

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

<b>In the Matter of:</b>	)	
	)	
<b>SIERRA CLUB, ENVIRONMENTAL</b>	)	
<b>LAW AND POLICY CENTER,</b>	)	
<b>PRAIRIE RIVERS NETWORK, and</b>	)	
<b>CITIZENS AGAINST RUINING THE</b>	)	
<b>ENVIRONMENT</b>	)	
	)	<b>PCB 2013-015</b>
<b>Complainants,</b>	)	<b>(Enforcement – Water)</b>
	)	
<b>v.</b>	)	
	)	
<b>MIDWEST GENERATION, LLC,</b>	)	
	)	
<b>Respondent.</b>	)	

**NOTICE OF FILING**

TO: Don Brown, Clerk	Attached Service List
Illinois Pollution Control Board	
60 E. Van Buren St., Ste. 630	
Chicago, Illinois 60605	

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board a Notice of Filing for Midwest Generation, LLC’s Post-Hearing Brief and Appendices, a copy of which is hereby served upon you.

MIDWEST GENERATION, LLC

By:           /s/ Jennifer T. Nijman          

Dated: January 18, 2024

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**CERTIFICATE OF SERVICE**

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing for Midwest Generation, LLC's Post-Hearing Brief and Appendices was filed electronically on January 18, 2024 with the following:

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Chicago, Illinois 60605

and that true copies of the pleading were emailed on January 18, 2024 to the parties listed on the foregoing Service List.

/s/ Jennifer T. Nijman

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

In the Matter of: )  
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**SIERRA CLUB, ENVIRONMENTAL LAW )**  
**AND POLICY CENTER, PRAIRIE )**  
**RIVERS NETWORK, and CITIZENS )**  
**AGAINST RUINING THE )**  
**ENVIRONMENT )**  
) **PCB 2013-015**  
**Complainants, ) (Enforcement – Water)**  
)  
v. )  
)  
**MIDWEST GENERATION, LLC, )**  
)  
**Respondent. )**

**RESPONDENT MIDWEST GENERATION, LLC’S POST-HEARING BRIEF**

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**APPENDICES**

For ease of reviewing the extensive amount of information presented, MWG prepared an updated Statement of Facts (“SOF”) based on the testimony and records established at the second phase of the hearing. This updated Statement of Facts is attached as Appendix B and includes separately numbered facts along with citations to the relevant exhibits and testimony that prove the facts. MWG is also providing, for the Board’s convenience, MWG’s Statement of Facts from

the first phase of the hearing, attached as Appendix A. The facts presented in Appendices A and B are numbered sequentially with Appendix A presenting SOFs 1-670 and Appendix B presenting SOFs 671-1177. Key facts are incorporated throughout the Post-Closing Brief and cited as “SOF”.

**Appendix A – Statement of Facts, 1-670**

**Appendix B – Statement of Facts, 671-1177**

**Appendix C – Chart of Ponds and Impoundments (excerpt from MWG Ex. 1702)**

**Appendix D – Weaver Consultants Group Hearing Presentation, MWG Ex. 1702**

**Appendix E – Sample Location Maps for Joliet 29 Station, Powerton Station, Will County Station and Waukegan Station (excerpts from MWG Ex. 1702)**

**Appendix F – *People v. Lincoln, Ltd.*, 2021 IL App (1st) 190317-U (Nov. 5, 2021)**

**RESPONDENT MIDWEST GENERATION, LLC'S POST-HEARING BRIEF**

This matter began with a “yes.” In 2009, Midwest Generation, LLC (“MWG”) said “yes” to Illinois Environmental Protection Agency’s (“IEPA” or “Agency”) request to conduct a hydrogeologic study around its ash ponds, “yes” to IEPA’s request to install groundwater monitoring wells around the ponds, and “yes” to IEPA’s request to analyze the groundwater on a quarterly basis and submit the results to IEPA. There was no order or statutory duty to conduct the work IEPA requested. MWG said “yes” because of its commitment to environmental stewardship and its desire to cooperate with the IEPA. Complainants used the groundwater data that MWG voluntarily collected as the basis for this lawsuit.

Since its first “yes”, MWG maintained its commitment to environmental stewardship by continuing to conduct groundwater monitoring, investigating on-site areas, entering into Compliance Commitment Agreements (“CCAs”) with IEPA, agreeing to reline ponds before there was any legal requirement, confirming the absence of risk to human health and the surrounding environment, and ultimately performing the work required under the federal and Illinois coal combustion residual (“CCR”) rules. MWG’s actions have consistently been reasonable and demonstrate a commitment to go above and beyond the standards established in the Illinois Environmental Protection Act (“Act”) and its regulations.

In its Interim Order in this case, the Illinois Pollution Control Board (“Board”) asked the parties to present an appropriate remedy for the four MWG stations at issue. Only MWG complied. The Board should enter an Order that provides for the remedies MWG’s experts have proposed for the four stations and finally end this case.

**I. EXECUTIVE SUMMARY**

It is well known by now that this case involves CCR, impoundments, and ponds at four MWG stations: the Joliet 29 Electric Generating Station located in Joliet, IL (“Joliet 29” or “Joliet 29 Station”), the Powerton Electric Generating Station, located in Pekin, IL (“Powerton” or “Powerton Station”), the Waukegan Electric Generating Station, located in Waukegan, IL (“Waukegan” or “Waukegan Station”), and the Will County Electric Generating Station, located in Romeoville, IL (“Will County” or “Will County Station” and collectively the “Stations”). There is no dispute that the MWG Stations are old; two at least 100 years old. Since before MWG began operating the Stations in 1999, ponds at the Stations have been used only for temporary storage of

CCR, which is not a hazardous waste. The active ash ponds have been lined since 1977-78, either with a poz-o-pac liner, which is a type of concrete, or a Hypalon liner, a synthetic material, or both.

Upon taking over the Stations, MWG saw reports stating that there could be certain areas of ash historically placed at the Stations, and it reviewed and relied on technical opinions that no further work needed to be done. Samples taken in several of the historically placed ash areas revealed that the ash in those areas met the standards for beneficial reuse of coal combustion byproduct and supported the conclusion that the historic ash areas required no corrective actions.

Despite the absence of a requirement to conduct any work, when MWG began operating the Stations, it prepared a fleet-wide analysis of its ponds to determine the conditions of the liners and began a program to replace pond liners. As that program was underway, MWG agreed to IEPA's requests to voluntarily install groundwater monitoring wells around its ponds when others declined, voluntarily begin quarterly monitoring of the groundwater, and voluntarily submit the groundwater results to IEPA. MWG also confirmed there were no potable wells downgradient of its ponds. When the voluntary sampling of these 100-year old facilities revealed exceedances of groundwater constituents, MWG resolved IEPA's alleged violations by voluntarily entering into CCAs and agreeing to install new liners, at great expense. MWG agreed to install the liners even while expressing the concern that the liners might not comply with then impending proposed federal regulations for CCR surface impoundments.<sup>1</sup> Following promulgation of the federal CCR rules, MWG's concerns were realized and its new, Illinois-EPA approved liners did not meet all the standards in the new regulations.

Now there are two new CCR rules – the federal CCR rule and Illinois CCR rule – and MWG is working to comply with both. Pursuant to the Illinois rule, MWG timely submitted operating and construction permit applications to IEPA to close or retrofit its CCR surface impoundments. The permit applications are still pending, and without the permits MWG cannot move forward with any action at the CCR surface impoundments. Similarly, there are two additional new rules pending that, if passed, will regulate historic areas of ash. With those rules pending, it is technically impractical and economically unreasonable for MWG to move forward with any actions at the alleged historic areas of ash, because any actions could conflict with the final rules.

MWG has now collected and submitted to IEPA over ten years of quarterly groundwater

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<sup>1</sup> “CCR surface impoundments” is a term of art defined in 40 C.F.R. §257.2 (*see also* 415 ILCS 3/3.143). Not all of the ponds at the Stations are CCR surface impoundments.



monitoring data. Based upon that comprehensive data, MWG's technical experts, the only experts whose opinions the Board determined should merit any weight, confirmed there are no downgradient potable water wells and no risk of impact to any adjacent surface water. MWG's experts also concluded that the concentrations of constituents in the groundwater at the Stations are decreasing, demonstrating that monitored natural attenuation ("MNA") is occurring, and agreeing with the Board that the MNA process, "by its nature, [is] a long one." *Sierra Club v. Midwest Generation, LLC*, Order, (Feb. 6, 2020) p. 13 ("2020 Board Order").

Because of MWG's long-standing efforts to be proactive and comply with regulatory requirements at each of its Stations, the Board certainly need not penalize MWG. Indeed, the Board has recognized that the imposition of penalties can hinder the fulfillment of the purposes of the Act and that it is important to encourage companies to act in good faith to comply with the Act, stating:

In the opinion of the Board, Merlan [the respondent] has exercised good faith in trying to control its problems, and to penalize a company such as this would discourage all those who act in good faith to bring an end to their pollution problems. **It is certainly the policy of this Board not to penalize those who are honestly trying, which is certainly the case here.**

*Employees of Holmes Bros v. Merlan, Inc.*, PCB71-39 (Sept. 16, 1971), *slip-op* p. 5 (emphasis added). The Board should follow its policy. The record is clear that, from the moment MWG took over operations of the Stations, it has in good faith honestly tried, often at significant costs, to go beyond compliance with the Act and underlying regulations and to ensure no risks to human health and the surrounding environment. Any "punishment" here would have the opposite effect and suggest that no one should cooperate with IEPA or undertake voluntary actions to improve the conditions of historic properties they acquire.

For the future of these Stations, MWG's experts have presented technically practical and economically reasonable measures to serve as the remedy, including monitoring and maintaining the groundwater management zones ("GMZs") it established at the Stations under IEPA oversight, continuing groundwater monitoring to establish that MNA is progressing, and meeting the requirements under both the federal CCR and Illinois CCR rules. MWG's experts have further proposed installing an engineered cap over a former ash area at the Waukegan Station – an area that is also impacted by off-site contamination, conditioned on the pending rules for historic ash areas of ash. These recommendations are made in light of the absence of risk posed by the

conditions in the groundwater at the four Stations, changes in operations at each Station, and the closing or retrofitting of CCR impoundments and other areas of ash.

In comparison, Complainants propose nothing. Complainants' "expert", whose opinions this Board has already determined should carry little weight, has presented nothing but a "process" without any specifics, merely suggesting an undefined nature and extent investigation. Even if that opinion were entitled to any weight, then what? Who decides if the investigation is sufficient? When (and for how long) do the four separate investigations take place? Afterwards, do the parties return to the Board to evaluate the results and argue over next steps? Is that another "remedy" hearing years from now? Does that third hearing include another analysis of the economic benefit value? Or does that analysis take place after the corrective actions are taken? Complainants have not provided answers to these questions. For a group that claims this matter has gone on too long, they have not presented a way to end it. MWG has. The Board should end this by entering an order with the remedy recommended by MWG's experts and with no penalty. *Employees of Holmes Bros, PCB71-39, slip-op* p. 5 (any penalty would "discourage all those who act in good faith to bring an end to their pollution problems"). If the Board elects to examine whether MWG received any economic benefit as part of its analysis of the 42(h) factors, MWG's economic expert determined that a minimal benefit could have been attained.

As an organizational note, because this brief encompasses fact and argument from this entire case (both the first phase hearing on liability and the subsequent second phase hearing on remedy), MWG begins with an update on the conditions at each of MWG's four Stations. In sum, the four Stations are in a transitional phase, with three ceasing burning coal and all moving forward with compliance with both the federal and Illinois CCR rules. Next, MWG discusses certain errors made by the Board in its June 20, 2019 Interim Order (and other Board orders) to allow the issues to be corrected in any final order and to preserve the issues for appeal. MWG then discusses the areas of the four MWG stations where the Board found no contamination (thus requiring no remedy), and the appropriate Illinois statute (21(r)) that should be applied to the historic placement of CCR waste on land. MWG describes the appropriate technical remedy for the Stations as presented by MWG's experts, who are the only technical experts whose opinions the Board found should be given due weight. Finally, MWG analyzes the factors under Sections 33(c) and 42(h) of the Act, which demonstrate that MWG has acted reasonably and no penalty is warranted. 415 ILCS 5/33(c), 42(h).

## **II. STATUS OF THE STATIONS**

In order to set the stage for the experts' discussion of proposed remedies at its Stations, MWG presented additional detailed evidence during the second hearing to update the conditions at the Stations and to describe the extensive work MWG has conducted related to CCR.

The four Stations are all in industrial areas, suitable for their operations, and MWG began operating the four Stations in 1999 after acquiring them from Commonwealth Edison. MWG SOF 1, 704. Before 1999, each of the Stations was operated as a coal-fired power station for many years by entities unrelated to MWG. SOF 19.<sup>2</sup> Until 2022, each of the Stations generated electricity sold on the PJM<sup>3</sup> Energy Market. SOF 683. The Stations filled electricity needs during the peak times energy was required, such as when the temperatures are very hot or very cold and the electricity demand is greater than normal. SOF 13-14, 684. MWG would run its units to meet the demand to avoid brownouts and blackouts. *Id.* When the Stations generated electricity using coal, the resulting CCR was temporarily stored in lined ponds. Importantly, all of the experts agreed that CCR is not a hazardous waste. SOF 42, May 15, 2023 Tr., p. 203:19-20.

At the time of the second hearing, three Stations were no longer using coal and instead planning to build battery storage units to support renewable energy resource usage; only one Station continued to generate electricity with coal but is retrofitting its ash ponds in compliance with the new CCR rules.

### **A. The Joliet 29 Station**

Joliet 29 continues to be unique both in its operations and the fact that groundwater beneath the Station meets Illinois standards. Joliet 29 converted to natural gas in 2016, ceasing to burn coal and no longer generating CCR. SOF 66, 685. Consistent with the facts established at the first hearing, since 2010, groundwater at the Joliet 29 Station shows no coal ash constituents above Class 1 standards attributable to the Station operations or impoundments. *See infra* § V.B; MWG's Post-Hearing Brief, July 7, 2018, pp. 32-35.

The Joliet 29 Station was built in 1964-1965 and is zoned industrial. SOF 64, 717, 718. The Board found that Joliet 29 is located in a primarily industrial area. Interim Order, p. 22. Indeed, Complainants' first expert stated, "the surrounding land use is almost entirely industrial with some parcels of undeveloped land." Comp. Ex. 401, p. 9. To the north is Channahon Road (Route 6), a

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<sup>2</sup> A detailed timeline of events for each Station is at MWG Exhibits 663-666 and is updated in MWG Exhibit 1607.

<sup>3</sup> PJM stands for "Pennsylvania-New Jersey-Maryland Interconnection", electricity market, and covers those states as well as portions of Illinois.

four-lane highway with industrial and commercial properties beyond. SOF 69-71, 719-722. To the west is a former Caterpillar manufacturing facility that is now a transportation hub. *Id.* To the east is the Brandon Road Lock and Dam. *Id.* And to the south is the Des Plaines River with industrial properties beyond. *Id.*

There is also no dispute, and the Board agreed, that there are no potable wells downgradient of the Joliet 29 ash ponds. Interim Order, p. 29, SOF 76, 727. Property investigations conducted in 1998, before MWG assumed operations, concluded that there was “no requirement under Illinois environmental law to further investigate or remediate this property.” SOF 84.

**i. The Joliet 29 Ponds**

Surface impoundments at each of MWG’s Stations are subject to regulation under the federal CCR rule, and, effective subsequent to the first hearing, the Illinois CCR rule. There are three ponds at Joliet 29 Station, Ponds 1, 2 and 3. At the time of the first hearing, MWG established that Ponds 1 and 3 did not contain CCR and are not CCR surface impoundments under the federal CCR rule. SOF 109-110, 115-118. While the second hearing was underway, the Board similarly determined that under the Illinois CCR rule Ponds 1 and 3 are not CCR surface impoundments. SOF 730-732. Pond 2 is the only CCR surface impoundment under the federal and Illinois CCR rule at the Joliet 29 Station. SOF 733. As part of MWG’s general operations, MWG removed the CCR from Pond 2 in 2019 and submitted to IEPA a permit application to close the pond on February 1, 2022. SOF 734, 1128. However, MWG cannot proceed to close Pond 2 without a permit. SOF 1076-1080. An updated list and status of the Joliet 29 ponds can be found in a summary chart prepared by Weaver Consultants Group (Weaver), attached as Appendix C, and presented during the second hearing. The Weaver presentation is attached in full as Appendix D (MWG Ex. 1702).

**ii. Investigation of MW-9 at Joliet 29 Station**

The Board identified groundwater results at monitoring well MW-9 as the only downgradient location at Joliet 29 above the groundwater standards on a regular basis. Interim Order, p. 30. The groundwater results at MW-9, which is near Pond 3, had a low pH, unlike the results from other monitoring wells at the Station. SOF 777. Because the pH level was unique, and because nearby Pond 3 did not contain CCR, MWG initiated an investigation around MW-9. SOF 778-779. MWG’s consultant, KPRG & Associates (“KPRG”) sampled water contained within a former wastewater treatment plant near MW-9, drilled 18 soil borings, and collected soil samples. SOF 780-783, 787. KPRG also attempted to install two temporary monitoring wells but did not

encounter groundwater. SOF 785-786, 789. The soil borings, including from the temporary well borings, showed there was no CCR in the soil near or around MW-9. SOF 784-785. The concentrations in the samples from the water contained within the former wastewater treatment plant were below the Class I groundwater standards, and the soil samples had a pH generally in the neutral range. SOF 788, 790-791. As discussed in Section V.A.ii, MWG's experts determined that the constituents in the groundwater were naturally occurring and not a result of CCR.

**iii. Historic Ash Areas at Joliet 29 Station**

The Board identified three areas at the Joliet 29 Station that contained historic coal ash. Interim Order, p. 26-28. One location is on the northeast side of the Joliet 29 Station ("Northeast Area"), the second is on the southwest side of the Joliet 29 Station ("Southwest Area"), and the third is on the northwest side of the Station ("Northwest Area"). SOF 119-120, 141, 735-736, 771. The Board correctly found that any coal ash in these areas was deposited before MWG began operating. Interim Order, pp. 26-28. When MWG began operating the Joliet 29 Station, MWG considered the identified areas, and based upon advice from the prior owner's consultants and its own consultants, concluded that no further investigation or remediation was required in the historic ash areas. SOF 121, 737. Under current law, and where no risk is present, MWG is not required to conduct any additional work in these areas. SOF 738. MWG has not placed any ash in the historic areas. SOF 708, 739, 764.

a. Northeast Area

The Northeast Area is on the northeast side of the Station, near the Brandon Road Lock and Dam. During the second hearing, MWG presented undisputed evidence showing that MWG does not own the entire Northeast Area. Instead, the State of Illinois owns a strip of the Northeast Area along the Des Plaines River. SOF 793.

The Northeast Area is a part of the Joliet 29 NPDES stormwater permit and MWG has consistently ensured that the area is inspected and properly covered. SOF 125-126, 740. Neither USEPA nor IEPA have asked MWG to take further action in the area. SOF 122, 741. KPRG conducts a walk-over inspection of the area annually to identify any erosional features. SOF 126-128, 742-743. KPRG walks the entire embankment along the Des Plaines River and takes photographs, looking for any erosional rails or other features that might affect the embankment. SOF 748. The embankment along the River is heavily vegetated and material on the ground is dolomite cobble, which is typical of material removed when the Des Plaines River was dredged. SOF 749-751. Throughout the walkover inspections, KPRG has not observed stressed vegetation

nor any seeps from the Northeast Area to the Des Plaines River. SOF 753-754, 757. When Mr. Gnat, of KPRG, conducted the first inspection in 2009, he observed some areas of erosion exposing the soil underneath. SOF 128. In those exposed areas, later repaired, he observed soil mixed with some ash in those locations – he did not observe a large mass of ash. SOF 744-745. In the more recent inspections, KPRG observed no evidence of erosion and thus no repairs were necessary. SOF 131, 754. In 2022 and again in 2023, KPRG observed the potential for erosion in the soil in a different location within the Northeast Area but did not observe any ash mixed in the soil. SOF 755-756. The eroded areas were repaired. *Id.*

Recently, the U.S. Army Corp of Engineers (“USACE”) and the Illinois Dept. of Natural Resources (“IDNR”), asked to purchase the Northeast Area to install a fish barrier at the Brandon Road Lock and Dam that will prevent the migration of invasive species into the Great Lakes. SOF 759. As part of the project, USACE collected soil borings on the strip of land owned by the State of Illinois. SOF 794. The borings showed fill, gravel and sand, but no CCR material. *Id.* In its conversations with both agencies, MWG was informed that the Northeast Area contains river spoils from dredging of the Des Plaines River when the dam was constructed. SOF 760. This was consistent with KPRG’s observations of cobble. SOF 749-751. MWG representatives agreed that it would not make sense for the Northwest Area to have been historically used for any large-scale placement of ash because the only sources of historic ash (*i.e.*, the Joliet 29 operations and a station across the Des Plaines River) were located too far away to haul quantities of ash, especially when other locations were close by. SOF 761-762, 6/12/23 Tr., p. 320:5-321:8.

b. Southwest Area

The Southwest Area is located along the southwest side of the Station. The neighboring property adjacent to the west (the Caterpillar site) is contaminated with metals in the groundwater. SOF 136-137, 766. To address the contamination, the neighboring property owners enrolled their property in the IEPA Site Remediation Program (“Illinois SRP”). The Illinois SRP provides a framework for investigations and corrective actions at historical industrial properties. SOF 884. It allows for risk-based corrective action approaches, where an owner can review the property based on risk, and assess property boundaries and nearest receptors to implement a remedy that could include source control, removal, engineering controls such as an asphalt cap, or institutional controls such as Environmental Land Use Controls (“ELUCs”). SOF 885. The Caterpillar site investigation found that certain metals in the groundwater from that site had migrated onto the Joliet 29 Station. SOF 136-137, 766. To obtain a No Further Remediation Letter from IEPA, the

Caterpillar site requested an ELUC covering the western side of the Joliet 29 Station, including a large portion of the Southwest Area. SOF 767. The ELUC restricts the use of groundwater or any soils. SOF 768. Because of the ELUC, MWG has not disturbed or removed any soil in the Southwest Area. SOF 138-140, 769. Neither USEPA nor the IEPA have asked MWG to investigate the Southwest Area, and to MWG's knowledge IEPA has not required Caterpillar nor the current site owner to conduct any additional work. SOF 765, 770.

c. Northwest Area

The Northwest Area is a small area located on the northwest side of the Station. In 2005, KPRG investigated whether material in the area would meet the requirements of coal combustion byproduct ("CCB"). SOF 141-142. MWG requested the evaluation to determine whether the ash in that area could be beneficially used as a wind break along the existing coal storage piles. SOF 142-143, 771-772. Other than a small area, KPRG concluded with a high degree of statistical certainty that the ash in the northwest area met the CCB criteria established in the Act and could be beneficially used. SOF 144-148, 774-775. MWG removed the small area that contained ash with slightly higher concentrations of copper and lead. SOF 776. Similar to the other historic ash areas, neither USEPA nor IEPA have asked MWG to investigate the Northwest Area. SOF 773.

