundment as part of its closure or for post-closure purposes when closing it in place. Ex. 54, p. 8. It is nonsensical, and a waste of resources, to install tens of thousands of cubic yards of gravel into a surface impoundment to create a leachate collection system that basically will not be used and serves no essential purpose. *Id.*

Based upon the U.S.EPA Risk Assessment, the Federal CCR Rule, and Mr. Nielson's expert opinion, the record is clear that a leachate collection system in a CCR surface impoundment is not necessary to protect human health and the environment. Given the key operational differences between landfills and surface impoundments, the Agency's explanation that the U.S.EPA required such a system for CCR landfills is wholly insufficient to support a leachate collection system requirement, particularly when that system will not operate during CCR surface impoundment operations. Because the Agency has not presented sufficient evidence to support this part of its proposed rule, the Board should reject the Agency's proposal, and delete Section 845.420 from the final rule. *In the Matter of: Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD)*, PCB12-9(B), August 6, 2015.

2. Alternatively, a Leachate Collection System Requirement should apply only to CCR Surface Impoundments Large than 20 Acres or Allow an Equally Protective Alternative Approach

While the evidence shows that a leachate collection system is unnecessary for any CCR surface impoundment, if the Board nevertheless finds otherwise, it should either tailor the

requirement to large surface impoundments or at least allow other equivalent means to satisfy this requirement.

Smaller CCR surface impoundments will not benefit from the addition of a leachate collection system. The Agency speculated that a leachate collection system might assist in removing the transport water for those impoundments that routinely remove CCR or those closed by removal. 8/12/20 Tr., p. 146:7-9. But it provided no information that showed the alleged water removal "assistance" has been needed when owners or operators routinely remove CCR from impoundments or close them in place. 8/12/20 Tr., p. 146:22-147:23. In contrast, MWG's witness, Sharene Shealey provides the Board with real life operational experience showing that smaller ponds, like those MWG operates, do not need such leachate collection system "assistance" in removing the transport water. Ms. Shealey testified that it takes approximately 6 weeks to 6 months to remove the CCR and water from one of its impoundments, which are all less than 40 acres. Ex. 50, p. 16. MWG's practice of dewatering and removing CCR is both practicable and reasonable, and has not needed any further "assistance" of the type the Agency speculates a leachate collection system would provide. Ex. 50, pp. 16-17. Further, given that small impoundments (ponds with less than 1 million cubic yards), primarily close by removal, there is no need or benefit afforded to these impoundments from a leachate collection system. *See* Rokoff Testimony, Ex. 41, p. 15.

If there is any value or need to require a leachate collection system, it is not applicable to smaller CCR surface impoundments. Accordingly, if a leachate collection system requirement is included in the final rule, it should apply only to CCR surface impoundments that are over 20 acres. A 20 acre impoundment can contain far less than 1 million cubic yards of CCR. For example, a 20 acre pond that is 20 feet deep can hold about 650,000 cubic yards of CCR, well below the 1 million cubic yards or greater capacity that tend to use the closure-in-place option.

An exception based on the relatively small size of an impoundment is fully supported by the record here. Because the Agency's proposal does not require a leachate collection system to operate while the unit is active and the closure by removal process for small ponds does not require leachate collection, the exception is warranted. Otherwise, it is probable that a leachate collection system would be installed in a small pond but never operate. It is unreasonable to require a costly leachate collection system that will not be operated during the active life of an impoundment nor during the closure or post-closure periods. Ex. 50, p. 60; Ex. 54, p. 8.

Importantly, differentiating requirements based upon size is consistent with the Federal CCR Rule and the Proposed CCR Rule, which has different closure schedules depending on the size of a CCR surface impoundment (see 40 CFR 257.102(f)(2)(ii), 40 CFR 257.102(b)(2)). MWG proposes the following language to incorporate this exception for the Board's consideration:

> **Section 845.420 Leachate Collection and Removal System**
>
> A new CCR surface impoundment **that is larger than 20 acres** must be designed, constructed, operated and maintained with a leachate collection and removal system. The leachate collection and removal system must be designed, constructed, operated, and maintained to collect and remove leachate from the leachate collection system of the CCR surface impoundment during its active life and post-closure care period.