**B. The Powerton Station**

The Powerton Station began operations in the late 1920s and is the only MWG station that continues to generate electricity with coal (using retrofitted ponds for temporary storage, compliant with CCR rules). SOF 152-155, 688, 798. The Station is zoned industrial, and is located in an industrial and agriculture area, including industries along Manito Road in Pekin and a prison. SOF 799, 802. Both Complainants' first expert and the Board agreed with the industrial designation, observing that surrounding land use includes industrial properties. Comp. Ex. 401, p. 10; Interim Order, p. 36. The Powerton Station includes Powerton Lake, which MWG leases to IDNR for recreational fishing and waterfowl hunting by the public. SOF 800. MWG spends a substantial amount of money to support the recreational use of Powerton Lake. SOF 801.

It is undisputed, and the Board agreed, that there are no potable wells located downgradient of the Powerton Station. Board Interim Order, p. 43, SOF 161, 803. There are two distinct but hydraulically connected groundwater flow units at the Powerton Station – a non-continuous silty clay unit and a larger sandy gravel unit. SOF 157-159, 804-806. In the first hearing, this was not in dispute. Complainants' first expert agreed there were two groundwater units and did not dispute that the groundwater flow maps should be drawn separately for each unit. SOF 157. The two units

were identified based on the boring logs and the units are hydraulically connected because there is no perched zone (*i.e.*, unsaturated area) between the two units. SOF 807-809. However, because the silty-clay unit is “thicker” than sand, the clay unit slows the groundwater as it flows through, causing the water levels to be higher than in the sandy gravel unit. *Id.* Not only did both of MWG’s experts and Complainants’ initial expert agree there are two distinct units that should be mapped separately, for over ten years IEPA has received the quarterly groundwater monitoring reports and has never disputed MWG’s interpretation of the groundwater flow in the two units at Powerton. SOF 810, 981.

Investigations conducted before MWG began operating the Station found “no evidence of landfilling”, “no constituents of concern detected at concentrations above the IEPA cleanup objectives in the groundwater samples collected,” and concluded that “There is no requirement under Illinois environmental law to further investigate or remediate this property.” SOF 162-165

**i. The Powerton Station Ponds**

The Powerton Station has multiple ponds, not all of which were used for CCR or used at all. At the time of the second hearing, only one pond continued to receive CCR. The remaining basins either were empty of ash, never contained ash, or had a plan to close pursuant to the federal and state CCR rules. SOF 817. An updated list and status of the Powerton basins can be found in a summary chart prepared by Weaver, attached as Appendix C. *See also* Appendix D, MWG Ex. 1702, pdf. p. 100.

a. The Powerton CCR Surface Impoundments

The Ash Surge Basin, a CCR surface impoundment under both the federal and Illinois CCR rule, is used to collect any overflow from the hydro bins that capture most of the ash. SOF 818-822. MWG continues to use the basin for its operations under an Alternative Capacity Demonstration submitted to USEPA. SOF 823. An Alternative Capacity Demonstration is not a delay in compliance. 6/13/23 Tr., p. 50:10-11. Rather, the demonstration is built into the federal CCR rule and recognizes that circumstances at power stations require some flexibility to allow needed generation of power. 6/13/23 Tr., p. 50:11-17.

The other federal and Illinois CCR surface impoundment is the Bypass Basin, which previously received ash when MWG was emptying the Ash Surge Basin. SOF 818-819, 824. The Bypass Basin is no longer in service. SOF 826. MWG removed the ash in the Bypass Basin as part of its general operations. SOF 825. The Metal Cleaning Basin, an Illinois CCR surface impoundment, was a temporary lay-down area and was not part of the ash sluice system. SOF 828.



For Powerton's continuing operations, these three ponds will be retrofitted with a federal and Illinois CCR rule compliant liner, including reusing the high-density polyethylene ("HDPE") liner inside the basins and installing a leachate collection system. SOF 827, 1137.

The Former Ash Basin is an inactive unlined CCR surface impoundment on the north side of the Powerton Station. SOF 244-245, 829-831. Since MWG began operations at the Station, ash has not been placed in the Former Ash Basin, and, to MWG's knowledge, ash was last sent to the Former Ash Basin in the 1970s. *Id.* Groundwater samples taken downgradient of the Former Ash Basin show that this area of historic ash is not leaching coal ash constituents to the groundwater. SOF 248-251. Complainants' first expert, Mr. Kunkel, agreed that results from the wells downgradient of the Former Ash Basin all had concentrations of boron, sulfate, and manganese below the Class I groundwater standard and even below Mr. Kunkel's calculation of a background concentration. 10/27/17 Tr. pp. 206:12-210:22. MWG's expert Mr. Seymour made the same observation and used this fact to support his overall opinion that historic ash areas do not necessarily leach coal ash constituents or cause water pollution. 2/1/18 Tr. p. 277:1-13; 2/2/18 Tr. p. 70:17-71:22. In its Interim Order, the Board concluded that the Former Ash Basin is not a source of contamination at the Station. Interim Order, p. 41. Yet despite the absence of groundwater contamination from the Former Ash Basin, because it is a CCR surface impoundment, MWG submitted a construction permit application to close the Former Ash Basin. SOF 1136. The closure plan for the Former Ash Basin is to remove material from the northern portion of the basin, consolidate it in the southern portion, and close the southern portion in place. SOF 1141. MWG is waiting for its permit to be issued and cannot close the Former Ash Basin, or move forward with retrofitting the CCR surface impoundments, without permits from IEPA. SOF 1077-1080.

b. Other Powerton Basins

The Powerton Station has other basins that are not CCR surface impoundments and not sources of coal ash constituents. SOF 231, 834. The Service Water Basin (f/k/a Secondary Ash Basin) is a lined basin that has been lined since before 1999. SOF 835. Both the IEPA and the Board agreed that the Service Water Basin is not a CCR surface impoundment, which MWG confirmed by sampling the material at the base of the pond and finding no ash. SOF 836-838. The East Yard Run-off Basin is used solely for stormwater runoff from the east half of the property at the Station and is not a CCR surface impoundment. SOF 232-233, 856-857, 863. At the request of IEPA, MWG sampled the water in the East Yard Runoff Basin for nine quarters to confirm that the water contained stormwater runoff and not water from an ash pond. SOF 858-859. IEPA agreed,

concluding that the chlorides found in the East Yard Runoff Basin were not due to coal ash, but from deicing agents applied at the Station. SOF 860-861. The Limestone Runoff Basin, located directly east of the Ash Surge Basin, is not a CCR surface impoundment, is not used by the Station, and, as Complainants agreed, has been empty since 2013. SOF 864-866.

**ii. Other Purported Areas of Ash**

Other than a single instance for fewer than three months, MWG has not placed ash on the ground outside of the ponds at Powerton. SOF 867. The only time ash was placed on the ground was in 2012 in one area south of the Bypass Basin. The ash was placed there following a cleanout for approximately two to three months in the winter and then was removed. MWG Ex. 1701, p. 55 6/13/23 Tr., p. 51:16-23.

There is an area of land between two intake channels at the Station SOF 869-870. The area contains river spoils dredged from the intake channels to maintain their shape. *Id.* Although Complainants speculated, without any basis, that the area could contain CCR, MWG's experts concluded that it was not likely that the area would have contained CCR because historic aerial photos showed railroad tracks and rail lines would have been blocked if the area had been used to deposit ash. 6/13/23 Tr., p. 55:8-19; MWG Ex. 1701, MWG13-15\_81432.<sup>4</sup>

**C. The Waukegan Station**

The Waukegan Station was built circa 1923 and has been a power plant ever since. SOF 256, 873. It is zoned General Industrial and MWG began operating the Waukegan Station in 1999. SOF 253, 877. Before MWG began operations, MWG learned from prior investigations that "There is no requirement under Illinois environmental law to further investigate or remediate this property." SOF 272. In May 2022, the Waukegan Station ceased burning coal to generate electricity. SOF 692. The Station continues to operate "peaker" units, which do not use coal and run during peak demand. *Id.* The Waukegan Station is also planning to install battery storage units to enhance renewable energy resource usage. SOF 697. Renewable energy resources may only operate when weather conditions allow (*i.e.* when it is sunny or windy). *Id.* Batteries store the electricity from the renewable resources for use when the renewable resource is not available, such as at night. *Id.*

The area around the Waukegan Station has been dominated by industries since at least the 1930s. SOF 874. To the north, there is an active Superfund (CERCLA) Site, the Johns Manville

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<sup>4</sup> The Interim Order also identified ash, or soils containing ash, in areas around certain ponds at Powerton, as well as Waukegan, and Will County. Those areas are addressed below (See §§V.A-E)

Company, and to the west are the Griess-Pfleger Tannery and the General Boiler sites. SOF 258-260, 874. As described below, contaminants have migrated on to the Waukegan Station from the two western, upgradient properties – Griess-Pfleger and General Boiler. To the south is the North Shore Sanitary District, which processes wastewater and often causes pungent odors to waft over MWG’s property. SOF 258, 874, 876. Additionally, there is a former manufactured gas plant further southwest of the property as well as the Johnson Marine Plant, another active Superfund Site, further south. SOF 259, 875. Complainant’s initial expert agreed that the Waukegan Station is surrounded by industrial properties. Comp. Ex. 401, p. 21. There are only two ash ponds at Waukegan – the East Pond and the West Pond. Further east of the East Pond is a steep slope, and a marshy area, with Lake Michigan over 900 feet away. SOF 879-882. No seeps have been observed on the East Pond’s embankment, nor anywhere near the shore of Lake Michigan. *Id.* There is no dispute, and the Board agreed, that there are no potable wells downgradient of the Waukegan ash ponds. Interim Order, p. 69, SOF 262, 878. The groundwater generally flows to the east-southeast. SOF 878.

**i. Offsite Sources of Impact to Groundwater at Waukegan**

The properties directly to the west of the Waukegan Station continue to contaminate the Waukegan Station. Both the Griess-Pfleger Tannery Site and General Boiler Property (collectively “Tannery Site”) have contamination in soils and groundwater based upon the historic uses of the properties, and both are being remediated pursuant to the Illinois SRP. SOF 263-281, 883.

As part of the risk-based closure allowed under the Illinois SRP, the Tannery Site owners established an ELUC on the west side of MWG’s property, and installed approximately six groundwater wells on MWG’s property. SOF 888-889. The ELUC on the western side of MWG’s property limits the use of the groundwater and restricts disturbance of soils. *Id.*, 893.

Groundwater containing contamination that exceeds the Illinois Class I standards, including arsenic, was and is migrating from the Tannery Site onto the Waukegan Station. SOF 886-887; 6/14/23 Tr., p. 84:17-85:6. In particular, MW-6, located upgradient of the MWG Station and downgradient of the Tannery Site, shows groundwater impacts, including boron, flowing from the Tannery Site onto MWG’s property. 6/14/23 Tr., p. 78:3-79:5; Comp. Ex. 1310, MWG13-15\_118492. There is no ash in the boring log for MW-6, indicating that the boron found in MW-6 is from the Tannery Site. 6/14/23 Tr., p. 79:9-24; Comp. 1331, MWG13-15\_110872. Also, the highest concentration of arsenic detected at the Waukegan Station was in MW-14, an upgradient well on the far western side of the Station at the boundary of the Station. 6/14/23 Tr., p. 80:10-83:9

Comp. Ex. 1331, MWG13-15\_110670; MWG Ex. 1702, p. 73. The Board found that the arsenic concentrations in the groundwater at MW-10 through MW-14 are caused by the Tannery Site. Interim Order, p. 74. Similarly, the boring log for MW-14 showed no ash. 6/14/23 Tr., p. 84:2-13 Comp. Ex. 1331, MWG13-15\_110879. Based upon the elevated concentrations in the upgradient wells, Weaver concluded that the arsenic and boron is migrating, and will continue to migrate, from the Tannery Site onto the Waukegan Station. 6/14/23 Tr., p. 79:22-80:5, 84:17-85:6.

**ii. The Waukegan Ash Ponds**

The Waukegan Station has two ash ponds, the East Pond and West Pond, located on the southern side of the Station and operated as part of the Station's NPDES permitted system. SOF 282, 288, 894. Both ponds are federal and Illinois CCR surface impoundments. SOF 896-897, 1050. An updated list and status of the Waukegan ponds can be found in the summary chart prepared by Weaver, attached as Appendix C. *See also* Appx. D, MWG Ex. 1702, pdf. p. 100.

Because the Station is no longer generating electricity with coal, it is not generating coal ash. 6/13/23 Tr., p. 130:18-21. The Station continues to operate peaker units and submitted an Alternative Capacity Demonstration to USEPA to allow it to use the East Pond to temporarily store stormwater. SOF 899. Pursuant to the Illinois CCR rule, MWG submitted a construction permit application to Illinois to close the ponds on February 1, 2022. SOF 1145. When MWG establishes alternative capacity for stormwater and is granted a permit, the East Pond will be closed in place. SOF 1146. At the time of the hearing, the plan for the West Pond was to close the pond by removal of the CCR and reuse the pond as a "low-volume waste pond." SOF 1147.<sup>5</sup> MWG cannot proceed with closing either pond without a permit from IEPA, and, as of the date of the hearing, IEPA had not issued a construction permit for MWG's ponds. SOF 1076-1079, 1151.

For over a decade, IEPA has reviewed the groundwater data that MWG collected from the Waukegan Station and consistently stated that the ponds are not a source of groundwater contamination. In 2013, IEPA was asked about the groundwater conditions at the Waukegan Station during a public meeting regarding MWG's NPDES permit. In response, IEPA stated that it did not believe the West and East Ash Ponds at Waukegan were the source of contamination. SOF 348-351, 900-902. In 2015, during a review of MWG's NPDES permit, IEPA again stated that MWG's groundwater monitoring indicated that the active ash ponds at Waukegan were not the

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<sup>5</sup> A "low-volume waste pond" is a pond, permitted under the NPDES program, that collects process water (like boiler blowdown water) and stormwater, but not CCR. 6/14/23 Tr., p. 177:1-13; *see also* 40 CFR §423.11(b)

likely source of contaminants in the groundwater. SOF 352, 903. After the Illinois CCR rule was passed, IEPA gave a presentation to the City of Waukegan about the rule and its applicability to the Station. In its presentation, IEPA stated that the “continued groundwater monitoring indicates a source other than East or West Ash Ponds.” SOF 904. Based upon the collective IEPA statements, MWG understood that the IEPA has concluded that the East and West Ponds are not a source of contamination. SOF 905.

**iii. Historic Ash Area at Waukegan Station**

There is an area at the Waukegan Station that contains historic coal ash, which the Board, in its Interim Order, referred to as the Former Slag Area (“FS Area”).<sup>6</sup> SOF 908. When MWG began operating the Waukegan Station, it understood that no further investigation or remediation was required at the Station, including at the FS Area. SOF 272. MWG has not had any operations in the FS Area, nor placed any ash in the area. SOF 909. The area is grassy field and has been used as a helicopter pad. 2/1/18 Tr., p. 10:14-15. The FS Area is also directly downgradient from the neighboring Tannery Site. In 2020, MWG investigated the FS Area by taking and sampling 40 borings of soil. SOF 910-912. MWG also sampled a subset of the soil borings with the leaching environmental framework test, to get an understanding of how metals and other constituents could mobilize under a range of pHs. SOF 914-916. The results of the investigation showed that the water table in the FS Area slopes downward to the east – it is about 10 feet below the surface on the east to deeper than 15 feet. SOF 918-923. Because of the presence of ash in the FS Area, MWG proposed to IEPA to cap the area as part of its petition for adjusted standard and finding of inapplicability to that area. SOF 924. However, MWG could take no action at the FS Area without Agency agreement. 5/19/23 Tr., p. 11:8-10.

There are no other known areas of historic ash at the Waukegan Station. A purported slag placement area on the north side of the Waukegan Station does not contain or store ash. SOF 907. Instead, it is a paved area, including the guard gate and parking lot. SOF 906.

**D. The Will County Station**

The Will County Station was built in 1955 and has been a power plant throughout that period. SOF 356, 927. In June 2022, the Will County Station ceased burning coal to generate electricity. SOF 695. The Station will continue to operate by installing battery storage units, for the same purpose as the units to be built at Waukegan - to enhance renewable energy resource usage. SOF

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<sup>6</sup> This area has also been called the “Alleged Former Slag Fly Ash Placement Area” and the “Grassy Field.”

697. The Station is zoned I-3, an industrial classification. SOF 930. The Station lies between the Chicago Sanitary Ship Canal and the Des Plaines River and is surrounded by industry. SOF 358-359, 928; Comp. Ex. 401, p. 29. In particular, the Citgo refinery is across the Chicago Sanitary & Ship Canal to the north (within view of the Station), to the south is Hanson Materials, a quarry, and there is also a former 55-gallon drum recycling facility to the west that caused groundwater contamination, including volatile organic compounds, metals, various polyaromatic hydrocarbons and PCBs. SOF 358-359, 928-929.

There are no potable wells downgradient of the ash ponds. SOF 361, 931. The groundwater flow under the ash ponds at Will County is to the west, towards the Des Plaines River. SOF 363, 932. Investigations of Will County Station before MWG began operations found “no evidence of landfilling” and concluded that “There is no requirement under Illinois environmental law to further investigate or remediate this property.” SOF 369-370. In fact, the area in the southeast of the Station that the Board identified as a potential area of ash was investigated as part of a 1998 Phase II investigation. SOF 933. The samples from soil borings in the area showed that concentrations in the soil were below the standards for RCRA metals, and the groundwater sample from the same area was below the Class I standards. *Id.*

**i. The Will County Ash Ponds**

There are four ash ponds at the Will County Station, Ponds 1N, 1S, 2S and Pond 3S. SOF 372, 934. Only Ponds 2S and 3S are federal and Illinois CCR surface impoundments. SOF 935-936. Ponds 1N and 1S are inactive CCR surface impoundments under the Illinois CCR Rule. SOF 937. An updated list and status of the Will County ponds can be found in the summary chart prepared by Weaver, attached as Appendix C. *See also* Appendix D, MWG Ex. 1702, pdf. p. 100. MWG initially submitted an Alternative Capacity Demonstration to USEPA, however, when the Station ceased burning coal, MWG withdrew the demonstration because it was no longer needed. SOF 940. In June 2023, MWG conducted a public meeting for the construction permit applications to close the Will County ponds in place. SOF 1152-1156. MWG cannot close the ponds without a permit from IEPA. SOF 1076-1079, 1156.

**III. CORRECTIONS OF ERRORS MADE BY THE BOARD**

Because of the length and breadth of these proceedings, it is not surprising that the Board has made a few legal and factual errors. Because the Board’s errors were not founded in law or fact,

were arbitrary and capricious, and could lead to an unfair and unreasonable result, the Board should correct these errors in its final order.

**A. The Board Cannot Make a Finding of Open Dumping at Joliet 29 Because There is No Such Claim in the Amended Complaint**

The Board's Interim Order mistakenly included a finding "that MWG violated Section 21(a) of the Act *at all four Stations.*" Interim Order, at 92 (emphasis added). This is not correct as to Joliet 29 because Complainants have never asserted an allegation of open dumping at Joliet 29. The Board recognized this fact, noting in its January 19, 2017 Order that "Citizen Groups do not allege open dumping at Joliet 29." (2017 Order, at 1 n.2). Although a complaint with an administrative body "need not be drawn with the same specificity as pleadings in a court of law, it must nevertheless state in a sufficiently clear manner the charges alleged." *Draper & Kramer, Inc. v. IPCB*, 40 Ill. App. 3d 918, 922 (1st Dist. 1976). Even under loosened standards, "in an enforcement proceeding, the respondent is entitled to notice of a specific violation charged against it and to notice of the specific conduct constituting the violation." *City of Pekin v. IPCB*, 47 Ill. App. 3d 187, 192 (3d Dist. 1977). So, without amendment, a party cannot be found liable for conduct not alleged to be actionable in the complaint. *Pekin*, 47 Ill. App. 3d at 192 (defendant cannot be found liable for violating cover requirements, where no such violation exists in the complaint). Even in their Amended Complaint, Complainants did not allege open dumping at Joliet 29. Moreover, it is not relevant if evidence is submitted at hearing to establish a violation, because the Board "may consider only the evidence which was concerned with violations charged in the complaint" and the Board "cannot shift the burden by ordering the [respondent] to show compliance with regulatory provisions which are outside the scope of the complaint." *Id.*

Accordingly, to the extent that the Board found open-dumping violations at Joliet 29, that finding is void—the Board has no jurisdiction over the question. *See Alton & Southern R.R. v. Ill. Commerce Comm'n*, 316 Ill. 625, 630 (1925) ("The Commerce Commission cannot enter a valid order which is broader than the written complaint filed in the case"). The Board should make it clear in its final order that it does not make a finding of open dumping at the Joliet 29 Station because the claim was never alleged.<sup>7</sup>

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<sup>7</sup> MWG is entitled to challenge subject-matter jurisdiction at any time. *Tate v. PCB*, 188 Ill. App. 3d 994, 1018 (4th Dist. 1989); *see also Ill. Power Co. v. IPCB*, 137 Ill. App. 3d 449, 452 (4th Dist. 1985) (Board order voided due to notice defect, even though defendants fail to identify prejudicial effect). In any case, MWG previously raised this issue in its fourth defense to the Amended Complaint, and in its opening statements at both the first and second hearings.

**B. A Groundwater Management Zone Resolves Liability under Section 12 of the Act**

It is axiomatic that a Groundwater Management Zone (“GMZ”) resolves liability under Section 12 of the Act *and* its underlying regulations. The two are inextricably intertwined. Statutes are the source of regulations; and regulations cannot be promulgated without a statute that allows and directs the development of regulations to implement the statute. IL. Adm. Proc. Act, 5 ILCS 100/*et seq.*; 415 ILCS Section 27 (providing authority to the Board to adopt implementing regulations). Yet, in this case the Board has incorrectly suggested that while a GMZ resolves specific regulatory groundwater violations, it may not resolve alleged violations of Section 12 of the Act – a general section that forms the basis of environmental regulations. 2020 Order, pp. 9, 13. This is in error and should be corrected in the final order.

If, as the Board incorrectly suggests, a GMZ resolves only a regulatory liability for water quality standards, but not a general statutory claim of water pollution under Section 12 of the Act, then a party’s liability would never be resolved. IEPA could file a claim on one day for alleged liability under 35 Ill. Adm. Code 620, and a respondent could address it with a GMZ. The next day the IEPA could file another claim for the same water pollution event under Section 12(a) of the Act. That makes no sense and turns the law on its head. If a GMZ does not protect a party from liability under Section 12(a) of the Act, there is no reason to even create a GMZ pursuant to the implementing regulations, and no reason to work with IEPA to resolve violations of groundwater issues. To allow Section 12(a) to circumvent the GMZs is not supported by the law and makes no logical sense.

In fact, the history of this case provides a clear example of how a GMZ encompasses both regulatory claims and the implementing statute. In 2012, after MWG voluntarily conducted sampling at its Stations, IEPA issued violation notices alleging groundwater violations based on *both* Section 12 of the Act and its implementing regulations. Comp. Exs. 1A-4A. MWG resolved IEPA’s claims of groundwater exceedances through CCAs that required MWG to implement GMZs at the Joliet 29, Powerton, and Will County Stations. MWG Exs. 626, 636, 647, 656. IEPA, by issuing the CCAs, recognized by the express terms of the CCAs that MWG had addressed *all* the alleged groundwater violations – both Section 12 and under Part 620. *Id.*, ¶7 (stating CCAs are intended to address all the violations alleged). IEPA did not, nor could they, claim that MWG had

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MWG’s Answer and Supplemental Defenses to Second Complaint Aug. 12, 2022, pp. 25-27; 10/23/17 Tr., p. 25:10-13, 5/15/23 Tr., p. 35:5-11.



only addressed the regulatory claims, but not section 12. IEPA considered the groundwater violation notices fully resolved.

The Board has improperly cited to *People v. Texaco Refining and Marketing, Inc.* to state that the GMZs at the Stations do not resolve a claim of water pollution under Section 12. PCB02-03 (Nov. 6, 2003). In *Texaco*, the People moved to strike Texaco's eighth affirmative defense that the groundwater standards did not apply when the GMZ was established. *Id.* at 22-23. Although the Board agreed that compliance with another regulatory program, RCRA, would not shield Texaco from liability under the water regulatory program, the Board did not dismiss Texaco's GMZ defense. Thus, the Board did not decide in *Texaco* whether establishing a GMZ under the groundwater quality rules provides exemption from liability under the water pollution section of the Act, 415 ILCS 5/12(a). *Id.* at 22-23.

Rather, in *People v. Heritage Coal*, the People indicated that a GMZ *does* resolve liabilities under the Act. PCB No. 99-134 (Sept. 6, 2012). The issue was whether the People's alleged violations of Section 12(a) and Part 620 of the Board rules for groundwater contamination after the GMZ was established. *Id.* \*2-3. The People conceded that "respondent's liability for civil penalties [did] not extend past" the date the GMZ was established. *Id.*, \*24. Indeed, the absence of any enforcement for a site with a GMZ indicates that the State of Illinois considers a GMZ to resolve all liability. The IEPA recently reported to the Board that since the inception of the GMZ program in 1991 it has approved 22 GMZs, 15 of which are associated with CCR surface impoundments. *In the Matter of: Proposed Amendments to Groundwater Quality 35 Ill. Adm. Code 620*, IEPA's Pre-filed Answers to the Board's Questions, March 4, 2022, Agency Answer to Question 9(d).<sup>8</sup> Despite the apparent presence of groundwater contamination at the GMZ sites throughout Illinois, likely for decades, the State correctly considers a GMZ to resolve *all* statutory and regulatory liability. The Board should correct its order to clarify that allegations of Section 12 are addressed by the GMZs.

**C. The Board Incorrectly Failed to Consider the Section 33(c) Factors in Its Interim Opinion**

Under Section 33(c) of the Act, the Board must consider MWG's defenses to liability and assess whether MWG acted reasonably in determining whether MWG caused or allowed violations

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<sup>8</sup> IEPA did not insert page numbers in its Answers to the Board's questions. The Agency's Answer to 9(d) is on pdf. page 12 of the filed document.

of the Act. 415 ILCS 5/33(c). The section is unequivocal, stating that *in making its opinions* the Board “**shall take into consideration all the facts and circumstances bearing upon the reasonableness of the emissions, discharges or deposits.**” *Id.* (emphasis added). This applies to any Board opinion. And yet, in its Interim Opinion, the Board arbitrarily ignored its statutory duty to evaluate the reasonableness of MWG’s emissions and discharges under Section 33(c) of the Act, in contravention of the requirements of the Act.

The Illinois Supreme Court clarified that when the Board prepares an order it “must take into consideration the factors referred to in section 33(c) and must indicate that it has done so in its written opinion by stating the facts and reasons leading to its decision. *Incinerator, Inc. v. IPCB*, 59 Ill.2d 290, 296 (1974). The Illinois Supreme Court did not limit its holding to orders concerning penalties or remedies. In fact, the Supreme Court noted that the purpose of Section 33(c) is as an additional protection against arbitrariness by the Board and to provide guidelines for the Board in reaching its decisions. *Id.*, citing *Waukegan v. IPCB.*, 57 Ill. 2d 170, 182, 311 N.E.2d 146, 152 (1974). The Board has explained that Section 33(c) “operates as an opportunity for the respondent to establish a defense to the complainant’s allegations.” *Kochanski v. Hinsdale Golf Club*, PCB 88-16, *slip op.* at 20-21 (July 13, 1989). Section 33(c)'s “specificity arises from the composition of the Board itself; its members are ‘technically qualified’ individuals only and not required to have any legal training”, thus the guidance provided by section 33(c) is intended to prevent arbitrary Board decisions. *Envtl. Prot. Agency v. Fitz-Mar, Inc.*, 178 Ill. App. 3d 555, 563, 127 Ill. Dec. 652, 657, 533 N.E.2d 524, 529 (1st Dist. 1988); *see also Western Springs v. IPCB*, 107 Ill. App. 3d 864, 8 (1st Dist. 1982); *Tri-County Landfill Co. v. IPCB*, 41 Ill. App.3d 249 (2d Dist. 1976).

Pursuant to Section 33(c), MWG met its burden in the first phase of this matter by introducing evidence to address the mitigating factors under Section 33(c). MWG Brief July 20, 2018, pp. 61-64. MWG demonstrated that the character and degree of injury was low because there were no downgradient receptors from the MWG Stations, including potable water wells, and there was no risk to the adjacent surface waters. MWG established that the Stations had economic and social value as a participant in an energy market to supply electricity when needed, and as an employer of approximately 320 people. MWG presented undisputed evidence that the Stations are suitable for the industrial areas where they are located, and have priority of location, with two built 100 years ago. MWG established that it has conducted technically practical and economically

reasonable actions at its Stations, including instituting corrective actions by relining the ponds, establishing GMZs, and establishing institutional controls that prevent access to the groundwater. Finally, MWG clearly demonstrated that not only did MWG implement maintenance measures at its Stations before any regulatory requirement, MWG conducted all the compliance requested by the IEPA and resolved the violations pursuant to the CCAs. *Id.* The Board incorrectly ignored this undisputed information in issuing its Interim Order.

As part of its final order, the Board should re-evaluate MWG's emissions and discharges under Section 33(c) and conclude that there is no basis for finding MWG in violation of the Act.

**D. Complainants Failed to Meet their Burden of Proof at Joliet 29**

Based on the Board's findings about the historic areas at Joliet 29, MWG argued after the first hearing that Complainants failed to meet their burden of proof.<sup>9</sup> The Board did not address MWG's argument on their failure to meet their burden and should correct its final order to conclude that there can be no finding of liability for those areas. Dec. 15, 2022 Order, pp. 18-20.

In considering the three areas of historic ash at the Joliet 29 Station, the Board correctly found that "no monitoring wells are installed around any of these areas and that the monitoring wells nearest to the historic fill areas are "unlikely to show conclusive results of any contaminants emanating from this historical area." See Interim Order, pp. 26, 27 (referring to the Northeast Area); p. 27, para. 1 (referring to the Southwest Area) and p. 28, para. 1 (referring to the Northwest Area).<sup>10</sup>

Complainants made no attempt to prove that these historic fill areas are causing contamination, and it was certainly not MWG's duty to disprove the allegations. *Northern Illinois Anglers' Assoc. v. Kankakee Water Co., Inc.*, PCB 81-127, 1981 WL 21931 (September 24, 1981), \*1 (It is complainants' duty and responsibility to prove their case). To date, there has been no regulatory requirement to sample and no IEPA order. A party is not required to simply investigate its property when there is no apparent reason or requirement to do so. Similarly, a party cannot be forced to develop evidence to *disprove* allegations against them. If so, then all litigation would be turned on

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<sup>9</sup> See MWG's Mot. *in Limine* to Exclude Evidence of the Need for a Remedy at the Historic Areas of CCR at Joliet 29, Feb. 4, 2022, ¶¶7-12; MWG Mot. for Interlocutory Appeal and Memorandum in Support from Hearing Officer Order Denying Three Motions to Exclude Evidence of Remedy, July 27, 2022, at Mot, ¶5, Memo, pp. 11-13.

<sup>10</sup> As discussed above, because the Complaint does not include any allegation of open dumping at Joliet 29, the Board cannot make a finding of open dumping at the Joliet 29 areas on its own volition. See *supra* §III.A. Similarly, in considering the Will County Station, the Board identified an area in the southeast corner of the Station where there were no monitoring wells that could establish liability. Interim Order, p. 57.

its head. A complainant could make blind factual statements, with no proof or support, that a certain area is a source of contamination, and demand the respondent investigate and present proof to deny or disprove the alleged facts. That is simply not how Illinois environmental enforcement, or any litigation, works. For instance, when IEPA suspects a site might be a source of environmental contamination but there is no evidence, it does not rush to the Board or a Court to force the owner/operator conduct an investigation. Instead, it conducts an investigation, prepares a report, and if its investigation results in evidence that there is contamination, the IEPA pursues enforcement.<sup>11</sup> That the Agency gets its authority to conduct the investigations under Section 4(d) of the Act makes no difference. 415 ILCS 5/4(d). Here, Illinois Supreme Court Rule 214 allows a private party in litigation to enter and even sample property to present evidence to prove their allegations. Ironically, Complainants are now attempting to prove their case by suggesting, as the first step in a very long remedy process, that MWG be ordered to conduct investigations – something they had every opportunity to do on their own,

Because there is no evidence of contamination at the three areas of historic ash at Joliet 29, Complainants failed to meet their burden of proof as to these areas. The Board should correct its prior decision and conclude a failure to establish liability. Ultimately, the pending regulations in PCB20-19 Subdocket A and the pending federal regulations for CCR Management Units may require MWG to investigate the historic fill areas to confirm that they are not a source of contamination. But those pending regulations do not relieve Complainants of their obligation to prove their case.

**E. Corrections of Factual Errors Made by the Board**

The Board made a series of factual errors in its Interim Order that must be corrected. MWG identified those errors in its Motion to Reconsider, however, the Board arbitrarily dismissed MWG's identification of the Board's errors with no explanation or reference to the record. These errors improperly influenced the Board's conclusions in its Interim Order finding liability based on sources of contamination, and further influence the assessment of potential corrective actions. The Board should correct these errors in any final order.

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<sup>11</sup> For example, in *N.Ill. Serv. Co. v. Ill. EPA*, 2016 IL App (2d) 150172 (2d Dist. 2916), IEPA conducted an inspection, and pursued enforcement against the owner following the inspection. Similarly, in *People of the State of Illinois v. D'Angelo Enterprises, Inc.*, PCB97-66, 2002 Ill.ENV LEXIS 533, the IEPA conducted an inspection of a facility that contained waste, and prepared an inspection report identifying alleged violations of the Act. \*18-19. Relying upon the results of the inspection, the People of the State of Illinois brought an enforcement action. *Id.*\*4.

**i. The Illinois River did not Rise to 30 Feet Above the Base of the Powerton Service Water Basin**

In its Interim Order, the Board incorrectly stated that the ash ponds at the Powerton Station had flooded, “with water rising 30 feet above the bottom of the Secondary Ash Settling Basin...” Interim Order p. 39, para. 4. The Board relied on this statement to support its conclusion that the Service Water Basin (a/k/a Secondary Ash Settling Basin) may be contributing to groundwater impacts apparently due to flooding. As MWG stated in its Motion to Reconsider, the Board’s finding is incorrect, impossible, and none of the documents that the Board relied upon for this statement support the Board’s conclusion. *See* MWG Mot. to Recon., Sept. 9, 2019, p. 37-39.

At the second hearing, Mr. Gnat explained that the bottom elevation of the Service Water Basin is at approximately 441 feet mean sea level (“ft msl”) and the elevation of the top of the interior of the basin is at approximately 460 ft msl. SOF 839-842. For the water to rise 30 feet above the base of the Service Water Basin, as the Board suggests, the water would have been 10 feet above the top of the basin, at 471 ft msl. SOF 844. This is practically impossible and contrary to any witness testimony. No witness testified that flooding from the Illinois River reached 10 feet above the top of the Service Water Basin. Instead, MWG witnesses recalled some flooding near the Illinois River, but never water so high that the Service Water Basin was 10 feet under water. SOF 855; 1/31/18 Tr. p. 131:20-132:6.

The fact that flooding never reached such heights is confirmed by reviewing water levels of the Illinois River next to the Station. The highest recorded crests from the two river gages on the Illinois River upstream and downstream of the Powerton Station, from 1943 to present, show that the Board’s finding is incorrect. The parties stipulated that the closest river gages to the Powerton Station are the Peoria Lock and Dam (upstream) and the Kingston Mines (downstream). SOF 845, 849. The highest recorded crest at the river gages since 1943, recorded on April 24, 2013, was 456.57 ft msl at the Peoria Lock and Dam and 454.54 ft msl at the Kingston Mines. SOF 848, 853.<sup>12</sup> Water levels were nowhere near the 471 feet the Board suggests. Based upon the historic crests at both river gages, the Board’s conclusion that the Illinois River flooded the Powerton Station such that the water reached 471 ft msl (30 feet above the bottom of the Service Water

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<sup>12</sup> MWG’s project to reline the Service Water Basin began on about April 10, 2013, the same time as the highest crest, which explains Mark Kelly’s description of challenges from river water during the relining project, resulting in installation of a drainage system below the pond. MWG Ex. 710, MWG13-15\_34160, \_34166-34170, \_34265; 1/31/18 Tr. p. 131:20-133:10.

Basin) is wrong and should be corrected. SOF 854.

**ii. The Powerton Limestone Basin is Empty**

The Board's 2019 conclusions regarding the Limestone Basin at Powerton are inconsistent and incorrect. Interim Order, p. 40. At first, the Board correctly found, based upon the testimony of Mark Kelly, that the Limestone Basin has been empty since 2013. Interim Order, p. 40, para. 4 citing 1/31/18 Tr. 144:7-145:1 (Kelly Test.). In preparation for the 2023 hearing, Complainants also stipulated that the Limestone Basin has been empty since 2013. SOF 865; 2022 Joint Stipulations, No. 13. Mr. Kelly specifically testified during the first hearing that in 2013, MWG removed all the material in the Limestone Basin, including the Hypalon liner and "just totally cleaned it out." 1/31/18 Tr. 144:7-145:1. However, in its Interim Order the Board stated that that "material from this basin may be leaking contaminants into the groundwater." *Id.* p. 41, para. 1. That conclusion is arbitrary, because – as all parties and the Board agreed – the Limestone Basin does not have material in it. Because there is no material in the basin, constituents from non-existent material cannot leak into the groundwater. SOF 867. The Board should correct this error.

**iii. The Powerton Former Ash Basin has No Potential for Leaching and is Not a Source**

The Board mistakenly found that "some coal ash might have been left between the layers when relining the Former Ash Basin" at the Powerton Station as support for the conclusion that the basin may be leaching. Interim Order, p. 39, B.i. This conclusion has no basis in fact and must be corrected. The Former Ash Basin is an inactive basin that has been unused since long before MWG began operating the Station. SOF 244-245, 829-830. In fact, the parties stipulated that it was not lined, and no witness testified otherwise. SOF 831, citing 2022 Joint Stipulation, No. 9. Because the basin is not lined, it could not have ash "between the layers when relining" that may be leaching.

Moreover, the Board's finding is inconsistent with its later finding that "Groundwater samples taken downgradient of the [Former Ash Basin] showed no coal ash constituents." Interim Order, p. 41. Based upon that finding, the Board concluded that "that the Environmental Groups did not prove that it is more likely than not that this basin is a source of contamination at the Station." Interim Order, p. 41.<sup>13</sup> The Board should correct its first finding to reflect that ash was *not* left

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<sup>13</sup> Because the Former Ash Basin is a CCR surface impoundment, it will be closed pursuant to the federal and state CCR rules, further negating the need for any remedy here.

between any the layers of the liners, and because the Former Ash Basin was not a source of contamination, the ash could not be leaching.

**iv. The Powerton East Yard Basin does not Contain Ash**

In its Interim Order, the Board stated, without evidence, that the East Yard Runoff Basin at Powerton “may contain coal ash that is leaking into groundwater” stating that the record did not “provide information about the content or condition of this basin.” Interim Order, p. 40. That is incorrect. The Board entirely overlooked evidence that showed the East Yard Runoff Basin has no ash constituents in the pond or the water.

The East Yard Runoff Basin is not part of the ash sluicing flow system and does not receive or store ash. Interim Order, p. 40; SOF 232, 856. Instead, as Complainants stipulated, it receives stormwater. Interim Order, p. 40; SOF 233, 857, citing 2022 Joint Stipulation No. 12. MWG sampled and analyzed the water in the East Yard Runoff basin for over two years on a quarterly basis and submitted the sample results to IEPA. SOF 858. The sample results showed that the East Yard Basin contains stormwater runoff, and not water that one would encounter in an ash pond. SOF 859. Based upon those results, IEPA agreed that there were no elevated concentrations of ash indicator constituents in the sample results, other than chlorides, which the IEPA concluded was due to de-icing agents. SOF 860-861. The absence of CCR ash constituents in the East Yard Basin shows there is no CCR in the basin. The Board should correct this fact in its final order to eliminate speculative “sources” that have no basis in the record.

**v. The Board’s Reliance on a Preliminary 2005 NRT Evaluation Resulted in Incorrect Conclusions About the MWG Ponds**

Throughout its Interim Order, the Board relied upon a 2005 NRT memo about the MWG ponds at the four MWG Stations -- despite undisputed evidence that the memo was subsequently found to be wrong. The NRT memo made preliminary assumptions about the condition of MWG’s ponds without any investigation. In the first hearing, MWG’s Director of Federal Environmental Programs, Maria Race, questioned the basis for NRT’s assumptions. SOF 416, 430-431, 948. In the second hearing, MWG’s Environmental Director, Ms. Shealey, similarly disagreed with NRT’s conclusions in the 2005 memo. SOF 949. She noted that NRT did not even look at the condition of the ponds, because the ponds were not emptied. SOF 950. She further observed that NRT had not conducted any actual engineering evaluation of the ponds when it wrote the 2005 memo. SOF 951-952. As MWG explained in both hearings, the *assumptions* made by NRT turned out to be entirely incorrect. For example, the 2005 NRT memo incorrectly stated that the Service Water

Basin (aka Secondary Ash Settling Basin) did not have a liner, although the Station personnel testified that the basin had a Hypalon liner. SOF 953. Indeed, Complainants stipulated that “Since before 1999, the Powerton Secondary Ash Settling Basin had a Hypalon liner.” 2017 Joint Agreed Stipulations No. 22; SOF 188, 835 (emphasis added). The Board overlooked this fact when it incorrectly found that the Service Water Basin at the Powerton Station had “no liner.” Interim Order, p. 39, para. 1. Based upon the 2017 Joint Agreed Stipulation and conversations with Station personnel, Ms. Shealey testified that the Board’s conclusion that the Service Water Basin did not have a liner was not correct. SOF 953; 6/14/23 Tr., p. 210:24-211:16.

Similarly, NRT’s 2005 preliminary memo incorrectly suggested that the concrete poz-o-pac liners in the ponds could be in poor condition, based solely on age and again making the assumption without investigating or conducting any analysis. In reality, when the ponds were emptied, witnesses who observed the material testified that the poz-o-pac liners at the MWG ponds were smooth and in good condition. SOF 386-387, 437, 453-455, 536, 548-550, 583-585, 962, 965, & 1005; *see also* MWG’s Motion Reconsider, pp. 28-37, 41-42. It was arbitrary and capricious for the Board to rely on a single memo from 2005 that was based solely on assumptions and proven to be wrong. The Board improperly ignored the direct witness testimonies stating that the poz-o-pac was in good shape and not cracked. *Helber v. Helber*, 180 Ill. App. 3d 507, 512 (5th Dist. 1989) (Court reversed trial court finding based upon an assumption because it was against the evidence produced at trial). *Bd. of Educ. v. Cady*, 369 Ill. App.3d 486, 497 (1st Dist. 2006) (Court reversed Administrative Law Judge (“ALJ”) because the ALJ made assumptions that were against the manifest weight of the evidence presenting at hearing, which showed the opposite of her findings).

**IV. SECTION 21(R) OF THE ACT IS THE APPLICABLE SECTION FOR DISPOSAL OF COAL COMBUSTION WASTE**

MWG asks that the Board reconsider its prior decision and find that: (a) Sections 21(r) and 21(d)(1) of the Act are specific to the storage or disposal of coal combustion waste (“CCW”); and (b) MWG’s conduct regarding the historic fill areas complied with those versions of the applicable regulations.<sup>14</sup> As such, the Board’s findings of open dumping under Section 21(a) should be reversed. MWG restates and continues to preserve this issue for appeal.

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<sup>14</sup> *See* MWG Mot. for Interlocutory Appeal and Memorandum in Support from Hearing Officer Order Denying Three Motions to Exclude Evidence of Remedy, July 27, 2022 and incorporate herein. *See also* Board Order, Dec. 15, 2022.



Section 21 states, in relevant part:

No person shall:

\* \* \*

- (d) Conduct any waste-storage, waste-treatment, or waste-disposal operation:
  - (1) without a permit granted by the Agency or in violation of any conditions imposed by such permit, including periodic reports and full access to adequate records and the inspection of facilities, as may be necessary to assure compliance with this Act and with regulations and standards adopted thereunder; provided, however, that, except for municipal solid waste landfill units that receive waste on or after October 9, 1993, no permit shall be required for (i) any person conducting a waste-storage, waste-treatment, or waste-disposal operation for wastes generated by such person's own activities which are stored, treated, or disposed within the site where such wastes are generated,

...