The proposed exception is a clear and narrowly-crafted rule that does not create a risk of varying and conflicting interpretations. It eliminates the likelihood of future disputes with the Agency over whether some other alternative is as protective as a leachate collection system. Requiring leachate collection systems only for surface impoundments of over 20 acres also will likely reduce the likelihood that larger CCR surface impoundments will be built in the future. It incentivizes the construction of smaller impoundments which also are far more likely to be closed by removal. *See* Rokoff testimony, Ex. 41, p. 15.

However, if the Board finds that a more general approach to the leachate collection system issue is warranted, MWG requests that any such rule provide some flexibility in how to address the hydraulic head issue that underlies the Agency's proposed leachate collection system requirement. An owner or operator should be allowed to submit an alternative method of leachate collection that is at least as protective as the system required by the Proposed Illinois CCR Rule. Mr. Nielson testified that a collection system similar to the one he presented in his testimony (see Figure 2 of Nielson Pre-filed Testimony) would be equally as protective as the leachate collection system described in Section 845.420, and also allow a CCR surface impoundment to operate as intended. Ex. 54, Fig. 2. MWG proposes the following revised alternative language of Section 845.420 to add the much needed flexibility to the rule:

> **Section 845.420 Leachate Collection and Removal System**
>
> A new CCR surface impoundment must be designed, constructed, operated and maintained with a leachate collection and removal system. The leachate collection and removal system must be designed, constructed, operated, and maintained to collect and remove leachate from the leachate collection system of the CCR surface impoundment during its active life and post-closure care period. **An owner or operator may propose**

an alternative collection system that is as equally protective to human health and the environment.

C. The Deadlines to Submit Permit Applications Are Unreasonable

The Proposed CCR Rule's deadlines to submit operating and construction permit applications are unworkable. The Agency has not provided any credible justification for such short deadlines at the potential expense of the quality and completeness of the information to be submitted. Because the deadlines are unreasonably short, the Board should extend them to allow owners and operators a reasonable opportunity to collect and submit adequate and accurate data.

1. The Permit Application Deadline for CCR Surface Impoundments That Are Not Regulated Under Part 257 Should be Extended

Under Section 845.230(d)(1), operating permit applications are due no later than September 30, 2021, which is expected to be about six months from the rule's enactment. These applications will contain a substantial amount of information, as they must include twenty-one different technical documents, including a hydrogeologic site characterization, and a proposed groundwater monitoring program that "includes a minimum of eight independent samples for each background and downgradient well as required by Section 845.650(b)." 35 Ill. Adm. Code 845.230(d)(2)(I)(iii). The Agency did not explain in its Statement of Reasons or the related testimony of Darin LeCrone why it chose the September 30, 2021 deadline.[4] Ex. 1, Pre-filed Testimony of Darin LeCrone, p. 7.

For the CCR surface impoundments already regulated by the Federal CCR Rule, most of the technical information and data required for the permit application already exists. For this reason, the proposed deadline is workable for such regulated impoundments. But the situation is very different for "existing units" that are not Federal CCR surface impoundments. In most cases, these impoundments have not been monitored in the past and hence, groundwater monitoring data must be collected anew. As noted earlier in these comments, the required eight-samples of groundwater data for these existing CCR surface impoundments should not be constrained to a six-month collection period. *See supra* Sec. II.A.1. The same reasoning applies here. Ms. Shealey testified that the six-month deadline is infeasible, particularly for owners/operators of multiple CCR surface impoundments. Ex. 49, p. 11. It does not allow any

[4] Mr. LeCrone was the only Agency witness that testified about submitting the operating permit application by September 30, 2021.

"breathing room" whatsoever, such as to accommodate interruptions or delays caused by adverse weather, unavailability of equipment, or even restrictions due to the continuing COVID-19 pandemic. *Id.* Moreover, there is no good reason to impose such tight deadlines. Public health will not be jeopardized by extending the deadlines to ensure accurate data and complete permit application packages. As Dynegy witness Ms. Hahn demonstrated, there are no active potable water supply wells or surface water intakes that are at risk from a CCR surface impoundment in Illinois. Exs. 28 and 29. Hence, allowing a reasonable amount of time to submit permit applications will not result in any adverse impacts to public health.