\* \* \*

- (r) Cause or allow the storage or disposal of coal combustion waste unless:
  - (1) such waste is stored or disposed of at a site or facility for which a permit has been obtained or is not otherwise required under subsection (d) of this Section;

415 ILCS 5/21(d)(1), (r)(1) (emphasis added)

Section 21(r) of the Act is specific to CCW. In its Interim Order, the Board concluded that the coal ash in the historic fill areas at the MWG Stations was “coal combustion waste” (“CCW”) as defined in 415 ILCS 5/3.140. Interim Order, pp. 87-88. As such, Section 21(r) is the provision applicable to the historic fill areas at the MWG Stations, not Section 21(a) of the Act. “It is...a fundamental rule of statutory construction that where there exists a general statutory provision and a specific statutory provision...both relating to the same subject, the specific provision controls and should be applied.” *Knolls Condo. Ass’n v. Harms*, 202 Ill. 2d 450, 459 (2002). Section 21(r) allows the storage or disposal of CCW outside of a permitted landfill. These are protections that the General Assembly intended for generators of CCW to have. *People v. Wildermuth*, 2017 IL 120763, ¶17. (“When construing a statute, [a] court’s fundamental objective is to ascertain and give effect to the intent of the legislature.”). In this case, the Board found that the CCW in the historic fill areas at the MWG Stations was historically deposited by the former owner of the Stations from its coal-fired power generation before MWG’s control. Interim Order, pp. 26-28, 41, 67; SOF 735-739, 764, 829, 907-908. Thus, the prior owner conducted “a waste-storage...or waste disposal operation for wastes generated by” its own activities, and “stored [or] disposed]” the CCW “within the site where such wastes are generated” at the MWG Stations, requiring no permit. 415 ILCS 5/21(d)(1), (r) (2018). Because Sections 21(r) and 21(d)(1) of the Act allowed the storage or disposal of CCW within the MWG Stations without a permit, MWG is not in violation of Section

21(a) of the Act.

**A. The Passage of Section 21(r) Demonstrates That There is No Quantity Limit for CCW**

There is also no limit to the quantity of CCW under the Act. Section 21(d)(1)(i) states that people need not have a permit to dispose of self-generated, nonhazardous wastes on the land where the wastes were generated. *See Piolet Bros. Trading, Inc. v. PCB*, 110 Ill. App. 3d 752, 755 (5th Dist. 1982). Courts have held that there must be a limit on quantity under 21(d) to avoid an absurd result. *EPA v. City of Pontiac*, PCB74-396, slip-op. p. 4 (Aug. 7, 1975)(concerning auto shredding waste); *Piolet Bros.*, 110 Ill. App. 3d at 755. Indeed, that same interpretation was applied to CCW in *People v Commonwealth Edison Company*, PCB75-368 slip-op. p. 5 (Nov. 10, 1976). However, the General Assembly's enactment of 21(r)(1) demonstrates its intent to legislatively overrule the *ComEd* decision and exclude CCW from the quantity limitation under Section 21(d)(1). *See* Public Act 86-0364 (eff. Jan. 1, 1990, and codified at 415 ILCS 5/21(r)).<sup>15</sup> This is plain from the text of Section 21(r)(1) which notes that under the stated conditions, deposited CCW does not require a permit, cross-referencing Section 21(d), whose plain language says that a permit is not required for self-generated waste. 415 ILCS 5/21(r)(1). There are no other permitting exceptions in 21(d)—either as it existed in 1989 or as it exists today—that Section 21(r)(1) could be referring to.

The Board must also assume that the enactment of Section 21(r)(1) worked a meaningful change in Illinois law. *Maiter v. Chi. Bd. of Educ.*, 82 Ill. 2d 373, 388-89 (1980) ("[C]ourts will not assume that the legislature engaged in a meaningless act"). Here, Sections 21(r)(1) and 21(d)(1)(i) accomplish the Assembly's overarching purpose in passing Public Act 86-346, to allow CCW to remain in place. Section 21(r)(1) was the product of lobbying by the Illinois Coal Association and the United Mine Workers. 86th Ill. Gen. Assem., Senate Proceedings, June 21, 1989, at 220 (statements of Senator Dunn). The purpose was to allow coal ash to remain in place, especially as coal ash was being used consistently throughout the state for a variety of construction purposes, including roadbeds, and as fill. For example, the Melvin E. Amstutz Expressway in Waukegan used 246,000 cubic yards of fly ash as fill embankment for the four-lane highway.<sup>16</sup> Similarly, other companies touted in advertisements in the early 1990s that they "recycled" coal

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<sup>15</sup> As initially passed, this was labelled Section 21(s)—and codified at Ch. 111 ½, par. 1021(s). It was renamed to Section 21(r) in 1991. Public Act 87-752 (eff. Sept. 6 1991). The 2018 version of Section 21(r)(1) is identical to how Section 21(s) appeared in 1989. Public Act 86-364.

<sup>16</sup> USEPA's Development of Guidelines for Procurement of Highway Construction Products Containing Recovered Material, p. I-31.

ash “into the building of highways like Interstate 55 and the foundation of the Sears Tower.”<sup>17</sup> This suggests that the General Assembly did not think that a quantitative limit for self-generated CCW deposits struck an appropriate balance. *Pielet Bros.*, 110 Ill. App. 3d at 755 (legislature is presumed to be aware of administrative interpretations). “An amendment that contradicts a recent interpretation of a statute is an indication that such interpretation was incorrect and that the amendment was enacted to clarify the legislature's original intent.” *Collins v. Bd. of Trs. of Firemen's Annuity & Benefit Fund*, 155 Ill. 2d 103, 111 (1993). Because the Assembly’s intent was to allow the disposal of CCW, the Board must follow that intent. *People v. Wildermuth*, 2017 IL 120763, ¶17 (Court found that when construing a statute, “[a] court’s fundamental objective is to ascertain and give effect to the intent of the legislature.”)

The Board has never found that the General Assembly’s enactment of Public Act 86-346 was intended to protect only parties that dispose of small quantities of self-generated CCW. Applying such a reading to a waste seldom found in small quantities is in tension with the Board’s own interpretive tools. See *ComEd, PCB75-368 slip-op.* p. 5 (noting that in 1976 alone, the Joliet Station generated 280,000 tons of combustion byproducts).

Additionally, the Board must avoid interpretations that would make any portion of Section 21(r)(1) meaningless. *People v. Tarlton*, 91 Ill. 2d 1, 5 (1982). Inserting a quantitative restriction into Section 21(d)(1)(i) for CCW would make the “is not otherwise required under subsection (d)” language in Section 21(r)(1) inoperative. *Knolls Condominium*, 202 Ill.2d at 460 (statutes should not be construed in a manner whereby “portions are rendered inoperative”). Without the “not otherwise required” language, Section 21(r)(1) is essentially pointless — if CCW must be placed in a permitted landfill, as Complainants suggest, then Section 21(r)(1) does little more than repeat the sanitary landfill requirement in Section 21(a).

**B. The General Assembly Repeatedly Confirmed the Absence of Limitation of Quantity of CCW under Section 21(r)**

The subsequent history of Section 21(r) confirms that the General Assembly thought that Section 21(r)(1) was a key component of CCW modified Section 21(r)(1) in a way that basically repealed it. See Public Act 89-93 (eff. July 6, 1995) (changing Section 21(r)(1) to apply to Coal Combustion Byproducts, instead of CCW). This was a drafting error. But the problem was noticed almost immediately, and was fixed in the same session, returning the language to CCW. Public Act

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<sup>17</sup> Chicago Tribune, Oct. 28, 1991, p. 13.

89-535 (eff. July 19, 1996); see also 89th Ill. Gen. Assem., House Proceedings, Apr. 26, 1996, at 75-76 (Rep. Bost) (describing supporters). The bill's Senate sponsor described the restoration of Section 21(r)(1) as necessary for "the current disposal program to continue." 89th Ill. Gen. Assem., Senate Proceedings, Mar. 22, 1996, at 27 (Sen. Luechtefeld). Thus Section 21(r)(1) was neither redundant nor trivial. It was "the current disposal program" for CCW in Illinois. *Id.*

The lack of a quantitative limit in Section 21(r)(1) is further confirmed by the General Assembly's actions in 2019 to specifically repeal the Section 21(d)(1)(i) exception as applied to "CCR Surface Impoundments". Public Act 101-171 (eff. date June 30, 2019). The bill's sponsors did not want to merely eliminate a loophole in Section 21(r)(1) regarding small-scale CCW deposits. On the contrary, the change addressed environmental concerns related to CCW deposits large enough to "fill Chicago's . . . Sears Tower nearly two times." 101st Ill. Gen. Assem., House Proceedings, May 27, 2019, at 161 (statements of Rep. Ammons). Because the General Assembly enacted Public Act 101-171 to prohibit unpermitted, large-scale, self-generated, CCW deposits, this confirms that before 2019, Section 21(r)(1) allowed such unpermitted, large-scale, self-generated CCW deposits. There is no evidence in the legislative history that Public Act 101-171 was intended merely to create a permitting requirement for small CCW impoundments. Nor does such a modest goal track with what the bill's advocates said. Complainant Prairie Rivers Network described the legislation as "groundbreaking" and "Landmark Legislation."

Based on the Board's finding that CCW was deposited at the Station's historic areas in the past (well before 1999 when MWG assumed operations), the Board should find that the CCW was legally placed and not a result of open dumping.

**V. MWG'S PROPOSED REMEDY IS THE APPROPRIATE TECHNICAL RELIEF**

In its Interim Order, the Board ordered a second hearing to determine the "appropriate relief." Interim Order, p. 92. Only MWG complied with that request. MWG's experts, Douglas Dorgan and Michael Maxwell of Weaver Consultants Group, proposed the appropriate technical relief for the MWG Stations in light of site conditions, off site issues, GMZs and the regulatory landscape. Both experts have decades of experience in addressing industrial properties impacted by historic practices, including developing groundwater monitoring systems and creating corrective actions to address the risks posed. SOF 673-674. Indeed, the Hearing Officer qualified them as experts in site remediation without objection from Complainants. SOF 676.

The Board has already “determine[d] that little weight will be given to [Mr. Quarles’s] opinions and reports”. Oct. 5, 2023 Order, p. 17. Mr. Quarles was Complainants’ second expert, only allowed by the Board if his opinions would “rely, amplify, elaborate or build upon the opinions and reports already produced by the prior expert, Mr. Kunkel.” *Id.*, p. 12. However, at the hearing, Mr. Quarles readily admitted that he did not recognize Mr. Kunkel’s name and did not attempt to elaborate or amplify Mr. Kunkel’s opinions. Based on this testimony, MWG filed an appeal of the Hearing Officer’s decision to admit Mr. Quarles’s opinions and reports. In its decision, the Board agreed that it was clear that Mr. Quarles “had not read Mr. Kunkel’s reports nor reviewed his testimony from the previous hearings.” *Id.*, p. 11, 13. The Board found it was “impossible to conclude that Mr. Quarles relied upon Mr. Kunkel’s opinions in presenting his expert testimony to the Board.” *Id.* at 13. Although it allowed Mr. Quarles’s opinions to remain in the record, the Board held “**that little weight will be given to his opinions and reports**” *Id.*, at 17. In light of the Board’s decision about the inadequacy of Mr. Quarles’ opinions and that Complainants did not move to qualify him as an expert, Mr. Dorgan and Mr. Maxwell (together referred to as “Weaver”) are the only experts who have proposed technical relief that the Board may consider. Order, Oct. 5, 2023, p. 17.<sup>18</sup>

Weaver conducted a robust analysis of the substantial data collected for decades at each of the Stations, including conducting a trend analysis and a risk analysis of the groundwater at each of the Stations. Based upon that analysis, Weaver concluded that the Stations have been extensively investigated such that they could develop a technically practical and economically reasonable remedy consistent with Illinois standards. Weaver conducted trend testing of the groundwater at each of the Stations, establishing that the concentrations in the groundwater at the Stations were generally decreasing. Weaver found there was no risk from the groundwater conditions at the Stations based upon the absence of human receptors, and they conducted a risk analysis that demonstrated the absence of risk to downgradient surface waters. Weaver concluded that the federal and Illinois CCR rules establish protective regulations for the CCR surface impoundments at the Stations, requiring no additional or conflicting corrective measures for the impoundments. For the areas outside the CCR surface impoundments, because the trend testing showed decreasing concentrations at Joliet 29, Powerton, and Will County, Weaver concluded that MNA is occurring

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<sup>18</sup> Weaver also identified several issues with Quarles’s report further demonstrating that it should be given no weight. MWG Ex. 1701, MWG13-15\_81438-81439

and MWG should continue its groundwater monitoring to support that mechanism. Their analysis of Waukegan showed that the concentrations in the groundwater at the Waukegan Station were also decreasing but not as significantly. Thus, Weaver recommended that MWG install an engineered cap over the FS Area, in addition to conducting the compliance activities at the two Waukegan ash ponds pursuant to the federal and Illinois CCR rules, but only if the pending federal or state rules on historic areas of ash are not passed.

In order to understand the basis for Weaver's remedy opinions, Weaver testified at length about the scope of its analysis at each Station. That analysis is summarized below and provides the basis for the Board's review of the 33(c) and 42(h) factors.

**A. The MWG Stations Have Been Investigated Extensively**

Weaver's analysis demonstrated that the MWG Stations have been extensively investigated, beginning prior to MWG's operations, and no further investigation is needed to develop a remedy. MWG Ex. 1702, p. 12, 35, 55, 73; 6/12/23 Tr., p. 277:11-24; 6/13/23 Tr., p. 95:15-23, 131:18-132:7; MWG Ex. 1701, MWG13-15\_81444-81459. The totality of the data is extensive and is demonstrated by site maps showing all the collected sample points for each Station. *Id.* (See Attachment D hereto for Investigation Maps of each Station). In particular, there is a substantial quantity of groundwater data – many thousands of individual data points. 6/12/23 Tr., p. 224:12-23 MWG Ex. 1701, p. 7. As Weaver noted, there has been quarterly groundwater monitoring at the Stations since 2010, resulting in over ten years of groundwater data from multiple groundwater wells and constituents. 6/12/23 Tr., p. 224:4-11. Even if there are data gaps, they may be answered, if needed, as part of a corrective action. 6/12/23 Tr., p. 225:3-12. However, it is not practical or typical to fill in every data gap before creating a remedy. *Id.*

Because of the volume of data, the investigations at each of the Stations allow a reasonable assessment of a remedy that is appropriate for the Stations. 6/12/23 Tr., p. 226:4-6, 6/13/23 Tr., p. 81:21-82:9, 115:1-116:22, 168:15-169:169:9, 6/14/23 Tr., p. 66:6-9. This was an opinion shared by the two experts at the first hearing, Mr. Seymour and Mr. Kunkel (for Complainants). 6/12/23 Tr., p. 226:4-11.

**i. Investigations Conducted at the Stations**

Each of the Stations has been investigated repeatedly from 1998 to present. MWG Ex. 1702, p. 13; 6/12/23 Tr., p. 279:17-23; 6/13/23 Tr., p. 55:22-56:17'; *see also* Weaver Presentation, Appendix D, MWG Exhibit 1702, pp. 12-13, 35-36, 55-56, 73-74 (providing a list and locations of all investigations). Beginning in 1998, before MWG owned the property, the prior owner

conducted Phase I and Phase II investigations at the Stations, including collecting soil borings, soil surface samples and installing monitoring wells. 6/12/23 Tr., p. 280:12-18, 6/13/23 Tr., p. 57:3-13, 96:13-21, 132:10-14, 133:7-134:4; MWG Ex. 1701, MWG13-15\_81444-81459; MWG Ex. 1702, p. 14, 35, 57, 74-75. The 1998 data from the Phase II reports is representative of the potential impacts (and lack of impacts) that historic CCR materials may have had. 6/12/23 Tr., p. 282:24-283:12; MWG Ex. 1701, MWG13-15\_81451. Weaver noted that the prior consultant concluded there was no potential exposure pathway, no direct contact exposure routes, and low potential for human exposure to any constituents of concern because of the industrial use of the Stations and, under Illinois environmental law, no further requirement for investigation or remediation was required. 6/12/23 Tr., p. 283:16-284:7, 6/13/23 Tr., p. 57:14-24, 98:24-99:6, 134:7-14; MWG Ex. 1701, MWG13-15\_81444-81459; MWG Ex. 1702, p. 14, 37, 57, 75.

In 2005, MWG conducted a geotechnical evaluation of the MWG Stations. 6/12/23 Tr., p. 287:8-22, 6/13/23 Tr., p. 58:8-18, 99:10-23, 132:14-18; MWG Ex. 1702, p. 16, 38, 58, 74, 77. The geotechnical evaluation was part of MWG's investigation into the soils around the ash ponds as part of its preventive maintenance program. 6/12/23 Tr., p. 287:8-22; 6/13/23 Tr., p. 135:16-21.

In 2010, MWG conducted a hydrogeologic investigation at each Station, long before the CCR rules were promulgated. 6/12/23 Tr., p. 290:23-291:5, 6/13/23 Tr., p. 58:22-59:19, 100:3-20, 132:19-133:3; Ex. 1701, MWG13-15\_81455, MWG Ex. 1702, p. 19, 39, 59, 74, 78-79. The hydrogeologic investigation was voluntary, performed at the request of IEPA, and involved installing monitoring wells at each of the Stations. 6/12/23 Tr., p. 291:5-9, 6/13/23 Tr., p. 136:2-17; MWG Ex. 1702, p. 19, 39. Weaver evaluated the locations of the groundwater wells and confirmed they were in the proper location to evaluate the groundwater at the Stations. For example, at Joliet 29 Weaver concluded that the upgradient monitoring wells could not have been placed in a different location (such as further upgradient) because the Station abuts the highway adjacent to the north and there is no further upgradient location to place the wells. 6/12/23 Tr., p. 292:23-293:3. Similarly the downgradient wells at the Joliet 29 Station are adjacent to the ponds, and there is no ability to move the wells any closer to the boundary of the ponds. 6/13/23 Tr., p. 31:3-20.

MWG continues to conduct the groundwater monitoring on a quarterly basis at the four MWG Stations under three different programs (*i.e.*, "various masters"): the CCA program, the federal CCR program, and the Illinois CCR program. SOF 1160; MWG Ex. 1702, p. 22, 42, 61, 81;

6/12/23 Tr., p. 312:16-313:8, 6/13/23 Tr., p. 69:3-70:2, 102:9-103:5, 139:18-140:5. In most instances, MWG is sampling the same well with multiple separate sample bottles on the same day, “so you are basically looking at the same sample from the same well on the same day then being compared against three different programs.” SOF 1159.

**ii. Independent Investigations at MWG Stations**

MWG also independently investigated certain Stations to evaluate specific areas. At Joliet 29, MWG conducted a multi-phased investigation of the Northwest Area at the MWG Station to investigate whether the material was CCB. SOF 59-60; MWG Ex. 1701, MWG13-15\_81451-81452; Appx. D MWG Ex. 1702, p. 15, 17. MWG’s consultant found that the material met the CCB criteria (*i.e.* – leached material below the Class I standards), except for one location for copper and lead. 415 ILCS 5/3.135; SOF 145-148; 6/12/23 Tr., p. 288:3-289:15; MWG Ex. 1702, p. 17-18; MWG Ex. 1702, MWG13-15\_81452-81453. Because of the presence of copper and lead, MWG removed about 1,062.88 tons of the material. 6/12/23 Tr., p. 289:15-18; MWG Ex. 1701, MWG13-15\_81453; MWG Ex. 1702, p. 18. The ash that remained in the area qualified for beneficial reuse and was not a risk because it was below the Class I GW standard and the “leaching is of a benign nature.” 6/12/23 Tr., p. 290:7-20. The investigation was relevant for MWG to assess potential risk, and to assist Weaver in developing its remedial approach.

MWG also investigated the area around MW-9 at Joliet 29 because of anomalous results in that well. SOF 777-787; *see supra* §II.A.ii. The Board identified this area as the only downgradient location at Joliet 29 recently above the groundwater standards. Interim Order, p. 30. Weaver evaluated the data and concluded that the elevated total dissolved solids (“TDS”) and sulfate concentrations in MW-9 were not from CCR. 6/12/23 Tr., p. 309:3-312:10, 6/13/23 Tr., p. 38:24-39:7; MWG Ex. 1702, p. 21; MWG Ex. 1701, MWG13-15\_81454. Instead, the naturally occurring sulfite minerals in the native dolomite rocks oxidize in the presence of oxygen in the well, lowering the pH and mobilizing TDS and sulfate naturally present in the soil.<sup>19</sup> *Id.* In other words, the TDS and sulfate are naturally occurring and no remedial action is required. *Id.*

The USACE also conducted its own investigation of a portion of the Northeast Area at Joliet 29, as well as the sediment in the Des Plaines River. SOF 794-795. The boring logs in the Northeast Area showed fill, gravel and sand, but no CCR material. *Id.* Weaver analyzed sediment samples

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<sup>19</sup> Mr. Quarles’s claim that the low pH was due to CCR is unfounded because CCR is typically basic, plus no CCR was found in the area soil and there is no CCR in the nearby pond. 6/12/23 Tr., p. 311:2-15.



taken near the Joliet 29 Station and found that the sediment samples did not have any impact from the Station. 6/12/23 Tr., p. 279:8-13; 6/13/23 Tr., p. 22:7-9, Appx. D MWG Ex. 1702, p. 101 (chart of sediment results). While sediments showed certain elevated concentrations, Weaver compared sediment results with upstream concentrations and concluded that they were not related to the Joliet 29 Station. *Id.*

Sediments in the Des Plaines River were also sampled in 2008 as part of a Board rulemaking. 6/13/23 Tr., p. 11:20-13:16; MWG Ex. 1110, MWG13-15\_107873. The results showed that the sediments upstream of the Brandon Road Lock and Dam (located upgradient of Joliet 29 Station) showed higher concentrations of metals than the sediments downstream of the Brandon Road Lock and Dam (downgradient of the Joliet 29 Station), and overall, the concentrations were higher in 2008 than in 2022. 6/13/23 Tr., p. 14:17-15:3, 17:6-11, 21:13-17; MWG Ex. 1110, MWG13-15\_107873; MWG Ex. 1702, p. 101. Weaver concluded that the sediment in the Des Plaines River at the Joliet 29 Station not only has lower metal concentrations than the sediment upstream, but is generally improving, and that the groundwater from the Station is not impacting sediments. 6/13/23 Tr., p. 15:4-12, 21:23-22:22.

At the Will County Station, MWG investigated the area near Ponds 1N and 1S in 2015. 6/13/23 Tr., p. 100:24-102:8, MWG Ex. 284, MWG Ex. 1702, p. 60; SOF 365-367. The investigation showed that there were no constituents present above the Class I standards and the material meets the CCB criteria, eligible for beneficial uses specified in the Act. *Id.* Finally, in 2020, as discussed above, MWG investigated the FS Area at the Waukegan Station. SOF 910-923. Because of the presence of ash, MWG proposed to IEPA to cap the area as part of its Petition for Adjusted Standard and finding of inapplicability to that area. SOF 924.

**iii. No Further Investigations are Needed to Assess a Remedial Approach**

Because of the volume of data and the many historic investigations, Weaver concluded that no additional investigations are required – and certainly not grid sampling. 6/14/23 Tr. p. 91:1-7. Weaver testified that, during their years of experience, they have never proposed or required grid-sampling of entire sites like the Stations. 6/14/23 Tr., p. 91:8-10. Instead, standard environmental practice for a site investigation is a multi-phased approach, with each phase informing the next phase. 6/14/23 Tr., p. 91:11-15. The entire Illinois SRP framework is geared towards ensuring that off-site receptors are protected, and not trying to identify 100% of potential sources. 6/14/23 Tr., p. 92:16-20. Weaver noted that Mr. Quarles failed to even review the volume of data collected at

the MWG Stations, negating his claim that there is a need for a nature and extent investigation. 6/12/23 Tr., p. 267:17-268:10; MWG Ex. 1701, MWG13-15\_81438

Similarly, no additional investigations are required in the surface waters adjacent to each of the Stations. The boundaries of the Stations have been evaluated, at times repeatedly, to assess whether surface waters were impacted by CCR (*i.e.*, seeps). No seeps have been observed. SOF 754, 757, 833, 880-881, 938, 1055; 6/13/23 Tr., p. 40:3-13, 83:4-6, 314:6-8. Because of the absence of seeps and in many cases the significant distance to the adjacent surface water, there is no basis to sample the sediments in the adjacent surface waters. SOF 758, 882, 939; 6/13/23 Tr., p. 153:23-154:7. Even at Joliet 29 and Powerton, where the surface water embankments cannot be routinely observed, there is no reason to evaluate for seeps or sample the sediment because the wells downgradient from the Stations or ponds are below the Class I standards. SOF 763, 833; 6/13/23 Tr., p. 82:16-83:6. In fact, at Joliet 29 the sediment samples collected by USACE in the Des Plaines River showed no impact from the Joliet 29 Station, further supporting Weaver's opinion that no sediment additional sampling is needed to assess a remedial approach. SOF 795.

**B. Mann-Kendall Trend Analysis Demonstrates Groundwater is Improving**

Weaver performed "Mann-Kendall" trend analyses for groundwater results at each of the Stations and concluded that groundwater conditions at the Stations are improving. 6/12/23 Tr., p. 234:1-6. Mann-Kendall trend analysis is a quantitative non-parametric test, which provides information on the trends in the groundwater data, and a robust method to assess whether a remedy is effective. 6/12/23 Tr., p. 226:22-228:5. IEPA often uses it to evaluate the effectiveness of a corrective action. 6/12/23 Tr., p. 228:15-24. When conducting a Mann-Kendall analysis, it is unnecessary to evaluate all of the groundwater monitoring wells, such as the upgradient wells. 6/12/23 Tr., p. 237:14-17, 6/13/23 Tr., p. 32:1-3. Instead, the critical wells are the downgradient wells because they show whether the MNA mechanisms are working. 6/12/23 Tr., p. 237:19-22; 6/14/23 Tr., p. 71:16-72:11, 76:14-19. Use of the downgradient wells is consistent with the SRP framework, IEPA's practice, and is the "most useful and most appropriate..." 6/14/23 Tr., p. 72:4-73:1, 76:23-77:4. Here, Weaver took a conservative approach by assessing groundwater wells that were actually closer to the ponds and impoundments, rather than at the Stations' property boundaries. 6/13/23 Tr., p. 32:4-10, 107:5-15. Weaver found that the natural mechanisms of active dispersion and attenuation were taking place in the groundwater at the Stations. 6/12/23 Tr., p. 234:1-6.

There are five types of results in a Mann-Kendall trend analysis: significant downward trend, downward trend, no trend, upward trend, and significant upward trend. The downward and upward trends are self-explanatory – if the trends are going down, that means the concentrations in the groundwater are decreasing, and if the trends are going up, then the concentrations in the groundwater are increasing. 6/13/23 Tr., p. 26:13-27:3. A no trend means that when the groundwater concentrations are compared over time, there is a flat line. 6/13/23 Tr., p. 27:9-17. A flat line can mean that the detected concentrations have not changed, or that the sample was non-detect. 6/13/23 Tr., p. 29:1-16; MWG Ex. 1701, MWG13-15\_81461. Although Complainants attempted to suggest that the “no trend” results meant there were detections, Weaver explained that in most instances where there was no trend, it was because the majority of the data was, in fact, non-detect. 6/12/23 Tr., p. 234:6-9.

To be thorough, Weaver used as much data as was available for each well analyzed, including both the total metals data and the dissolved metals data. 6/14/23 Tr., p. 73:10-13. To avoid any concern about “double counting” of the data, Weaver explained that even when the total metals data are removed from the trend analysis, “the conclusion is the same, whether you include collectively the total and dissolved, or you take out one so as not to double count,” meaning the analysis showed the same trends. 6/14/23 Tr., p. 75:2-5.

Here, the Mann-Kendall trend analysis shows that the groundwater conditions are improving at each of the Stations. Weaver testified that at both Joliet 29 and Powerton, a majority of the data is non-detect and overall shows that groundwater is improving. 6/13/23 Tr., p. 28:17-29:6, 39:8-15; 73:16-75:7; 83:20-23; MWG Ex. 1701, MWG13-15\_81461; Appx D MWG 1702, p. 45.<sup>20</sup> Weaver concluded that groundwater is not only improving, but even the few constituent concentrations detected or increasing at both Stations were still below the Class I standards. 6/13/23 Tr., p. 30:4-18, 76:14-24; MWG Ex. 1702, p. 26.<sup>21</sup> The same is true for the Will County Station, which showed that the concentrations in the groundwater are decreasing. 6/13/23 Tr., p.

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<sup>20</sup> In its Interim opinion, the Board did not include, as violations, chlorides detected in the groundwater at any at any of the Stations. MWG presented undisputed evidence that the source of chlorides is road salt spread throughout the Stations and from adjacent roads. SOF 70-71, 1/31/18 Tr. pp. 140:11-18, 240:16-241:12; 256:24-257:11, 2/2/18 Tr. p. 78:12-23. Weaver reached the same undisputed conclusion. 6/12/23 Tr., p. 294:6-18; MWG Ex. 1605, MWG13-15\_122708. In fact, IEPA agreed that the chloride at the Joliet 29 Station was from the road salt and not the ponds. 6/12/23 Tr., p. 298:24-299:9; MWG Ex. 1605, MWG13-15\_122708.

<sup>21</sup> Indeed, at Joliet 29, consistent with the findings in the first hearing, no CCR constituents are present in the groundwater above the Class I groundwater standards related to the ponds. 6/12/23 Tr. p. 297:5-15; MWG Ex. 1702, p. 30; MWG Ex. 1605; MWG13-15\_122705. As discussed in §V.A.ii, the constituents detected above the Class I standards in MW-9 are due to the oxidation of the naturally occurring minerals in the dolomite rocks.

105:19-106:12, 108:2-12, MWG Ex. 1702, p. 64, MWG Ex. 1701, MWG13-15\_81461. Moreover, Weaver expects the downward trends at Joliet 29, Powerton, and Will County to continue. 6/13/23 Tr., p. 32:15-23, 79:16-19, 108:21-109:13; MWG Ex. 1701, MWG13-15\_81461.

At Waukegan, a majority of the trend testing showed that there was no trend, and a majority of the no trends were non-detect. MWG Ex. 1702, p. 84; 6/13/23 Tr., p. 145:10-147:3. However, Weaver concluded that while trend testing shows some ongoing groundwater improvement, where there was a trend, slightly more tests showed an upward trend. MWG Ex. 1702, p. 84; 6/13/23 Tr., p. 145:10-146:14. The risk analysis showed no risk to off-site receptors and potential receptors for groundwater and surface water. 6/13/23 Tr., p. 149:9-16; Appx D MWG Ex. 1702, p. 84. Because the groundwater at Waukegan was not improving as quickly as the other Stations, Weaver recommended additional corrective action measures at the FS Area. *See infra* §V.F. Weaver's independent trend testing results were virtually identical to the results presented by MWG's initial expert, John Seymour – that the concentration trends were generally downward. 6/12/23 Tr., p. 238:1-8; MWG Ex. 1701, MWG13-15\_81460. Complainants did not conduct any Mann-Kendall analysis, either in the first or second hearings.

**C. Risk Analysis Demonstrates there is Minimal Risk to Human Health and the Environment**

To develop its remedial approach, Weaver also evaluated any potential risk to human health and offsite receptors. Weaver built on a similar risk analysis presented by MWG's initial expert, John Seymour, and used similar methods. 6/13/23 Tr., p. 34:17-22; 35:11-12. Overall, Weaver concluded there is no risk to downgradient receptors from the MWG Stations. 6/12/23 Tr., p. 220:5-6 & 6/13/23 Tr. p. 84:1-7, 104:10-105:4; MWG Ex. 1702, p. 25, 44, 63. Complainants did not present *any* risk analysis.

The overall strategy to evaluate whether constituents in the groundwater posed any risk was to evaluate receptors – human or environment. 6/13/23 Tr., p. 71:18-24. Weaver first evaluated the surrounding land uses, the expected future use of the Stations, and the presence or absence of potable water downgradient of the Stations. MWG Ex. 1701, p. 45-47 & 1702, p. 25, 44. The Stations and the surrounding land uses are industrial, and will continue to be industrial, reducing the risk of human contact. 6/13/23 Tr., p. 23:12-24:12, 72:1-9, 104:10-105:4, 141:20-142:20. Weaver also reviewed the most recent well data and confirmed there are no potable water wells downgradient of the MWG Stations. 6/13/23 Tr., p. 60:6-15, 72:1-17; 104:19-22, 137:16-138:6 142:10-19; MWG Ex. 1702, p. 20, 25, 40, 44, 59, 63, 83.

Weaver then considered the ELUCs and GMZs at the Stations, finding that they reduced the potential risks posed by the constituents in the groundwater. All four Stations have an ELUC covering all or a portion of Station that prohibits the use of the groundwater, and three of the four Stations have GMZs that allow for MNA, providing the means to continue to monitor the groundwater, and adapt, as necessary. 6/13/23 Tr., p. 23:6-25:7, 72:17-20, 140:8-24, MWG Ex. 1702, p. 24, 43, 62, 82. Weaver explained that ELUCs are an important part of evaluating risk because ELUCs eliminate the potential for potable wells to be installed and prevent contact with the groundwater. 6/13/23 Tr., p. 141:1-9. While an ELUC alone is not a remedy, it is an integral part of a remedy that acknowledges there are groundwater impacts and the impacts are to be managed to prevent contact with the groundwater. 6/13/23 Tr., p. 141:11-16.

Weaver also analyzed the risk of the potential for groundwater to impact surface water and confirmed that the concentrations in the groundwater at each of the Stations do not increase to a level that could affect the surface waters. 6/12/23 Tr., p. 218:18-220:1 & 6/13/23 Tr., p. 33:3-8, 34:15-22; 35:11-12; 147:13-153:19; MWG Ex. 1701, MWG13-15\_81462-81462; MWG Ex. 1702, p. 28, 47, 85-86. Weaver reviewed the average groundwater concentrations from 2010 to 2020, the same set of data used for the Mann-Kendall trend testing. 6/13/23 Tr., p. 33:11-14, 80:15-23. Because a significant quantity of data is non-detect, Weaver reported the non-detect data at the reporting limit, which is conservative because the reporting level figure is higher than the non-detected value. 6/13/23 Tr., p. 33:15-34:2. Weaver compared the concentrations to the applicable surface water standards, or water quality criteria, which was another conservative choice because it assumed that the surface water was at the location of the groundwater well. 6/13/23 Tr., p. 34:3-14, 38:1-7, 78:13-19, 80:15-23. The full analysis of the risk analysis is included in the Weaver expert report (attachment D). MWG Ex. 1701, MWG13-15\_82172.

Weaver explained that the downgradient conditions at each of the four Stations did not pose a risk to the surface water, even if the groundwater wells were immediately adjacent to the surface water. 6/13/23 Tr., p. 34:15-20, 78:20-81:2, 110:2-111:2, 148:3-149:5, 151:2-152:11; MWG Ex. 1702, p. 28, 45-46, 65-66; MWG Ex. 1701, MWG13-15\_81463. For example, the average concentrations of boron in the groundwater at the four Stations was significantly lower than the surface water standard for the adjacent surface waters. MWG Ex. 1702, p. 29, 48, 67, 87; 6/13/23 Tr., p. 37:2-21, 81:3-2, 111:10-112:7, 152:12-153:10. Moreover, Weaver testified that, as the groundwater flows from the wells to a surrounding surface water, the concentrations continue to

attenuate by the time they reach the surface water further reducing the risk posed to the surface water. 6/13/23 Tr., p. 79:2-5.

**D. Following the Federal and State CCR Rules Is the Proper Corrective Action for the CCR Surface Impoundments**

No additional requirements for the CCR surface impoundments are needed because the impoundments are (and will be) addressed by the federal CCR rule and the Illinois CCR rule. Both rules continue to apply to each of the CCR surface impoundments and MWG's compliance with the rules is ongoing. 6/12/23 Tr., p. 208:22-209:6; SOF 662-670, 1039-1094, 1114-1164.

When the federal CCR rule was adopted, MWG immediately began complying with the rule, including conducting engineering evaluations of the ponds, ceasing placement of CCR in certain ponds, finding alternative capacity to keep the Stations running to provide reliable electricity, continuing groundwater monitoring and inspections, and working towards closure of the surface impoundments. SOF 668-670, 1039, 1051. MWG also began evaluating the closure options for the CCR surface impoundments, including preparing preliminary closure plans, which were, by their preliminary nature, limited (*i.e.*, two to six pages). SOF 1044-1045. Similarly, when the Illinois CCR rule was passed, MWG began complying with the rule, including implementing a modified groundwater monitoring program, conducting similar engineering evaluations, performing weekly inspections, and preparing and submitting the voluminous operating and construction permit applications. SOF 1081-1082, 1114-1161.

Compliance with the federal CCR rule and Illinois CCR rule requires years of work, not only because the rules have changed, but also because it requires significant planning and coordination with the Stations and its experts. SOF 1044, 1118-1125, 1131-1157. For example, at both Powerton and Will County, MWG installed additional monitoring wells to comply with the rules. SOF 1056, 1086, 1106, 1109. As MWG learned more, including from USEPA and IEPA, its preliminary plans for the closure of the impoundments changed and expanded. SOF 1047. Compared to the six-page preliminary closure plans, the final construction permit applications for closure or retrofitting the MWG ponds are hundreds of pages. SOF 1118-119, 1132, 1134, 1138-1139, 1150, 1155.

In addition, pursuant to the federal CCR rule, MWG conducted alternate source demonstration evaluations ("ASDs") to assess whether increases of concentrations in groundwater are due to a CCR surface impoundment. SOF 1057-1063. Conducting an ASD is a process specified in the federal CCR rule to address historic contamination. 6/13/23 Tr., p. 67:14-68:4; SOF 1065. It is a federally recognized and regulated tool to identify whether an impoundment is a source. *Id.*

Pursuant to the federal CCR rule, the groundwater is compared to a “prediction limit” calculated for a specific impoundment. The prediction limit is not tied to a federal or state standard (*i.e.*, it is not tied to the Illinois Class I groundwater standards). SOF 1041-1042. Thus, at three of the four Stations, while MWG conducted an ASDs because groundwater concentrations were above a prediction limit, the concentrations in the groundwater were still below the Class I groundwater standards (which are the standards at issue in this case). SOF 1057, 1059, 1063. For example, MWG conducted an ASD at the Former Ash Basin at Powerton because concentrations of chloride, fluoride, sulfate and total dissolved solids detected were above the prediction limits at one well. SOF 1059. Yet, the concentrations of each chemical were below the Class I standards. *Id.* The federal CCR rule does not require that the alternate source be identified. SOF 1064. In any case, Weaver’s proposed remedy addresses any unidentified alternate source because the groundwater conditions at each of the Stations do not pose a threat to off-site receptors and is protective of human health and the environment. 6/13/23 Tr., p. 68:9-20. *See supra* §V.E.

Weaver concluded that because the CCR surface impoundments at each of the Stations are already subject to two regulatory programs, MWG should continue to follow those programs. 6/12/23 Tr., p. 241:1-13, 6/13/23 Tr. p. 83:11-16; 118:9-119:4, 156:2-9; MWG Ex. 1702, p. 31, 50, 49, 69, 89. Weaver was confident in its recommendation because IEPA is involved and the CCR rules provide a process for corrective actions, demonstrating that any risks are properly managed. 6/12/23 Tr., p. 210:16-211:1, 255:4-11. Weaver was even more confident in their recommendation because many of the CCR surface impoundments are not adversely impacting the groundwater. MWG Ex. 1702, p. 30, 49, 68, 88; 6/12/23 Tr., p. 297:5-15, 6/13/23 Tr., p. 38:14-21; 83:11-23; 117:1-118:1; 154:11-155:10; SOF 900-904.

**E. Continuing Groundwater Monitoring and Maintaining Controls at Joliet 29, Powerton, and Will County is the Proper Remedy**

For the Joliet 29, Powerton, and Will County Stations, the appropriate mechanisms are in place to address the site conditions. 6/12/23 Tr., p. 242:4-10. Based upon Weaver’s evaluation of the groundwater, Weaver concluded that MNA is occurring at the three Stations. 6/12/23 Tr., p. 242:4-6. As discussed above in section V.B, MNA is also occurring at Waukegan, but Weaver’s analysis of the Waukegan Station includes other factors. In addition to compliance with the CCR rules, Weaver opined that MWG should continue to monitor the groundwater at the Stations so that the MNA process can continue to be evaluated. 6/12/23 Tr., p. 242:6-10; MWG Ex. 1701, MWG13-15\_81467- 81469; MWG Ex. 1702, p. 31, 50, 69. Weaver further recommended that if the proposed

federal or state rules regarding historic areas are passed, then MWG should comply. *Id.*; 6/12/23 Tr., p. 242:10-14.

**i. Monitored Natural Attenuation is Occurring and a Proper Remedy**

MNA is a commonly accepted corrective action measure and is occurring at all the Stations, and particularly at Joliet 29, Powerton, and Will County. 6/12/23 Tr., p. 260:23-261:6, 6/14/23 Tr., p. 77:5-11. As the Board stated, and Weaver agreed, “the process of monitored natural attenuation can be by its nature a long one. And can last for many years.” 6/14/23 Tr., p. 103:9-104:3; Board 2020 Opinion, 13. USEPA also agrees that MNA is an appropriate strategy if the contaminants are likely to be effectively addressed by natural attenuation processes, the groundwater contaminant plume is stable and its potential for migration limited, and there is no potential for unacceptable risks to human health or environmental resources. SOF 1022. USEPA also states that “sites where contaminant plumes are no longer increasing in extent, or are shrinking, would be the most appropriate candidates for MNA remedies.” SOF 1023. Even if a site does not meet every condition for MNA in the USEPA guidance, that does not mean a site may not rely upon MNA. 6/12/23 Tr., p. 249:16-250:8.<sup>22</sup> IEPA also accepts MNA as a remedial strategy and recognizes that it takes time, which explains the continuing requirement to conduct groundwater monitoring. SOF 1025-1026. Indeed, Complainants’ prior expert stated that IEPA prefers natural attenuation for the constituents in the groundwater at the MWG Stations. 6/12/23 Tr., p. 260:10-15; MWG Ex. 1703. In its modified Interim Order, the Board noted that Complainants affirm the use of MNA as part of a comprehensive remedy. 2020 Order, p. 11-12.

Here, the Stations fall within the conditions identified by USEPA for reliance on MNA, making MNA the appropriate remedial strategy, combined with actions being taken pursuant to the federal and Illinois CCR rules, as well as the closure of the ponds and ceasing to generate CCR at the Stations. 6/12/23 Tr., p. 248:12-17. Weaver explained that it is not always feasible to identify each specific source of contamination at sites like the Stations. Because it is impossible to identify every single source, Weaver evaluated the groundwater on a system-wide basis, looking particularly at the downgradient wells. 6/12/23 Tr., p. 245:13-246:7; MWG Ex. 1702, p. 68. Weaver considered the Mann-Kendall trend testing at the down gradient wells to be the most relevant analysis. Based on the trends, Weaver concluded that groundwater conditions are generally improving, indicating

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<sup>22</sup> Mr. Quarles’s reliance on the USEPA guidance for MNA at Superfund Sites was misplaced because MWG’s Stations are not Superfund Sites. 6/12/23 Tr., p. 251:7-253:2; SOF 706.



plume stability and that MNA is occurring. 6/12/23 Tr., p. 249:4-9, 6/13/23 Tr., p. 70:5-18; *see also supra* §V.B. Simply because groundwater may be in contact with CCR does not mean that the CCR must be removed. SOF 1027.<sup>23</sup> Instead, it means that the groundwater and waste must be managed, and MNA is a method to manage the conditions. 6/12/23 Tr., p. 243:23-244:4. Also, in the unlikely event that the concentrations in the groundwater somehow increase, then the monitoring network will detect it and further corrective action would be assessed. 6/13/23 Tr., p. 109:8-13.

The MNA taking place at the Joliet 29, Powerton, and Will County Stations is monitored as part of the GMZs at each Station. GMZs are integral to the remedy because they are established to ensure the MNA is continuing. The GMZs, along with ELUCs, mitigate any potential exposure. 6/13/23 Tr., p. 86:5-17, 119:8-16, 103:15-104:6; MWG Ex. 1701, MWG13-15\_81467-81468. Each of the historic areas identified by the Board at the Powerton Station, and a majority of the historic areas identified Will County, are encompassed by both a GMZ and ELUC. 6/14/23 Tr., p. 93:8-17. Moreover, at Will County, the ash in the ground is mixed in with the predominantly native and natural soils, including silty clay, silty sand mixed with gravel and crushed limestone, further reducing any future concern. 6/14/23 Tr., p. 101:2-102:17.

**ii. No Additional Work is Required at Other Historic Areas at Joliet 29 and Will County**

There are historic areas at both Will County and Joliet 29 at which no additional work is required because there is no evidence that the areas are causing contamination. At Will County, there is a single small area on the southeast side of the Station that was suspected to contain ash. MWG Ex. 1701, p. MWG13-15\_81456-81457; MWG Ex. 1702, p. 57. As described above (see section II.D.), soil and groundwater sample results from that area revealed some ash mixed with soils, but groundwater sampling results were below the Class I groundwater standards, demonstrating that the mere presence of ash does not mean there is a threat to human health or the environment. *Id.*, 6/13/23 Tr., p. 97:17-98:20.

At Joliet 29, the Board identified three areas suspected to contain CCR. Because no claim of open dumping was made by Complainants, and because Complainants have failed to demonstrate groundwater contamination from the three areas, there is no legal basis to require any

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<sup>23</sup> Weaver explained that historic CCR in contact with groundwater loses its “mass” over time; and the age of the CCR at the Stations means that the contaminant mass has dissipated. 6/12/23 Tr., p. 244:16-245:9, 6/13/23 Tr., p. 196:16-18.

corrective actions at the Joliet 29 historic areas. *See supra* §III.A & III.D. In any case, Weaver analyzed data available related to the three areas and determined that MWG's current procedures protect human health and the environment and no further work is required. However, if the federal rule for historic areas of ash or the Board's subdocket in its CCR rule are passed, then MWG will comply with those rules. Weaver's analysis of the three Joliet 29 historic areas is summarized below.

a. The Northeast Area

In their analysis of the Northeast Area at Joliet 29, Weaver reviewed the annual inspections of the Area, testimony of KPRG's Mr. Gnat, the historic groundwater data at the Station, and the Des Plaines River sampling. That information, along with the Station's location and risk analysis, led Weaver to conclude that there was no need to conduct any further work at the area. *See supra* §§II.A.iii.a, V.B & C. On the Northeast Area itself, Weaver noted that there were no indications of any seeps or releases from the area, the area is heavily vegetated, and there is no stressed vegetation. SOF 753-757. As such, Weaver concluded there is no indication of harmful leachate or harmful material in the soils. 6/12/23 Tr., p. 313:22-314:16. Weaver also observed that heavy vegetation indicates a thick topsoil in the area, and there is a substantial slope towards the river, both of which would minimize infiltration to the subsurface. 6/12/23 Tr., p. 317:17-318:15.