The proposed six-month deadline stands in stark contrast to Board precedent in this type of situation. When the Board adopted rules for existing solid waste landfills, the rules provided existing landfills 48 months to file their permit applications. 35 Ill. Adm. Code 814.104(c). Existing CCR surface impoundments that are not Federal CCR surface impoundments should have at least two years to conduct the initial background sampling, collect all of the technical information required, and submit the operating permit application. Accordingly, MWG recommends that the Board modify Section 845.220(d)(1) as follows:

(d) Initial Operating Permit for Existing, Inactive and Inactive Closed CCR Surface Impoundments

(1) The owner or operator of an existing **CCR surface impoundment, regulated under 40 CFR 257, or** inactive or inactive closed CCR surface impoundment who has not completed post-closure care must submit an initial operating permit application to the Agency by September 30, 2021;

(2) For existing CCR surface impoundments not regulated under 40 CFR 257 but that are classified as regulated under 35 IAC 845, who has not completed post-closure care must submit an initial operating permit application to the Agency by March 31, 2023;

(3) The initial operating permit application for existing CCR surface impoundments that have not completed an Agency approved closure prior to July 30, 2021, must contain the following information and documents on forms prescribed by the Agency

While MWG believes that its two-year deadline is reasonable and supported by the record, if the Board prefers, another alternative is to include language in Subpart A that would allow an owner or operator to request an extension of time for any requirement in Part 845, which the Agency is authorized to approve and its approval shall not be unreasonably withheld.

2. The Deadlines to Submit Construction Permit Applications Are Unreasonable and Should Be Extended

The proposed deadline in Section 845.700(h) to submit construction permit applications for four of the seven categories of CCR surface impoundments within nine months is also unreasonable. Ms. Shealey testified that by her calculations, it would take at least nine and a half months just to prepare all of the documentation required, including for the units that are Federal CCR surface impoundments. Ex. 49, p. 12. The Agency's preference that permit applications be submitted quickly should not be applied in a way that denies the owner or operator a reasonable amount of time to collect quality data, prepare accurate reports, and submit accurate information to the Illinois EPA for its review and approval. A key consideration should be to allow the owner or operator the time necessary to "do it right the first time" and submit a complete package to the Agency. There is a greater risk of delayed commencement of corrective action if the rush to meet an unreasonably short deadline leads to gaps or inadvertent errors that the Agency identifies, requiring more time to make the necessary corrections. The Agency also benefits from receiving a complete and accurate submission, because it reduces the administrative time necessary to issue its approval. Dynegy's witness, Ms. Vodopivec, also testified that the permit application deadlines were unworkable, not only for Dynegy but also the Agency. Ex. 21, p. 13.

In her testimony, Ms. Shealey requested that the construction permits be due by June 30, 2022. Ex. 49, p. 13. However, in recognition of the Agency's desire to hasten the deadlines, MWG is instead recommending that the Board accept Ms. Vodopivec's minor modification to Section 700(b). Ex. 21, p. 14. Ms. Vodopivec recommends extending the deadlines of two of the seven categories, which would extend the interim deadlines while not extending the final deadline for the last category. MWG also contends that it is unreasonable to require permit applications to be due on a holiday, immediately after the winter holiday season. No harm would come from extending this deadline an extra 30 days in recognition of the winter holiday season. Accordingly, MWG recommends that Section 845.700(h)(1) be modified as follows:

(h) Application Schedule

1) Category 1, Category 2, **and** Category 3, ~~and Category 4~~ CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or submit a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part no later than January **31**~~1~~, 2022.

2) **Category 4 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or submit a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part no later than March 30, 2022.**

3) Category 5 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or submit a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part no later than **September 30, 2022** ~~July 1, 2022~~.

3) Category 6 and Category 7 CCR surface impoundment owners or operators must submit either a construction permit application containing a final closure plan or submit a construction permit application to retrofit the CCR surface impoundment in accordance with the requirements of this Part no later than July 1, 2023.

D. **Illinois EPA's Proposed Definition of "Release" Inadvertently includes Routine Removals**

Illinois EPA proposed a definition of "Release" in response to Board Question No. 49.b. Ex. 2, p. 168. The proposed definition is:

> "Release" means for Part 845, leaching of dissolved constituents at a concentration above the applicable GWPS as measured at a CCR surface impoundment's points of compliance or physical movement of CCR, except subject to an Agency approved closure or corrective action, from inside the CCR surface impoundment to the outside the CCR surface impoundment.

The Agency stated that the "physical movement of CCR" portion of the definition is intended to mean "some sort of catastrophic failure or an erosional failure or CCR materials actually wash down outside the CCR surface impoundments." 8/13/20 Tr., p. 45:6-8. MWG does not take issue with the Agency's intended meaning of the "physical movement of CCR" but the language proposed encompasses more than catastrophic or erosional failures and may also include the routine removal of CCR from a surface impoundment that typically occurs at many power stations. These routine removals should not constitute a "release" within the meaning of Part 845.

MWG removes the CCR from its surface impoundments on a routine basis, which would be indistinguishable from "physical movement of CCR…from inside the CCR surface impoundment to the outside of the CCR surface impoundment." The CCR surface impoundments at the MWG stations are used only for temporary storage of coal ash until the CCR is removed from the ponds for beneficial reuse. Ex. 49, p. 3. The routine removal of CCR

from a CCR surface impoundment should not and does not constitute a "release" within the ordinary meaning of that term. And it would be unreasonable to require MWG to apply for a permit application for every routine removal of CCR, because these routine removals have not and do not pose a threat to human health or the environment that warrants permitting.

On October 28, 2020, the Agency emailed to the parties their final proposed rule with their suggested changes to the draft rule, including omitting their definition of "release". MWG does not object to the omission. However, if the Board chooses to include the definition in the final rule, MWG recommends that the Board modify the definition to exclude routine removals of CCR, and suggests the following:

> "Release" means for Part 845, leaching of dissolved constituents at a concentration above the applicable GWPS as measured at a CCR surface impoundment's points of compliance or physical movement of CCR, except subject to an Agency approved closure or corrective action **or except routine removals as part of the operation of the CCR surface impoundment**, from inside the CCR surface impoundment to the outside the CCR surface impoundment.

E. MWG Supports Dynegy's Suggested "De Minimis Unit" Definition

Units with *de minimis* amount of CCR should not be included in the final rule. Dynegy's expert, Lisa Bradley, testified that U.S.EPA did not regulate units containing de minimis amounts of CCR from stormwater, air deposition, or pond overflows. U.S.EPA found that units containing "de minimis levels of CCR are unlikely to present the significant risks the [Federal CCR Rule] is intended to address. Ex. 23, p. 32, citing 80 F.R. 21357, April 17, 2-15. U.S.EPA further stated that it changed the definition of "CCR surface impoundment" so that the definition did not capture units presenting significantly lower risks, such as process water or cooling water ponds, "because, although they will accumulate any trace amounts of CCR that are present, they will not contain the significant quantities that give rise to the risks modeled in EPA's assessment the preamble of the Federal CCR Rule." *Id*. Based upon the U.S.EPA's Risk Assessment, and the Federal CCR Rule, Ms. Bradley concluded that CCR units that receive only *de minimis* amounts of CCR do not present a risk warranting regulation. Ex. 23, p. 33. Ms. Bradley further explained that accumulation of CCR in de minimis units over a long period of time did not pose a threat to groundwater. Ex. 23, p. 3-5.

Per the request of the Board Technical Advisor, Mr. Rao, (9/29/20 Tr., p. 186:7-12), Dynegy has presented a definition of "De Minimis Unit," including language that excludes such

units from the definition of CCR Surface Impoundment. MWG supports the proposed language as drafted, and requests that the Board adopt the definition.