Weaver recognized that a 2009 inspection of the Northeast Area identified the presence of some ash mixed with soil, but explained that this mixture does not automatically indicate a source of groundwater contamination. 6/12/23 Tr., p. 315:13-316:3; MWG Ex. 1701, MWG13-15\_81454, \_81468. Rather, the chemistry of the ash, whether it is mixed with soil, and the quantities of mixture will dictate whether it is a source. 6/12/23 Tr., p. 316:4-24. Ash mixed with soil changes the chemistry and reduces the likelihood for the ash to be a source of contamination. 6/14/23 Tr., p. 88:11-14. In fact, the concentrations in MW-1 and MW-2 at the Joliet 29 Station support this. As both Weaver and Complainants' first expert (Mr. Kunkle) observed, the groundwater flow at Joliet 29 includes a component of flow that originates in the Northeast Area and migrates in a south-west direction towards MW-1 and MW-2. Appx D, MWG 1702, p. 20; SOF 729. The sample results at MW-1 and MW-2 do not show any elevated concentrations of constituents. 6/12/23 Tr., p. 302:22-303:4. The south-west flow direction and lack of elevated concentrations in MW-1 and MW-2 show that the Northeast Area is not affecting the groundwater. 6/12/23 Tr., p. 303:5-17. The recent analysis of the Northeast Area and the Des Plaines sediment conducted by the USACE further demonstrates that no further work is required in the area. SOF 794-795. Weaver reviewed

that data and testified that the USACE borings showed no CCR in the boring logs and no impacts from the Station in the River sediment. *Id.*, see also *supra* § II.A.iii.a.

b. Southwest Area

Weaver also evaluated the Southwest Area at Joliet 29, which has an ELUC attached due to contamination flowing onto the Station from the adjacent property. *See supra* §II.A.iii.b; SOF 136-138, 766-768. Weaver testified that there is a well, MW-3, on the downgradient edge of the Southwest Area, that provides an indication of groundwater quality from that area. 6/12/23 Tr., p. 284:20-285:10; Appx D MWG Ex. 1702, p. 14. The sampling of MW-3 in the 1998 Phase II report showed that the results were below the Class I standards. 6/12/23 Tr., p. 285:11-19; MWG Ex. 1702, p. 14. Weaver concluded that the groundwater results, coupled with the presence of an ELUC over most of the area, and the continued impact from a neighboring source, demonstrates that no further work is required in the area. MWG Ex. 1702, p. 24; 6/13/23 Tr., p. 24:13-23, 40:4-7.

c. Northwest Area

Similarly, the Northwest Area at Joliet 29 has been studied and is not a threat to the groundwater. *See supra* §II.A.iii.c; Appx D MWG Ex. 1702, p. 30. The analysis of the area showed that the ash in this area qualified as CCB and because the metal concentrations in the ash was below the Class I standards, which meant that the potential for leaching of metals from the ash was low. 6/14/23 Tr., p. 89:5-90:2. As such, and combined with the risk analysis for the Station, Weaver concluded there is no risk from the area. 6/14/23 Tr., p. 90:3-8. Similar to the analysis related to the Southwest Area, Weaver confirmed its conclusions based upon the results from the groundwater samples collected in MW-3 and MW-5 from the 1998 Phase II report. 6/12/23 Tr., p. 280:19-281:18; MWG Ex. 1701, MWG13-15\_81451. Both wells showed that the concentrations in the groundwater were below the Class I standards. 6/12/23 Tr., p. 280:19-281:18; MWG Ex. 1701, MWG13-15\_81451.

**F. Compliance with the Finalized Federal CCR Rule for Historic Areas of Ash, or in the Alternative, Installation of an Engineered Cap at the Waukegan FS Area is the Proper Technical Relief**

At the Waukegan Station, Weaver assessed the same factors as for the other Stations (location, risk, available data, and off-site sources) and determined that an additional remedial component was appropriate. Even with the trends decreasing and the absence of risk at Waukegan, Weaver recommended that MWG address the FS Area to the west of the ponds by installing an engineered low permeability cap and establishing a GMZ over the area, all within the Illinois SRP framework.

6/12/23 Tr., p. 207:23-208:14, 6/13/23 Tr., p. 149:14-16, 155:11-20; MWG Ex. 1701, MWG13-15\_81469; Appx. D MWG Ex. 1702, p. 90. However, to avoid any potential conflicts with regulatory requirements, Weaver recommended that MWG not install a cap or conduct any permanent corrective actions while the federal and state rules for historic areas are pending. 6/13/23 Tr., p. 156:2-19; MWG Ex. 1702, p. 89-90.<sup>24</sup>

An engineered cap is a “presumptive remedy”, which is a remedy that regulators believe is the most appropriate remedy for a site based upon experience with other sites. 6/13/23 Tr., p. 156:24-157:7; 161:13-16; MWG Ex. 1702, p. 90; MWG Ex. 1701, MWG13-15\_81469. “Capping is a proven remedial technology that has been used for decades and is particularly prevalent as a means of closing solid and hazardous waste landfills, and surface impoundments (usually after removal of liquids) under RCRA.” *Id.* They are commonly approved for RCRA corrective action sites to stop precipitation from infiltrating into the waste. In fact, RCRA sites have greater risks than sites like the MWG Stations and EPA still finds that engineered caps are an appropriate remedy.<sup>25</sup> SOF 706. For example, Weaver worked on a RCRA corrective action site in northwest Indiana that had a mix of steelmaking waste placed on the property many years ago. 6/13/23 Tr., p. 162:20-163:12. Weaver proposed, and both the federal and state agencies approved, a cap over the waste, even though the waste was in contact with the groundwater. 6/13/23 Tr., p. 162:13-16. A few years after installation of the cap, the site ceased groundwater monitoring because the cap successfully interrupted infiltration of precipitation and groundwater contamination ceased. *Id.*

For the FS Area, Weaver recommended a similar low permeability cap designed by a Professional Engineer in consideration of site-specific performance-based infiltration reduction goals. 6/13/23 Tr., p. 157:3-7, MWG Ex. 1701, MWG13-15\_81470; Appx. D MWG Ex. 1702, p. 90. Once a cap is installed, infiltration from precipitation into the area would cease. 6/13/23 Tr., p. 160:2-8. Weaver conducted a model to assess the efficacy of the cap, which showed that the cap would eliminate the infiltration of precipitation, reducing it by 99.9%, thus driving the

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<sup>24</sup> While Mr. Quarles attempted to identify other alleged ash areas, without any basis, those areas were either outside the boundaries of MWG’s property or did not store ash. 6/13/23 Tr., p. 168:4-9; SOF 905-906. In any case, the Board determined that Mr. Quarles’s testimony and opinions are entitled to little or no weight. Oct. 5, 2023 Order, p. 17.

<sup>25</sup> Mr. Quarles attempted to argue that a cap was not a preferred remedy by relying on an inapplicable article. 5/15/23 Tr., p. 219:4-220:6. Weaver explained that the site referenced in the article was simply a projection of what the authors thought could happen, but a cap was never installed at that site and thus its effectiveness was never assessed. 6/13/23 Tr., p. 165:2-167:7. Moreover, the article described a cap theoretically placed over impoundments that continued to receive ash and water, compared to the FS area which is area historic area of buried ash and soils covered by a grassy field. *Id.* Regardless, the Board determined that Mr. Quarles’s testimony and opinions are entitled to little or no weight. Oct. 5, 2023 Order, p. 17.

groundwater constituents to below Class I standards. 6/13/23 Tr., p. 157:8-21; MWG Ex. 1701, MWG13-15\_81469. Weaver recognized that groundwater at the FS Area is significantly and adversely impacted by the continuing contamination from the upgradient Griess-Pfleger Tannery. That off-site contamination must be considered when assessing a remedial approach, including maintenance of the ELUC. 6/13/23 Tr., p. 134:17-135:7, 159:2-160:8; MWG Ex. 1702, p. 76.

Even if some of the ash in the FS Area is, at depth, in contact with groundwater, Weaver concluded the groundwater constituents would decrease after construction of a cap. There is no dispute that the FS Area contains ash from historic uses over forty years ago, long before MWG owned and operated at the Station. SOF 908, Comp. Ex. 1331, MWG13-15\_110693, Comp. Ex. 1406, MWG13-15\_124063-MWG13-15\_124083. Weaver explained that, in any waste material, there is only a certain mass or quantity of contaminants in the material, and the longer the material has been in contact with the groundwater the more time there is for constituents in the waste to mobilize. 6/12/23 Tr., p. 244:16-245:9. In other words, “the longer the duration of the exposure, the more likelihood that more of the mass has been pulled out of that matrix.” 6/13/23 Tr., p. 196:16-18. Thus, Weaver concluded that the small percentage of ash in the FS Area that may continue to be in contact with groundwater (estimated to be approx. 20%) likely does not contain any significant level of constituents because it has been in contact with groundwater for decades. 6/13/23 Tr., p. 159:2-160:8.

Weaver cautioned that, due to the pending federal and state rules for historic areas, MWG should not install the cap at this time. 6/13/23 Tr., p. 157:22-158:4. On May 18, 2023, USEPA proposed rules for legacy surface impoundments and CCR management units (“CCRMUs”), which are areas of ash at power plants that are not a CCR impoundment or landfill. SOF 1164. In support of its proposal, USEPA identified two areas of historic ash at Waukegan, an “Old Pond” and “Historic Fill,” which MWG understands to be the FS Area and ash under the Waukegan CCR surface impoundments. SOF 1166-1169. USEPA states that the rule will be final in April 2024.<sup>26</sup> Similarly, the Board has an open subdocket proposing to regulate areas of historic ash. SOF 1170. Weaver’s recommendation to wait until a final decision on the proposed rules is based in part upon MWG’s prior experience. Weaver noted that MWG had previously taken voluntary actions, by relining its ash ponds under the Illinois CCAs before the federal CCR rule for impoundments was

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<sup>26</sup> Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities; Legacy Surface Impoundments, EPA-HQ-OLEM-2020-0107 Docket Agenda.

finalized. 6/13/23 Tr., p. 158:7-9. Although MWG was concerned in 2012 that its relining work under the CCAs would not meet the future CCR rule standards, IEPA assured MWG it should proceed. When the federal CCR rule was finally promulgated, MWG found that its concerns about relining the ponds were correct. SOF 1048. Because the federal CCR rule required a different liner than the liners that IEPA approved in the CCAs, MWG's relining work, which cost approximately \$10 million, was no longer regulatorily compliant and had to be redone. SOF 1049, 1175-1176. Not only did the 2012 relining projects under the CCA cause MWG to spend unnecessarily, the project was a waste of personnel and resources (including the required disposal of physical plastic HDPE liners). *Id.* Because of those negative consequences for acting before pending regulations are finalized, Weaver concluded that no work should be conducted while the future rules are pending, to avoid potential conflicts with a future rule and avoid waste. 6/13/23 Tr., p. 158:14-21 & 6/14/23 Tr., p. 97:23-98:22 (Weaver); MWG Ex. 1701, MWG13-15\_81470.

**G. Other Proposed Actions and Remedies are not Practicable nor Reasonable**

Weaver also evaluated other potential remedies for the MWG Stations and concluded none were technically practical or economically reasonable. The recommendation by Complainants' expert, Mr. Quarles, for a site investigation and subsequent feasibility study, was not a remedy at all but only the first step in a very long process (see discussion below, §V.H). Weaver concluded that Mr. Quarles's proposed investigation was not practicable given the quantity of data already collected at the Stations, which Mr. Quarles did not review. Further, Mr. Quarles's suggestion that, after the investigation there would be a "feasibility study" to assess what remedy to select, is burdensome and unreasonable for the Stations. A feasibility study is performed at sites regulated under CERCLA as Superfund sites, or sites conducting a RCRA hazardous waste corrective measure, where the risks are significant. 6/12/2023 Tr. p. 257:5-20. Here, because the MWG Stations are not RCRA or Superfund sites, and do not have similar risks or contamination, Weaver concluded that a feasibility study was unreasonable. *Id.*, SOF 706. In any case, the Board determined that Mr. Quarles's testimony and opinions are entitled to little or no weight, so his recommendation should be disregarded. Oct. 5, 2023 Order, p. 17.

Complainants' first expert, Mr. Kunkle, stated that pumping and treating groundwater at the Stations was technically impracticable and not a viable option because of the proximity to canals, rivers, and Lake Michigan. MWG Ex. 1703, Comp\_041681; 6/12/23 Tr., p. 258:21- 262:3. Weaver agreed. *Id.*

Weaver also agreed with MWG's expert, Mr. Seymour, who concluded that large-scale ash removal would be economically unreasonable and technically impracticable due to the excessive costs and negative impact on the surrounding community. 6/12/23 Tr., p. 256:4-8, 262:19-264:7. Specifically, Weaver agreed that the truck traffic required to remove the CCR material from the Stations would have a significant negative impact on the health and welfare of neighboring communities. *Id.* In addition to the noise and danger of increased traffic, there would be increased exhaust and CO<sub>2</sub> emissions, as well as the negative impacts on the roads and local infrastructure. *Id.* In any case, Complainants second expert, Mr. Quarles, did not recommend a removal remedy nor even assess it as a remedy for this matter. 5/15/23 Tr. p. 176:5-178:1

#### **H. Complainants Failed to Present a Remedy**

Despite repeatedly lamenting the duration of this matter, Complainants have not presented to the Board a remedy that would end it. Complainants' purported expert, whose opinions the Board concluded are entitled to little weight, admitted he had no recommendation on any remedy at all. 5/15/23 Tr., p. 162:21-23. Mr. Quarles's sole opinion is that the MWG Stations require *additional* investigations (a/k/a a "nature and extent" investigation) before a remedy can be selected. 5/15/23 Tr. 54:19-22, 66:17-23. He then conceded that he had no opinion on the specific scope of the nature and extent investigation for each of the Stations, nor how it would be developed. 5/15/23 Tr., p. 162:11-164:15. Indeed, he seemed to know little about the MWG Stations. For example, while he was generally aware that contamination is continuing onto the Waukegan Station from the Tannery Site, he had no knowledge of the specifics. 5/15/23 Tr. p. 208:20-24. He was also unaware that MWG had conducted sampling in the FS Area. 5/16/23 Tr., p. 114:22-115:7. Similarly, he was not aware that the Will County Station ceased burning coal. *Id.* p. 193:6-8. He also did not remember the names of the prior experts, did not rely on any of their reports and did not review the testimony of MWG's Station operators from the first hearing. 5/15/23 Tr., p. 153:14-154:15, 5/15/23 Tr., p. 189:2-7, 227:20-23.

Similarly, despite recommending investigations at each of the Stations to develop a remedy, he had no opinion on the specifics of the process, where the investigations should take place, or how long they would take. 5/15/23 Tr., p. 170:17-19. For example, following the investigations, he suggested that an alternatives analysis (or feasibility study) should be developed to assess potential remedies. But he had no thoughts or opinions on who would evaluate the alternatives analysis, who would analyze or select the remedy, or how to reconcile disagreements over the analysis, including whether the parties would have to return to the Board. 5/15/23 Tr., p. 169:21-170:11.

Ultimately, his “opinion” is no opinion at all and does not aid the Board in any way. *People v. King*, 2018 IL App. (2d) 151112 (2d Dist. 2018) (*partially rev'd on other grounds*) (expert testimony must assist the trier of fact). As the Board already decided in this case, “little weight will be given to [Mr. Quarles’s] opinions and reports” Oct. 5, 2023, p. 17.

## **VI. THE BOARD CANNOT ORDER A MANDATORY INJUNCTION**

The relief Complainants seek here – that MWG be ordered to conduct more site investigations and presumably a subsequent remedy – would constitute a mandatory injunction that is beyond the authority granted to the Board. *See also* MWG’s Answer and Supplemental Defenses to Second Complaint, Aug. 12, 2022. A mandatory injunction is “[a]n injunction which compels some positive action involving a change of existing conditions — some affirmative act or acts essential to restore the status quo.” Ballentine’s Law Dictionary, *Mandatory Injunction* (2010). The site-wide investigations at each Station (and ultimately a remedy) that Complainants seek here clearly falls within that definition. While the Board may certainly order a party to cease and desist, it may not actively mandate that a party be required to take specific actions. This limitation was established by the Illinois Supreme Court, contrary to recent decisions by the Board suggesting otherwise. *People v. Agpro, Inc.*, 214 Ill. 2d 222 (2005).

Complainants’ request is substantially similar to the one they requested in their citizens’ suit against the City of Springfield. In June 2021, Springfield argued that the relief Complainants requested—a groundwater-remediation project—exceeded the Board’s statutory powers because it constituted a “mandatory injunction.” *Sierra Club v. City of Springfield*, PCB 18-11, slip op. at 2, 30 (June 17, 2021). Even though the Board agreed that it could not issue “mandatory injunctions,” it still denied Springfield’s motion for summary judgment. *Id.* at 30, 32. The Board seemed to say that its power to issue a “cease and desist” order allows it to dictate an “enforcement remedy,” which acts like a mandatory injunction. *City of Springfield*, PCB 18-11, slip op. at 30.

But the Illinois Supreme Court already rejected similar reasoning in *Agpro, Inc.* There, the Illinois Attorney General argued that, although the Act did not grant circuit courts the power to issue mandatory injunctions, Section 42(e) of the Act authorized the issuance of orders that “restrain further violations of [the] Act.” *Id.* at 227. This would, she argued, allow the court to enter an order compelling the defendant to “order defendants to take certain actions to clean up the Agpro site, such as removal of all contaminated soil.” *Id.* at 234. The Illinois Supreme Court rejected that argument, noting that the State’s interpretation of “restrain” as something that



encompassed the ability to compel “ignore[s] the ordinary meanings of words.” *Agpro, Inc.*, 214 Ill. 2d at 233. Section 42(e) did not, therefore, empower the circuit court to order the defendant to conduct a site cleanup. *Id.* at 234.

There is no meaningful difference between Section 42(e)’s use of the word “restrain” and Section 33(b)’s use of the words “cease and desist.” All three words “ordinarily used, connote[] imposing limits on action” and not “causing someone to do something.” *Id.* at 226. Thus, if the version of Section 42(e) the Illinois Supreme Court reviewed in *Agpro* could not be used to require a site cleanup, then the “cease and desist” language in Section 33(b) cannot either.

In *People v. Jersey Sanitation*, the Board indicated that it did not view *Agpro* as an obstacle to its self-proclaimed power to “order the submission of a [remediation] program or order further hearings to develop one.” PCB97-2, *slip-op*, p. 3-4 (June 16, 2005). Although the Board quoted David Currie, *Enforcement Under the Illinois Pollution Law*, 70 Nw. U. L. Rev. 389, 424 (1976) in support of its position, Professor Currie never describes these as injunctions. Instead, he states that the Board cannot directly force the defendant to develop a remediation plan. *Id.* Instead, the Board’s remedies for “foot-dragging” when a company has not proposed a solution of its own lie in imposing additional daily penalties for any ongoing violations and “if all else fails” exercise its “ultimate” power—issuing a cease-and-desist order. *Id.* at 425. Moreover, that section is about “The Bearing of Diligence”, *not* on enforcement. *Id.* at 420. In his section on enforcement, Mr. Currie specifically states that the Board may issue “prohibitory orders and [award] money damages,…” *Id.* at 444, 447 (emphasis added). The Board should not continue sidelining an applicable Illinois Supreme Court precedent based on a misreading of Professor Currie’s article.<sup>27</sup>

When a respondent proposes a plan, like MWG has here, the Board has issued orders adopting that plan. But those orders should not be mistaken for mandatory injunctions. The Board expected that, like MWG, the respondents in those cases *presented* defined remedial steps to be taken – *a solution of their own* as described by Professor Currie. *Id.* at 424. In *People v. Poland*, the Board

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<sup>27</sup> Nor should the Board continue relying on *dictum* from *Discovery South Group v. Illinois Pollution Control Bd.* 275 Ill. App. 3d 547 (1st Dist. 1995). That decision never explains why the appellant believed that the Board had “exceeded the scope of its powers,” which makes it impossible to interpret the First District’s broad pronouncement that the Board had properly exercised “its power to order compliance.” *Id.* at 559-60. Indeed, the appellant’s “scope” argument was perfunctory, at best. It was never raised at the administrative level, see *Vill. of Matteson v. Discovery S. Grp. Ltd.*, PCB 90-146, *slip op.* at 1-2 (Mar. 25, 1993), and the First District did not even mention this argument in its introduction. *Discover S. Grp.*, 275 Ill. App. 3d at 554. The First District never intended to grant the Board full-spectrum enforcement powers through this short discussion of an underdeveloped argument. See also *Kaeding v. Pollution Control Bd.*, 22 Ill. App. 3d 36, 38 (2d Dist. 1974) (rejecting appellant’s argument that Board could not issue any cease-and-desist orders).

was faced with ordering the State's removal remedy *or* accepting the respondents proposed remedy to cap its illegal landfill. PCB98-148 (Aug. 7, 2003), *slip-op.* at 10-12. The Board included in its order the remedy the respondents had requested, thus avoiding the “mandatory” nature of an injunctive order. *Id.* In *Hoffman v. City of Columbia*, the respondent *asked* that the remedy consist of moving aggregate piles, upgrading the mufflers on its heavy equipment, and reducing the volume of back-up alarms. PCB94-146, 1996 Ill. ENV LEXIS 716, \*33 (Oct. 17, 1996).

When a Board order contains a cease-and-desist order, in addition to language directing that the complainants may take certain actions, the directions are ordinarily there for the respondent's *benefit*. Without those directions, the respondent is stuck with a permanent injunction on some, or all, of their business activities. This was the deal the Board offered in *Roti v. LTD Commodities*—either permanently cease all nighttime operations or build a noise wall. 355 Ill. App. 3d 1039, 1054 (2d Dist. 2005). But, as the Second District emphasized, the wall was not “required” and would be built only if LTD “decides that building such a wall would be in its best business interest[.]” *Id.* at 1054-55. This is the same vision Professor Currie outlined: The Board could incentivize affirmative acts by the defendant, but it could not *mandate* them.

In sum, MWG wants exactly what the *Poland* respondents wanted: A defined resolution to this decade-long case based around a reasonable remedy outlined by remediation experts who provided direct testimony. Because the Board is “a creature of statute,” it must work with the tools Illinois lawmakers gave it. *Modrytzki v. City of Chicago*, 2015 IL App (1st) 141874, ¶10. The Complainants ask it to instead to take actions outside its authority and only entrusted to circuit courts. That invitation should be declined.