F. **MWG Supports The Board's Suggested Modification to Section 845.770(a)(1)**

MWG objects to the Illinois EPA's proposed requirement that a liner must be removed as part of retrofitting a CCR surface impoundment, regardless of the liner's condition. A synthetic liner (or "geomembrane liner") is not likely to be contaminated with CCR constituents merely because it was in contact with CCR. As Mr. Nielson testified, geomembrane liners are flexible membranes manufactured of polyethylene (*i.e.* plastic) and are defined by the ASTM International as "an essentially impermeable geosynthetic composed of one or more synthetic sheets." Ex. 54, p. 12; ASTM D4439. He further testified that "these are very low-permeability plastic products that are nonabsorptive," meaning they are unlikely to absorb the CCR constituents. 9/30/2020 Tr., p. 199:7-8. Geomembrane liners that may become damaged can be repaired. Ex. 54, p. 12.Moreover, the U.S.EPA assumed that geomembranes could have small holes, relying upon Dynegy's expert, Mr. Bonaparte's equation to calculate the infiltration rate which assumes pin-hole leaks. Ex. 50, p. 44-45. Even when assuming a composite liner had pin-hole leaks, the U.S.EPA Risk Assessment still determined that a liner did not have to be removed as part of retro-fitting a CCR surface impoundment. *Id*, 40 CFR 257.102(k). The Agency's only basis to require removal of a liner is an assumption that the liner was contaminated because the Agency assumes that the liner has leaks in it. 8/25/2020 Tr., pp. 73:20-23, 76:14-17. However, Mr. Neilson's expert witness testimony, relying upon an ASTM standard and the U.S.EPA risk assessment demonstrates that a liner may be decontaminated, without requiring the entire liner to be removed.

The Board has appropriately suggested that Section 845.770(a)(1) should be modified to state that "any <u>contaminated</u> liner" should be removed. Ex. 50, p. 1. As Mr. Nielson stated, no study, record, or other information has been entered into this record showing that a geomembrane liner may not be decontaminated. Ex. 50, p. 46. Further, the information presented by MWG demonstrates that geomembranes may be decontaminated and re-used as part of the retrofitted CCR surface impoundment such as secondary containment for a new compliant composite liner system, or for holding process wastewaters. Ex. 50, p. 47-48. Accordingly, MWG supports the adoption of the Board's suggested modification.

III. Conclusion

The Agency is to be commended for having prepared and presented to the Board a generally applicable CCR rule in a fraction of the time the U.S.EPA had to prepare its CCR rule. Midwest Generation, LLC also appreciates the time and effort devoted by the Board in the intensive and fast-paced hearing process it conducted which allowed an opportunity to examine issues raised by participants. However, and perhaps contributed to by an accelerated pre-hearing and hearing process, the Proposed CCR Rule contains certain provisions that are unreasonable, impractical, and infeasible. These provisions should be modified as follows:

1. The rule should allow for at least one year to collect the background groundwater data for existing CCR surface impoundments that are not Federal CCR surface impoundments. The full year will allow for detections of seasonal variations and also independent samples.
2. The rule should allow for at least two consecutive sampling events to provide confidence that a detection of a constituent above the GWPS is a reliable indication of a release.
3. The rule should allow an owner or operator to modify the number of constituents monitored and frequency of sampling of groundwater based on site specific data.
4. If an owner or operator decides to appeal the Agency's nonconcurrence with its alternative source demonstration, the appeal should stay any further corrective action under Subpart F.
5. The Board should reject the Agency's proposal to require a leachate collection system for new or retrofitted CCR surface impoundments because the systems will interfere with the operation of a CCR surface impoundment. Alternatively, a leachate collection system only should be required for CCR surface impoundments that are over 20 acres. At the very least, the rule should allow for approval of an alternative collection system that is as protective of human health and the environment, but which is more suitable to the impoundment's operation.
6. The rule should extend the deadlines to submit the operating and construction permit applications to allow collection of complete and accurate technical data and reports.
7. If the Board decides to include a definition of "release," the definition should exclude the routine removals of CCR that are a part of a power station's regular operations.
8. The Board should adopt the definition of "De minimis unit" as proposed by Dynegy.
9. Finally, the Board should adopt its proposed modification to Section 845.770(a)(1) to require only contaminated liners to be removed during retrofitting.

Midwest Generation appreciates the opportunity provided by the Board to submit these post-hearing comments and looks forward to the issuance of a CCR Rule which adequately addresses the issues described herein.

Respectfully submitted,
Midwest Generation, LLC

By: */s/Kristen L. Gale*
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APPENDIX A

APPENDIX A

MWG's Recommended Modifications to Subpart F

Based on the comments provided herein in Section II.A of Midwest Generation's Second Post-Hearing Comment, Midwest Generation recommends the following modifications to Subpart F. For ease of reading, the changes are underlined or ~~struck-through~~, and also **bolded.** Additionally, for the sake of brevity, MWG has included only those sections of the Proposed CCR Rule that are the subject of these modifications.

Section 845.610 General Requirements

* * *

b) Required submissions and Agency approvals for groundwater monitoring

* * *

3) All owners and operators of CCR surface impoundments must:

* * *

D) submit all groundwater monitoring data to the Agency and any analysis performed under subsection (b)(3)(B) and (b)(3)(C) within 60 days ~~after completion of sampling~~ **of receipt of all analytical results** and place the groundwater monitoring data in the facility's operating record as required by Section 845.800(d)(15).

* * *

Section 845.620 Hydrogeologic Site Characterization

* * *

b) The hydrogeologic site characterization shall include but not be limited to the following:

* * *

4) Identification of ~~nearby~~ pumping wells and associated uses of the groundwater **that are within 2,500 feet of the CCR surface impoundment**.

* * *

13) Vertical and horizontal extent of the geologic layers to a minimum depth of 100 feet below land surface, including lithology and stratigraphy **that may be based on available site specific or local information**;

* * *

15) Chemical and physical properties of the geologic layers to a minimum depth of 100 feet below land surface **that may be based on available site specific or local information**;

* * *

Section 845.650 Groundwater Monitoring Program

a) The owner or operator of a CCR surface impoundment must conduct groundwater monitoring consistent with this Section. At a minimum, groundwater monitoring must include groundwater monitoring for all constituents with a groundwater protection standard in Section 845.600 and Calcium. The owner or operator of the CCR surface impoundment must submit a groundwater monitoring plan to the Agency with its operating permit application.

1) **After twelve quarters of groundwater monitoring, an owner or operator may petition the Agency to reduce the constituents analyzed based upon the CCR leachate chemistry in a CCR surface impoundment. The leachate characterization may consist of either sampling and analysis of pore space liquid within the CCR or applicable laboratory leach testing of representative CCR sample(s) for the groundwater monitoring constituents listed in Section 845.600 and Calcium.**

2) If the Agency approves the reduction of constituents, the owner or operator must analyze the CCR leachate chemistry every five years or if there is a change in coal source, combustion process, or handling process. If there is a change in the leachate chemistry, the monitoring program must be immediately adjusted to analyze for the constituents detected in the leachate.

3) An Agency disapproval is not a final decision appealable to the Board; however, a disapproval does not prevent an owner or operator from submitting subsequent petition(s).

b) Monitoring Frequency

1) The monitoring frequency for all constituents with a groundwater protection standard in Section 845.600 and Calcium, **or as amended pursuant to Section 845.650(a),** shall be at least quarterly during the active life of the CCR surface impoundment and the post-closure care period or period specified in Section 845.740(b) when closure is by removal, **except as allowed by Section 845.650(b)(3)**

A) For existing CCR surface impoundments **regulated under 40 CFR 257**, a minimum of eight independent samples from each background and downgradient well must be collected and analyzed for all constituents with a groundwater protection standard listed in Section 845.600(a) and Calcium no later than 180 days after the effective date of this Part. **The owner or operator may also rely upon data collected pursuant to Section 845.210(d).**

B) For existing CCR units not regulated under 40 CFR 257 but that are classified as regulated under 35 IAC 845, a minimum of

eight independent samples from each background and downgradient well must be collected and analyzed for all constituents with a groundwater protection standard listed in Section 845.600(a) and Calcium no later than 18 months after the effective date of this Part.