## **VII. THE SECTION 33(C) FACTORS PROVE THAT MWG ACTED REASONABLY**

Under Section 33(c) of the Act, the Board must “take into consideration all the facts and circumstances **bearing upon the reasonableness** of the emissions, discharges or deposits involved,” including the five factors outlined in the statute. 415 ILCS 5/33(c) (emphasis added). Ultimately, since MWG took over operations of the Stations, it acted reasonably with relation to the ponds and the known areas of ash historically placed by prior owners.

Section 33(c) of the Act requires the Board to consider five factors when making its orders. Courts and the Board use the Section 33(c) factors to determine whether emissions or releases

were reasonable.<sup>28</sup> In *Wells Mfg. Co. v. IPCB*, the Illinois Supreme Court upheld the reversal of the Board's finding of a violation, holding that the respondent's emissions were reasonable under the evaluation of the Section 33(c) factors. *Wells Mfg. Co. v. IPCB*, 73 Ill.2d 226, 238 (1978). In that case, after evaluating each of the Section 33(c) factors, the Illinois Supreme Court found that the fact that the respondent employed 500 people, was an important supplier of auto and agricultural parts, and had been operating at its location since 1947 when the surrounding area was a sparsely inhabited swamp, were significant factors in supporting the conclusion that the emissions were reasonable such that the company was not in violation of the Act. *Id* at 235-236. *See also Incinerator, Inc. v. IPCB*, 59 Ill.2d 290, 299 (1974) (Illinois Supreme Court upheld the Board's finding of a violation after considering the Board's evaluation of the Section 33(c) factors which concluded that the emissions were unreasonable).

Here, both in the first hearing and in the second, MWG presented extensive and detailed evidence relevant to each of the Section 33(c) factors to establish that MWG acted reasonably and not in violation of the Act. Because the Board's Interim Order is only "interim" and because the evidence for liability and the 33(c) factors are so intertwined, the Board's final order should reassess its interim findings based on the 33(c) factors.

**A. The Character and Degree of Injury is Low**

The first factor the Board must consider is the character and degree of injury to, or interference with, the protection of the health, general welfare and physical property of the people. 415 ILCS 5/33(c)(i). In evaluating the character and degree of injury, the Board has considered whether the contamination was contained to the respondent's site -- indicating a reduction of risk -- and any potential interference with the complainants' enjoyment of their land use. For example, the Board has found that the character and degree of injury of an emission was minimal because the alleged odors from the waste did not impact neighbors. *IEPA v. Flickman*, PCB79-271 (Nov. 20, 1980), *slip-op*, p. 4. In comparison, the Board found that a respondent's release of oil and saltwater was significant because the oil and saltwater flowed through a pasture and wooded area and into a creek. *People v. Ogoco, Inc.*, PCB 06-16 (Sept. 21, 2006), *slip-op*. p. 9; *see also People v. CSX Transportation, Inc.*, PCB 07-16 (July 12, 2007) (character and degree of injury slight because spill occurred on industrial site); *Kamholz v. Sporleder*, PCB No. 02-41 (February 20, 2003)

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<sup>28</sup> As discussed above in Section III.C., the Board should have, and is required under the Act, to consider the Section 33(c) factors as part of its analysis of potential liability in the Interim Order.

(character and degree of injury high because the noise interfered with enjoyment of life).

Here, the character and degree of injury is low. There is no dispute that there is no risk to potable water. SOF 76, 161, 262, 361, 727, 803, 878, 931. In fact, the Board already found that there are no drinking water wells downgradient from the MWG Stations. Interim Order, p. 29, 43, 69. Similarly, Complainants' first expert agreed with MWG's experts that there was no risk to drinking water, which was confirmed by Complainants' counsel, Faith Bugel. SOF 485, 709; 6/12/23 Tr., p. 220:7-9. Moreover, MWG's experts in both phases of these hearings presented the uncontroverted opinion that there is no risk to offsite receptors, including the adjacent surface waters. *See supra* §V.C.

Additionally, the degree of injury from the ash ponds is low because, as Ms. Bugel publicly stated, MWG's ash ponds, were "lined, and unlike many other companies, Midwest Generation frequently emptied the ash," meaning that MWG's active ponds were "were probably less likely to be contaminating groundwater than at many other coal ash sites." SOF 710. Since before MWG began operating the Stations, ponds at the Joliet 29 Station, the Powerton Station, and the Will County Stations each had poz-o-pac liners, and the Waukegan Station ponds had a geosynthetic liner. SOF 88, 169, 181, 188, 201, 284, 373. When MWG began its relining program of its ponds, it found that contrary to the presumptions made, the liners were in excellent condition. *See supra* §III.D.vi. & MWG's July 17, 2018 Post Hearing Brief, pp. 35-40.

IEPA's decision to not take further enforcement action at the MWG Stations demonstrates that the character and degree of injury is low. MWG has consistently submitted quarterly groundwater monitoring reports to IEPA for over ten years. SOF 979-981. Similarly, IEPA is also fully aware of historic ash areas, including the Northeast Area and Southwest Area at Joliet 29, as well as the areas within the GMZs and ELUCs established on the Stations. SOF 125, 137-140, 640-656, 740, 766-768. And yet, neither IEPA, nor USEPA, have asked MWG to conduct any further investigations of the areas, including any actions related to its GMZs or ELUCs, or the ELUCs established by neighbors. SOF 741, 765, 770, 773, 1031. In fact, at Waukegan, IEPA has consistently concluded that the ash ponds *are not* a source of the contamination. SOF 900-905; *supra* §II.C.ii. Also, following completion of the CCAs, IEPA has never claimed that MWG failed to comply with or violated the terms of the CCAs. SOF 1036.

Finally, the potential for injury is further reduced by the fact that three of the Stations have ceased burning coal completely, and therefore have ceased generating CCR.

**B. The MWG Stations Have Significant Social and Economic Value**

Similarly, there is uncontroverted evidence, as well as undisputed expert testimony, that the Stations have economic and social value, including providing needed energy to the grid, and as an employer providing well-paying jobs. SOF 12-14, 686, 689, 693, 696; 6/15/23 Tr., p. 18:8-9; 415 ILCS 5/33(c)(ii). The Powerton Station has additional social value by leasing Powerton Lake to the Illinois Department of Natural Resources, a fish and wildlife area available for recreational fishing and hunting by the public. SOF 800. MWG spends a significant amount of money to maintain Powerton Lake. SOF 801.

To further demonstrate the economic value of the Stations, MWG presented Dr. Brian Richard, an Assistant Director of the Center for Governmental Studies at Northern Illinois University, as an expert in economic value. SOF 677-678. Dr. Richard has a Ph.D. in international development, a master's degree in applied economics, and a bachelor's degree in finance. SOF 677.

In addition to those accomplishments, Dr. Richard has been trained in the use of “IMPLAN”—an economic model that experts in this field use for estimating the economic value of certain kinds of activity. SOF 677. Complainants do not challenge the reliability or admissibility of the IMPLAN Model. Nor could they. Estimates prepared using IMPLAN are routinely upheld as admissible and reliable evidence in state and federal proceedings. *Kansas v. Colorado*, 533 U.S. 1, 4, 121 S. Ct. 2023, 2026 (2001) & *Kansas v. Nebraska*, 574 U.S. 445 (2015) (U.S. Supreme Court adopts reports based on IMPLAN modeling outputs). Complainants presented no expert to rebut Dr. Richard's opinions and conclusions, and he was accepted as an expert with no objection. SOF 678.

**i. Dr. Richard's Economic Model and Uncontradicted Evidence Demonstrates that the MWG Stations Annually Generated About \$555,000,000 in Economic Value**

Dr. Richard used the IMPLAN model to establish the value of the Stations. The IMPLAN model was originally developed by the U.S. Forest Service to capture a full picture of the economic benefits created by timber sales—benefits that would ultimately be balanced against ecological harms or other negative externalities caused by the timber harvest. SOF 677.a. & b. Though the model has been refined over time, it serves the same basic purpose today: Providing regulators a full picture of the economic value that a particular enterprise provides to the local community.

IMPLAN does this by conducting an “input-output analysis.” The inputs include factors such as the number of employees at a company, the total payroll, the total sales at the business, and the size of the business. SOF 677.c. A final input is the industry category—the IMPLAN model

can be customized to consider the economic activities of a particular industry. *Id.* The outputs are three categories of generated economic value: Direct, Indirect, and Induced. Using the IMPLAN model, Dr. Richard analyzed the economic value of the Stations state-wide and separately for each region in which the Stations are located. MWG Ex. 1802.

a. The Stations Created Direct Value

The Stations created “direct” value (or “output”) primarily by the salaries it pays its employees, most of whom are Illinois residents, a total annual compensation of \$51,228,531. MWG Ex. 1802, p. MWG13-15\_82255, tbl. 2. These were, on average, very well-compensated positions, averaging around \$167,000 in annual pay and benefits. MWG Ex. 1802, p. MWG13-15\_82256-82259. Dr. Richard also analyzed and testified to the economic value of the Stations in each of their regions, which demonstrated that each Station provided economic value to the areas where they are located. MWG Ex. 1802, MWG13-15\_82256-82259; 6/15/23 Tr., p. 23-36.

b. The Stations Created Indirect Value Statewide

The IMPLAN model recognizes that, in addition to paying salaries to employees, businesses will typically spend significant money on goods and services from local businesses. Ex. 1802, MWG13-15\_82253. These may be goods such as fuel, or services such as equipment repair or accounting services. *Id.* These contributions bolster local businesses, prompting them to hire additional staff. For example, even though the Powerton Station had only 113 individuals on its payroll, IMPLAN determined that the local economy added an additional 191 jobs in the area to meet its demands for goods and services. *Id.* at MWG13-15\_82256.

In total, the IMPLAN model estimated that the Stations indirectly created 488 local jobs with a total of \$34,048,046 in wages and receipts statewide. *Id.* at p. 3. The wages and salaries those workers received rippled through the local economies, magnifying the benefits to the communities.

c. The Stations Created Induced Value

The Stations’ purchases of goods and services created “indirect” value. Additionally, according to IMPLAN, the wages of MWG’s employees generated a comparable level of revenue for local businesses and taxes for local communities. The IMPLAN models calls that “Induced Value”, which is “the additional activity that results from the generating facility employees spending their income in the local economy.” Ex. 1802, at p. 1.

According to IMPLAN’s estimates, the spending of MWG’s employees provided an estimated \$78,931,779 in “induced value” statewide. Ex. 1802, tbl. 2. And, to meet the needs of

these employees for goods and services (groceries, childcare, housing, etc.) each of their local economies created over 500 jobs, collectively paying over \$27,000,000 in wages and benefits. *Id.*

Dr. Richard summarized his IMPLAN results in Table 2 of his report.

Impact Type	Employment	Labor Income*	Value Added	Output
Direct	303	\$51,228,531	\$170,103,091	\$377,422,194
Indirect	488	\$34,048,046	\$56,214,473	\$99,100,796
Induced	514	\$27,025,444	\$47,996,919	\$78,931,779
Total	1,305	\$112,302,021	\$274,314,483	\$555,454,769
Multiplier	4.7	2.3	1.6	1.5

\*Labor income impacts have been adjusted for the commuting patterns of Midwest Generation employees by removing employees that live outside of Illinois from the analysis.

Source: IMPLAN, 2020.

Ex. 1802, tbl. 2.

In total, the MWG Stations created over 1,300 jobs statewide, and for every \$1,000 earned by its employees, an additional 1,300 in labor income is generated. MWG Ex. 1802, MWG13-15\_82255. Overall, the total economic value of the four Stations is over \$555 million, which represents the total value of production at the Stations, and the revenues of suppliers and local businesses. *Id.*, 6/15/23 Tr., p. 23:2-4.

The IMPLAN model is publicly available, and Complainants had every opportunity to detect errors in calculation. Complainants offered no evidence or expert opinions contradicting Dr. Richard’s conclusions.

**ii. The Stations Heavily Contribute to Local Tax Bases**

The IMPLAN model accounts for the business’s total tax contributions (property, sales, etc.) as part of its “indirect value.” But it does so as part of an estimate of all tax contributions, based on national data and which industry the business is in. The estimate is too generalized to estimate how much the entity pays in property taxes specifically, since this would require knowledge of inputs (local tax rules, property values, etc.) that the model is not programmed to accept.

Nonetheless, to ensure that the Board has an accurate picture of the Stations’ contributions to local finances, Dr. Richard compiled data from the Station’s respective County Assessment Office’s. Ex. 1802, MWG13-15\_82257-82260. In 2020 alone, MWG paid \$2,366,036 in local taxes. *Id.* In each case, local school districts were the chief beneficiaries. Three-quarters of those tax revenues went (collectively) to Waukegan Community School District #60, Joliet Township High School District #204, Valley View Community School District #365-U, Pekin Community High School District #303 Franklin Park School District #84, and Willow Spring School District

#108. *Id.* The fact that Dr. Richard relied on more than one source of information for his conclusions further enhances his credibility.

**iii. The Stations Created Economic and Social Value by Contributing to the Stability of a Multi-State Electrical Grid**

All of MWG's Stations connect to the PJM Energy Market. At the 2018 hearing in this matter, MWG's Director of Federal Environmental Programs, Ms. Race, testified that the PJM ensures that there is enough capacity available to ensure that the energy available will meet the demand such that there are not blackouts, "so people aren't in the cold and have no electricity." SOF 12-14. Thus, during the time when the violations were found to have occurred, the MWG Stations provided critical support to the electric grid. *Id.*

Though Dr. Richard did not attempt to quantify the economic value created by the Stations' contributions to the stability of the electricity grid, the Board should take account of this fact. The power shortages in Texas during "Winter Storm Uri" in February 2021 caused at least 57 deaths and over \$195 billion in property damage.<sup>29</sup> If operation of the Stations made even a 1% difference in avoiding a catastrophe 1/100th as bad as Winter Storm Uri, the social and economic value of that contribution would still be substantial and therefore relevant to the Board's assessment under Section 33(c)(ii).

**iv. Both in 2020, and today, the MWG Stations Had Economic Value**

The Board should rely on the economic value data presented by Dr. Richard from 2020 as representative of economic value during the relevant periods. Dr. Richard's economic value data had to be based on a specific time period, in this case from 2020. However, the 2020 employee data he relied on is similar to data from prior years. For example, in 2020 there were about 303 employees at the Stations and in 2018, there were about 320. SOF 15-18, 686, 689, 693, 696. Also, his report is representative of the evidence before the Board, because the most recent groundwater data in evidence is from 2021 (Comp. Exs. 1303, 1307, 1310, 1314), before the Stations began to transition their operations. While Complainants suggested that changed conditions at the Stations could result in a lower value, the economic value should be assessed based the evidence before the Board. In any case, Complainants failed to present any contrary testimony to this point.

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<sup>29</sup> University of Texas Energy Institute, The Timeline and Events of the February 2021 Texas Electric Grid Blackouts (July 2021), <https://energy.utexas.edu/research/ercot-blackout-2021>.



Neither the Act, nor the Board's precedents, specify a particular point in time when "social and economic value of the pollution source" must be calculated. 415 ILCS 5/33(c)(ii). Dr. Richard reasonably relied on economic data from 2020, a year in which all four Stations were generating electricity. It would be counterproductive to use present-day data because 2023 is not representative of how the Stations operated during the period the Board determined that violations occurred, nor how they will operate in the future. Three of the Stations have changed how they are used, and Powerton will continue to generate electricity in the same manner but with significant changes to its ponds. SOF 685, 692, 695. Accordingly, looking at the economic value of a site after it has ceased the economic activity that led to the Board finding a violation would be in tension with the text and purposes of Section 33(c)(ii) of the Act.

In any event, all four Stations produce present-day economic value. Powerton continues to operate and generate economic value. SOF 690. Waukegan operates peakers and Waukegan and Will County Stations will house and maintain battery storage units that will store electricity from renewable resources for use when the renewable resource is not available. SOF 697. Each Station will retain staff to operate under these new conditions. SOF 698, 700. The construction to build the battery storage facilities will bring additional jobs to both Lake County and Will County. SOF 699, 701. According to Dr. Richard, this means that they will continue to have "some level of employment labor income and value-added impact on the local economy." 6/15/23 Tr., p. 35:14-17. Plus, each will create significant indirect value to their local economies while construction is ongoing. 6/14/23 Tr., p. 324:5-11. Even though the Joliet 29 Station is not presently generating electricity, the Station still requires a staff, composed largely of Illinois residents, who will take care of the facility and its future use was unknown at the time the hearing. SOF 687. Dr. Richard credibly testified that any generating Station that maintains a payroll generates social and economic value.

**C. The MWG Stations Have Priority of Location and are Suitable for their Locations**

The third factor under Section 33(c) is the suitability or unsuitability of the pollution source to the area in which it is located, including the question of priority of location in the area involved. 415 ILCS 5/33(c)(iii). The Illinois Supreme Court has stated that this factor is significant when considering an industrial site that has operated in an industrial area for decades, long before other uses appeared. *Wells Mfg. Co. v. Pollution Control Board*, 73 Ill. 2d 226, 236 (1978). The Board gives this factor even greater weight when the respondent was first to operate in the location and

there have been no substantial increases in operation after the complainants arrived. *Saxbury v. ADM*, PCB04-79 (Feb. 3, 2005), pp.12-13; *Dettlaff v. Boado*, PCB 92-26 (July 1, 1993) pp. 9-10.

MWG unequivocally demonstrated that the Stations are suitable for the areas in which they are located and have priority of location. Although Complainants attempted, for the first time at the second hearing, to argue that there could be some non-industrial uses near the Stations, all of the Stations are zoned industrial and are located in industrial areas, surrounded by other industries and commercial properties. SOF 68-71, 155, 258-260, 358-359, 704 718-722, 799, 874-877, 928-930; 6/12/23 Tr., p. 216:19-23. It is also undisputed that each of the Stations has been at their current location for at least 50 years and as much as 100 years. 6/13/23 Tr., p. 174:4-175:6. Joliet 29 and Will County, the “younger” Stations, were each built in 1964 and 1955 respectively, and both Powerton and Waukegan were built in the 1920s. SOF 64, 152, 256, 356, 717, 798, 873, 927. The very fact that Powerton and Waukegan are approximately 100 years old demonstrates that they were at their locations first. SOF 705. Also, there has not been a substantial increase in operations. Rather, three of the four Stations have *ceased* burning coal, and there is no testimony to show that Powerton has increased its operations. SOF 685, 688, 692, 695.

The Board also found that each Station is surrounded by industries, and that each had operated for decades. Interim Order, pp. 22, 36, 51, 63-64.<sup>30</sup> For example, the Board stated that it was uncontested that the Waukegan Station began operating in the 1920s and that the area around the Waukegan Station “has been primarily industrial from [the] 1930s.” Interim Order, pp. 63-64. The Board specifically identified the surrounding Superfund sites, and the North Shore Sanitary District as the neighboring properties. *Id.* Similarly, the Board stated that the Joliet 29 Station is “located in a primarily industrial area...” and had operated since the mid-1960s. Interim Order, p. 22. *See also* §§II.A., II.B., II.C., and II.D.

**D. MWG’s Proposed Remedy is Technically Practicable and Economically Reasonable**

The fourth factor in Section 33(c) is the technical practicability and economic reasonableness of reducing or eliminating the emissions, discharges or deposits resulting from a pollution source. 415 ILCS 5/33(c)(iv). For this factor, the Board considers what is reasonable to reduce the emissions to stop an unreasonable interference. *Gott, et. al. v. M’Orr Pork, Inc.*, PCB 96-68 (Feb. 20, 1997), *slip-op* p. 20. The case of *People v. Poland, et al.*, is particularly instructive on how the

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<sup>30</sup> The Board found it uncontested that the surrounding areas were industrial likely because Complainants’ initial expert similarly agreed that the MWG Stations were in industrial areas. Ex. 401, p. 9, 10, 21, 29.

Board considers whether a remedy is technically practicable and economically reasonable. PCB 98-148 (Aug. 7, 2003). In that case, the State sought a Board order that would require the respondent to remove waste from an unpermitted landfill. *Id.* p. 3. Respondent engaged a professional engineer with extensive experience in solid waste, landfill design, site investigation and remediation issues to evaluate the conditions in the landfill. *Id.*, p. 3-4. The professional engineer found that the landfill posed little potential harm to the environment and recommended the respondent install a cap. *Id.*, p. 4. Based on the opinions of respondent's expert, the Board rejected the State's demand, finding it to be economically unreasonable, particularly because there was no evidence that there was any injury to health, welfare and property, nor evidence of environmental harm. *Id.*, p. 10-12. The Board agreed to the respondent's recommended remedy of a cap, finding the cap to be technically practical and economically reasonable. *Id.* Similarly, in *Gott, et. al. v. M'Orr Pork, Inc.*, the Board rejected complainants' request that the Board order the respondent to relocate its operations, finding it to be economically unreasonable. *Gott, et. al. v. M'Orr Pork, Inc.*, PCB 96-68 (April 16, 1998), *slip-op* p. 10. Instead, relying upon the respondent's expert, the Board issued an order adopting the abatement measures recommended by respondent's expert. *Id. see also Hoffman v. City of Columbia*, PCB 94-146 (Oct. 17, 1996) 1996 III. ENV LEXIS 716, \*47-\*48 (Board rejected demand to move entire facility because it was not technically practical nor economically reasonable).

**i. Because the Stations have been Extensively Investigated, any Requirement for Additional Investigation is Technically Impractical and Economically Unreasonable**

Here, the only expert opinions entitled to any weight (Weaver's) recommend remedy measures that are technically practicable and economically reasonable. 6/13/23 Tr., p. 175:7-176:16; MWG Ex. 1702, p. 94. Complainants' expert, Mr. Quarles, who the Board said is entitled to little weight, gave no opinion on a remedy, and no opinion that conducting site investigations, leading to feasibility studies, would be technically practicable or economically reasonable. 5/15/23 Tr. & 5/16/23 Tr. In fact, after reviewing the past investigations and plethora of data at each Station, Weaver concluded that it would be technically impractical and economically unreasonable to conduct any further investigations, and certainly not practicable or reasonable to engage in the process of a feasibility studies to select a remedy in the distant future. *See supra*, §V.A. & V.G.

**ii. Compliance with the Federal and State CCR Rule is Technically Practical and Economically Reasonable**

Weaver first recommends that MWG continue its compliance with the comprehensive CCR rules for surface impoundments. The Board has already found that compliance with the Illinois CCR Rule is technically practicable and economically reasonable. *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed new 35 Ill. Adm. Code 845*, PCB20-19, IEPA Statement of Reasons, p. 34 (March 30, 2020) and Board Order (Feb. 4, 2021). Thus, the compliance actions MWG is taking and will take at its CCR surface impoundments to comply with the Illinois CCR Rule, including the closure methods ultimately approved by IEPA, are technically practicable and economically reasonable.