C) For new CCR surface impoundments, and all lateral expansions of CCR surface impoundments, a minimum of eight independent samples for each background well and downgradient well must be collected and analyzed for all constituents with a groundwater protection standard listed in Section 845.600(a) and Calcium during the first 180 days of sampling.

2) The groundwater elevation monitoring frequency shall be monthly **for at least 36 months or until such time that the potential effect, if any, of flooding events on the flow system is documented and the hydrologic data set is sufficient for intended numerical groundwater flow modeling purposes. Upon finding that the flow system is documented, and the hydrologic data is set, groundwater elevation monitoring may be completed concurrent with scheduled quarterly groundwater sampling events. The owner or operator must first obtain the certification of a qualified professional engineer, place the certification in the operating record and submit the certification to the Agency as part of the Annual Report in Section 845.550.**

3) **After the initial five years of groundwater monitoring, the owner or operator may reduce the sampling frequency to a semi-annual basis, if the owner or operator demonstrates that monitoring effectiveness has not been compromised, that sufficient quarterly data has been collected to characterize groundwater, and that leachate from the monitored unit does not constitute a threat to groundwater. For the purposes of this Section, the source must be considered a threat to groundwater if the results of the monitoring indicate either that the concentrations of any of the constituents monitored is above the groundwater protection standard in Section 845.600 and Calcium, or as amended in Section 845.650(a). The owner or operator must first obtain the certification of a qualified professional engineer, place the certification in the operating record and submit the certification to the Agency as part of the Annual Report in Section 845.550.**

* * *

d) If one or more constituents **being monitored** are detected, and confirmed by an immediate resample, in exceedance of the groundwater protection standards in Section 845.600 in **two consecutive quarterly** sampling event**s**, the owner or operator must notify the Agency which constituent exceeded the groundwater protection standard and place the notification in the facility's operating record as

required by Section 845.800(d)(16). The owner or operator of the CCR surface impoundment also must:

* * *

3) Except as provided in subsection (d)(4), within 90 days of the **two consecutive quarterly** ~~detected~~ exceedance **events** of the groundwater protection standard, initiate an assessment of corrective measures as required by Section 845.660.

4) Alternative Source Demonstration. The owner or operator of a CCR surface impoundment may, within 60 days of the **two consecutive** ~~detected~~ exceedance **events** of the groundwater protection standard, submit a demonstration to the Agency that a source other than the CCR surface impoundment caused the contamination and the CCR surface impoundment did not contribute to the contamination, or that the exceedance of the groundwater protection standard resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality, or a change in the potentiometric surface and groundwater flow direction. Any such demonstration must be supported by a report that includes the factual or evidentiary basis for any conclusions and must be certified to be accurate by a qualified professional engineer.

* * *

C) If the Agency does not concur with the written demonstration made pursuant to subsection (d)(4) of this Section**, the Agency's nonconcurrence is a final Agency decision appealable to the Board pursuant to Part 105 of the Board's rules. If an owner or operator appeals the Agency decision, any further corrective actions required under Sections 845.660, 845.670, and 845.680 are stayed pending the appeal.**

D) If the owner or operator does not appeal the Agency's nonconcurrence, the owner or operator of the CCR surface impoundment must initiate the assessment of corrective measures requirements under Section 845.660.

Section 845.660 Assessment of Corrective Measures

a) Unless the Agency has concurred with an alternative source demonstration made pursuant to Section 845.650(d)(4) **or the owner or operator has filed an appeal of the Agency's nonconcurrence**, the owner or operator must initiate an assessment of corrective measures to prevent further releases, to remediate any releases and to restore the affected area.

1) The assessment of corrective measures must be initiated within 90 days of finding that any constituent listed in Section 845.600 has been detected in exceedance of the groundwater protection standards **in two consecutive quarterly sampling events**, or immediately upon detection of a release of CCR from a CCR surface impoundment.