MWG has submitted operating and construction permit applications for each of its CCR surface impoundments. SOF 1112-1115, 1128, 1136, 1142, 1145, 1153.<sup>31</sup> As of the date of the hearing, IEPA had not issued operating or construction permits. SOF 1129, 1151, 1156.<sup>32</sup> MWG must wait for the permits before closing or retrofitting any of its CCR impoundments. 415 ILCS 5/22.59(b)(2). While it is practicable and feasible for MWG to continue to comply with the CCR rules, the Board cannot issue an order that requires MWG to proceed in any other way with regard to the CCR surface impoundments without conflicting with the Agency's technical expertise, Section 22.59 of the Act, and the Illinois CCR Rule framework passed by the Board in Part 845. The Board acknowledged this, stating that in its final order it would "take into consideration the need to ensure that the relief does not conflict with any permit that may be issued by IEPA pursuant to Part 845." Board Order, Dec 15, 2022, p. 5.

**iii. Weaver's Proposed Remedy for the Historic Ash Areas is Technically Practical and Economically Reasonable**

As it relates to other areas at the Stations, Weaver's recommended actions are also economically reasonable and technically practicable. 6/13/23 Tr., p. 44:8-18, 86:18-23, 119:17-120:13. To address groundwater violations, Weaver recommends continuing the monitoring programs that show MNA is successful at Joliet 29, Powerton, and Will County. The MNA approach is technically practical and economically reasonable because it is a reliable and USEPA accepted method to resolve low concentrations of constituents in groundwater. 6/13/23 Tr., p.

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<sup>31</sup> MWG's publicly available website shows that MWG submitted the construction permit applications for the Ash Surge Basin and the Metal Cleaning Basin and the Will County Ponds in 2023. <https://midwestgenerationllc.com/illinois-ccr-rule-compliance-data-and-information/>; SOF 1094.

<sup>32</sup> MWG reviewed IEPA's CCR website and to date, IEPA has not issued a CCR permit for a CCR impoundment.

44:19-45:3. Weaver's remedy is consistent with Illinois law, supported by the trend testing showing that the constituents are attenuating, supported by the risk analysis showing the absence of risk, and supported by the institutional controls -- all of which collectively show that MNA is appropriately protective. 6/13/23 Tr., p. 175:7-176:16; MWG Ex. 1702, p. 94. For the Waukegan Station, where Weaver recommends an engineered cap over the FS Area, Weaver testified that a cap is a presumptive remedy, and it is economically reasonable and technically practicable. 6/13/23 Tr., p. 157:8-158:4.

The question, however, is whether a cap should be installed in light of the pending rules for historic ash areas. Weaver recommends waiting. Any order to conduct response actions in the FS Area, or in any other alleged area of historic ash, before the pending federal and Illinois rulemakings are finalized would be economically unreasonable and technically impracticable. Once the rules are final, any action ordered by this Board is likely to conflict, resulting in duplication of efforts – the definition of economic impracticability. Such an order would also be technically impracticable because work ordered by the Board could interfere with or preclude requirements in the final rules. 6/13/23 Tr., p. 176:11-16.<sup>33</sup> MWG has already been a victim of taking voluntary steps ahead of proposed rules when it relined its ponds under the CCAs while the federal CCR rule was pending. SOF 1007-1010; 6/12/23 Tr., p. 207:12-15. MWG spent approximately \$10 million to reline the ponds with approval of IEPA, despite expressing its reservations that final project could conflict with the final rule. *Id.*; 6/13/23 Tr., p. 43:8-15. Not two years later, MWG found that its concerns about relining the ponds before the federal rule was passed were correct – the liners were regulatorily worthless, requiring MWG to repeat its efforts. SOF 1048-1049; 6/12/23 Tr., p. 207:15-18, 6/13/23 Tr., p. 43:15-18. Now, if the Board ordered MWG to do something before the rules are final, MWG would be in a similar position as it was in 2012 – conducting work pursuant to a State Agency request that contradicts a subsequent (but *known*) regulation. 6/12/23 Tr., p. 207:5-18. Accordingly, Weaver concluded that MWG should not conduct any further work related to the historic ash areas at this time other than monitoring for MNA. 6/13/23 Tr., p. 43:19-44:3.

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<sup>33</sup> The proposed rules for CCRMUs would apply to MWG's historic areas of ash. SOF 1167. As noted above, MWG asserts that the Board does not have "mandatory injunction" authority in any case (*supra* §VI).

**iv. Complainants' Proposal is Technically Impractical, Economically Unreasonable, and Legally Impractical**

Even if the Board were to give Complainants' expert's proposal any weight, which the Board already held that it should not, his proposal is only to conduct a nature and extent investigation at the four Stations, and then some type of study to determine a remedy in the future. As stated above, because the Stations have been extensively studied, Mr. Quarles's recommendation is neither technically practical nor economically reasonable. *See supra* § VII.D.i. It is also *legally and procedurally* impractical because there is no end and does not resolve this matter. Mr. Quarles has no opinion on the scope of the investigations that he suggests, only that he believes MWG would develop the scope of work. 5/15/23 Tr., p. 164:7-14. But if past is prologue, Complainants would argue that the investigations aren't enough, or seek to comment on each investigation. When there is a dispute over the scope – what happens? Do the parties return to the Board to resolve the dispute? Mr. Quarles had no answer.

Similarly, Mr. Quarles stated that following the four separate nature and extent investigations, he recommended MWG perform an alternatives analysis of the remedial options and believed that MWG would pick the alternative. 5/15/23 Tr., p. 169:21-170:1. He did not consider whether Complainants would seek an opportunity to review and comment on the chosen alternative, but he welcomed the idea. 5/15/23 Tr., p. 170:3-7. But, if the parties disagreed on the chosen remedy, Mr. Quarles had no idea what would happen. 5/15/23 Tr., p. 8-11. He did not know if the parties would return to the Board; but what are the other options? Are Complainants envisioning that this matter remains open while the parties execute the investigation and alternatives analysis?<sup>34</sup> When and where does this end? It is technically impractical and economically unreasonable to require MWG to conduct an investigation with no solution for how the investigations and follow-up actions will proceed. It is also legally impractical for the Board to keep a matter open to act as the arbiter of disputes between two parties over the scope of investigations, remedy selection, and ultimately corrective action. It is also questionable whether the Board has the authority take on such a role.

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<sup>34</sup> If that is their goal, then Complainants will likely have to find a *third* expert, because Mr. Quarles left his consulting company for an inhouse position. <https://www.linkedin.com/in/mark-quarles-p-g-79b5325>. Finding another expert, which would require giving MWG an opportunity to depose that expert, will only result in further delay in any resolution.

**E. MWG has Already Taken Significant Compliance Actions**

The fifth and final factor under Section 33(c) is any subsequent compliance. It was clear throughout both of the hearings that MWG has taken extensive measures since it began operating the Stations to comply with the Act. In fact, the Board specifically recognized MWG's efforts to comply. In its Interim Order, the Board recognized that MWG agreed to IEPA's request to perform hydrogeological assessments around the ash ponds at the four Stations, despite no apparent requirement. Interim Order, p. 21, SOF 489-493, 968, 972-973. The Board noted that MWG installed groundwater monitoring wells and began a quarterly monitoring program in 2010. *Id.* p. 22; SOF 489-493, 974-975. MWG had reservations that the investigation would provide useful information, but agreed to install the groundwater monitoring wells with the intent to cooperate with IEPA. *Id.*

The Board also found the ponds were lined and regularly dredged as needed. Interim Order, p. p. 25, 36, 52, 64. Relying upon MWG's first expert, the Board further found that MWG took actions to avoid, identify and repair any damage to the liners while dredging the ponds. *Id.* p. 26, citing MWG Ex. 903, pp. 38-39, 66. The Board also found that the ponds were regularly inspected and any potential issues were reported and quickly repaired. *Id.* pp. 39, 66. Finally the Board found that MWG entered into and completed the actions agreed to in the CCAs. *Id.*, pp. 24, 38, 53, 65; 2020 Order, p. 12; SOF 657-660, 1034-1035. IEPA has never claimed that MWG has failed to comply with the CCAs. SOF 1036.

Even before IEPA requested that MWG conduct corrective actions at the Stations, MWG had begun a fleet-wide assessment and maintenance program to improve the ash ponds liners. SOF 408, 942-943. The program was not required by any regulatory or statutory requirements. Instead, it was part of MWG's good operating practice and environmental stewardship, "to make sure [] the ponds were in good condition." SOF 409, 944-945. Relining an ash pond at an active power station is a significant endeavor, requiring researching the current conditions, preparing engineering designs by professional engineers, coordination of operating and construction schedules including avoiding the winter season, equipment availability, and scheduling contractors. SOF 410-411, 954-959.

Now that the federal and state CCR rules have been promulgated, MWG is conducting the significant work required to comply to each similar but not identical rule. MWG's work includes conducting weekly and annual inspections, conducting the three different groundwater monitoring programs, preparing the various engineering assessments and reports, and preparing the

voluminous permit applications that took hundreds of hours to prepare. SOF 664-670, 1039-1093, 1112-1161.

In sum, as both MWG's experts observed, MWG has done everything it could to be responsible and proactive in managing and maintaining its ponds long before any rules applied, and continues to comply with applicable rules upon passage. 2/1/18 Tr. p. 244:22-245:11, 265:14-22; 2/2/18 Tr. p. 47:10-48:6; 6/12/23 Tr., p. 195:7-15; 6/13/23 Tr., p. 176:21-178:3; MWG Ex. 1702, p. 95. This work reflects MWG's policy regarding environmental compliance, which is a "simple statement that empowers each [person in the company] to act to protect environment before we would produce a megawatt." SOF 682. While Complainants attempted to suggest that MWG's filing ASDs or other regulatory relief somehow constitute non-compliance, there is no basis for the claim. When regulations specifically allow for a company like MWG to have some flexibility when faced with new rules, MWG cannot be punished for relying upon them. The Act has similar regulatory relief, and in fact, the Board has agreed with MWG that it needed flexibility from the regulations and granted its requests.<sup>35</sup>

#### **VIII. NO PENALTY, OR ONLY A MINIMAL PENALTY, SHOULD BE ISSUED**

Under the Act, penalties must be "reasonably calculated to aid the purposes of the Act as discussed in Section 42(h)" and must serve the goal of compliance without "being unduly punitive and excessive." *People v. Lincoln, Ltd.*, 2021 IL App (1st) 190317-U (Nov. 5, 2021) ¶ 36.<sup>36</sup> A penalty must also be "commensurate with the seriousness of the infraction for which it is imposed." *Id.*, ¶31, quoting *Trilla Steel Drum Corp. v. IPCB*, 180 Ill. App. 3d 1010, 1013, 536 N.E.2d 788 (1st Dist. 1989); *Southern Illinois Asphalt Co. v. IPCB*, 60 Ill. 2d 204, 208, 326 N.E.2d 406 408 (1975) (Implicit in the Board's authority to impose penalties is a requirement that the penalties "bear some relationship to the seriousness of the infraction or conduct.")

Under the Act, the Board may consider anything in the record in mitigation of a penalty, including the factors in Section 42(h). 415 ILCS 5/42(h). However, the Board is not limited to those factors and may also consider other factors, including good faith. 415 ILCS 5/42(h); *Modine Mfg. Co. v. IPCB.*, 193 Ill. App. 3d 643, 649 (2d Dist. 1990).

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<sup>35</sup> See *In the Matter of: MWG's Petition for Adjusted Standard (Joliet 29 Station)*, PCB21-1, May 18, 2023; *In the Matter of: MWG's Petition for an Adjusted Standard and Finding of Inapplicability for the Powerton Station*, PCB21-2, Feb. 17, 2022; *MWG v. IEPA*, PCB21-109, Sept. 9, 2021; *MWG v. IEPA*, PCB21-108, Sept. 9, 2021.

<sup>36</sup> Because this case was filed under IL Sup. Ct. R. 23 after January 2021, it may be cited for persuasive purposes, and is attached in Appendix F pursuant to the rule. IL. Sup. Ct. R. 23(e).



Here, MWG has presented extensive and detailed evidence demonstrating that the duration and gravity of the alleged violations are small and MWG diligently attempted to comply with the Act and underlying regulations. IEPA penalty here would not serve as a deterrence because there is nothing to deter. Conditions were historic and MWG operated its lined ponds with due care. MWG cooperated with IEPA in sampling groundwater at the Stations and there is a real risk that a penalty would deter others from voluntarily agreeing to work with IEPA. If the Board determines that any penalty should be assessed, MWG's economic expert demonstrated that MWG may have accrued only a nominal economic benefit.

**A. The Duration is Short and Gravity is Small**

Just as the character and degree of injury is low, the duration of any harm is short and the gravity is small. 415 ILCS 4/42(h)(1); *see supra* §VII.A. As established by Weaver, there is no risk to on-site or off-site receptors from the constituents in the groundwater at the Stations. MWG Ex. 1702, p. 96. There are no potable drinking water wells downgradient from the Stations, and the ELUCs established on the Stations eliminated exposure pathways preventing the potable use of the groundwater. 6/13/23 Tr., p. 179:3-5. Both Weaver's risk analysis and the risk analysis prepared in 2018 by MWG's original expert show there is no risk that constituents in groundwater at the Stations could harm adjacent surface waters. 6/13/23 Tr., p. 178:23-180:2.

The duration is also short, particularly at the Joliet 29, Will County, and Powerton Stations, because each has a GMZ in effect. 6/13/23 Tr., p. 178:7-18. The Board has found that a "respondent's liability for civil penalties does not extend past" the date the GMZ was established. *People v. Heritage Coal*, PCB No. 99-134 (Sept. 6, 2012), *slip-op* at 10. Thus, after MWG established the GMZs in 2013, there are no applicable standards to be violated and no penalties may be assessed. *See also supra* §III.B (that Section 12(a) is also resolved). Similarly, the duration of the single violation of a water pollution hazard (Section 12(d)) was *de minimis*, as the ash was placed on the land for fewer than three months during the winter and there is no evidence that any harm resulted. 6/13/23 Tr., p. 179:10-17.<sup>37</sup>

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<sup>37</sup> The Board's finding of a water pollution hazard was arbitrary and capricious and should be corrected because there was no testimony or evidence that the mere presence of a small quantity of ash placed on the ground in the winter for less than three months would cause a hazard to the water (*i.e.* "the mere presence of a potential source of water pollution") *Bliss v. IPCB* 138 Ill. App. 3d 699, 704 (5th Dist. 1985) (Court reversed Board finding of violation of Section 21(d) because no one established that the presence of the oil was in sufficient quantity and concentration likely to render the waters harmful or detrimental).

The time MWG was in bankruptcy should be excluded from the period of non-compliance. MWG's economic expert, Ms. Koch, explained that MWG's bankruptcy filing is "valuable information when you look at the period of stated noncompliance," because during that time MWG carried very large negative income numbers. 5/15/23 NDI Hr. Tr., p. 132:14-19. Accordingly, she concluded that assessing penalties during bankruptcy is unreasonable. MWG 1901, p. 27.

Also, a lawsuit, like this one, will significantly shorten the duration of potential violations that can be alleged against a respondent. In *Lincoln, Ltd.*, the First Circuit found the trial court's assessment of a penalty to be arbitrary and capricious in part because it miscalculated the duration of the violations. *People v. Lincoln, Ltd.*, 2021 IL App (1st) 190317-U, ¶ 35. The Court held that the delayed resolution of the alleged violations was due in part to the litigation itself, including the time to resolve two interlocutory appeals and the State's three-year delay to schedule a hearing. *Id.* Complainants have asserted that this case was filed in 2012 and will suggest that violations have continued. But there have been significant delays in resolution of this matter to identify a remedy that were not due to MWG. For example, the Parties initially conducted fact and expert discovery with the expectation that the hearing would be on both liability and remedy. But the bifurcation of this matter in 2017, which MWG did not request, caused the matter to be extended by years to account for a second round of fact and expert discovery. Also, the Board's interim decision was issued approximately a year and a half after the first hearing was completed. Moreover, Complainants' request to replace its first experts caused additional delays of almost two years in preparing for the second phase of the matter. Finally, MWG was ready to go to hearing in January 2022, but at the last minute, Complainants canceled the hearing, further delaying the hearing for another six to eight months and likely delaying ultimate resolution for another year. Each extension, as well as the individual motions for extensions and modifications of schedules to accommodate Complainants' schedules, total approximately six years and should not be counted against MWG as part of the duration.

Similarly, this lawsuit reduces the duration because of the uncertainty it presented. Complainants' initial expert recommended a remedy that both of MWG's experts concluded was technically impractical and economically unreasonable. *See supra* §V.G. However, as Ms. Shealey testified, without a finding by the Board that Complainants' first proposed remedy was impractical, MWG was reluctant to conduct any other permanent activity at its Stations beyond the new CCR rules for fear of getting ahead of any Board decision. SOF 1177. MWG's experience of entering

into the CCA's before the federal CCR rules were final, causing MWG to spend approximately \$10 million, also informed that decision. SOF 1175. Because of the uncertainty posed by the final resolution of this case, MWG took the only actions it could, which was to confirm the absence of risk to human health and the surrounding environment, comply with the recently passed CCR rules, continue its investigations of its Stations, and continue to monitor the groundwater. MWG should not be penalized for not taking actions it could not know would be satisfactory to Complainants or the Board.

**B. MWG Showed Due Diligence to Comply**

Similar to the discussion above regarding MWG's actions to comply, MWG's conduct shows considerable due diligence to comply. *See supra* § VII.E; 415 ILCS 5/42(h)(2). In considering this factor, the Board has historically placed a high premium on a respondent's efforts to comply, stating in one of its first opinions that its policy was "not to penalize those who are honestly trying, which is certainly the case here. *Employees of Holmes Bros.*, PCB71-89 (Sept. 16, 1971), p. 5 (emphasis added). Indeed, the first Board Chair, David Currie, stated that in consideration of mitigation factors for a penalty, "all that can be expected is a good faith effort." *Enforcement Under the Illinois Pollution Law*, 70 Nw. U. L. Rev. 389, 431 (1976). Even if the due diligence to comply does not fully achieve compliance, the Board has found that a penalty should be mitigated. *IEPA v. Allen Barry*, PCB88-71 (May 10, 1990), *slip-op*, pp. 35. *See also Gott et al v. M'Orr Pork, Inc.*, PCB96-68 (April 16, 1999) *slip-op*, p. 14, (Board concluded a large penalty was not warranted because of respondent's efforts to comply). MWG's economic expert, Ms. Koch, agreed with the Board's description of due diligence, stating that it is "related to effort...effort to be knowledgeable about compliance and come into compliance." 6/15/23 Tr., p. 17:14-17.

***i.* MWG's Efforts to Comply**

As described in Section VII.E. above, the Board recognized MWG's efforts to comply in its Interim Order. In particular, the Board recognized that the ponds were lined and regularly dredged, MWG took actions to avoid, identify and repair any damage to the liners while dredging the ponds, and that the ponds were regularly inspected and any potential issues were reported and quickly repaired. Interim Order, pp. 25, 26, 36, 39, 52, 64, 66. The Board also found that MWG agreed to IEPA's request to perform hydrogeological assessments around the ash ponds at the four Stations, and MWG installed the monitoring wells and began the quarterly monitoring program. Interim Order, p. 21-22.

In addition, as explained in the first hearing and reiterated in the second, in the early 2000s, MWG began an extensive fleet-wide assessment of the condition of its ponds. SOF 408, 941-942. MWG hired outside consultants who performed a geotechnical analysis of the soil surrounding the ponds, researched historical drawings of the ponds, and prepared risk assessments using very conservative assumptions. SOF 410-416, 954-959. No federal or state regulatory agency asked MWG to evaluate the ash ponds, there was no legal requirement for MWG to conduct the pond liner evaluation, and there were no Illinois or Federal regulations related to the storage or use of the coal ash. SOF 409, 944. Instead, the evaluation was a part of MWG's preventative maintenance, "to make sure [] the ponds were in good condition." SOF 944. Following the assessments, MWG began a program of relining the ponds with state-of-the-art HDPE liners. SOF 95-96, 111, 175, 186, 195, 205, 285-286, 450, 538, 551, 630. The Board noted in its opinion that an HDPE liner is "the least permeable type of liner, resistant to chemicals, and is the same liner used for hazardous waste landfills." Interim Order, p. 25.

Subsequently, MWG voluntarily agreed to IEPA's request to evaluate its ash ponds and install groundwater monitoring wells, because it wanted to cooperate with the Agency. SOF 489-493, 968, 972, 983. For similar reasons, MWG entered into the CCAs with the Agency. As Weaver stated, CCAs are a method to work with the IEPA to address the concerns that they may have. 6/12/23 Tr., p. 213:1-3. Following passage of the federal and State CCR rules, MWG is conducting the significant work to comply. SOF 664-670, 1039-1093, 1112-1161.

**ii. Experts Independently Concluded that MWG Showed Due Diligence**

MWG's economic expert, Ms. Koch, evaluated MWG's history and concluded it showed extensive diligence to comply. Her opinion is based upon her experience as an expert in allocation matters where the issue arises as part of evaluating the standard of care and degree of cooperation. 6/15/23 NDI Tr., p. 17:4-12, 20:1-5; MWG Ex. 1901, MWG13-15\_82201; MWG Ex. 1902, p. 4. To reach her opinion, Ms. Koch reviewed MWG's history and the efforts MWG undertook related to environmental compliance at the Stations. 6/15/23 NDI Tr., p. 18:10-17; MWG Ex. 1901, MWG13-15\_82211-82211; MWG Ex. 1902, p. 5-6. Ms. Koch noted that MWG initiated a voluntary effort to assess and reline the ash ponds at the Stations and voluntarily conducted a hydrogeologic assessment and groundwater monitoring, absent any order or regulation. *Id.* 6/15/23 NDI Tr., p. 20:6-21:14. Based upon the significant work identified in her report and updated in her presentation and testimony, Ms. Koch concluded that MWG showed "continual activity, continual due diligence" and an "environmental stewardship." *Id.* 6/15/23 NDI Tr., p. 23:18-24, 26:16-21,

27:13. She further stated that MWG's inability to close the CCR surface impoundments without an IEPA permit is not MWG's fault, and "should have no impact on due diligence judgments." 6/15/23 NDI Tr., p. 26:22-27:8. She concluded that MWG's work "shows activities...in the early years of trying to get ahead of regulations, and do things in advance, do things voluntarily" and "as more regulations came into place...it shows activity to come into compliance with those regulations." 6/15/23 NDI Tr., p. 27:13-20. She further testified that MWG's asset retirement obligations-its preparation for future environmental compliance including ash site closures, monitoring, fuel storage facilities, and additional environmental removals – also demonstrate MWG's due diligence to comply. MWG Ex. 1901, p. 28.

Similarly, Weaver evaluated MWG's work since it began operations at the Stations and agreed that MWG showed due diligence to comply. 6/13/23 Tr., p. 176:21-23; MWG Ex. 1702, p. 95. Specifically, Weaver identified MWG's voluntarily relining of the ponds before rules were issued, voluntarily agreement to the CCAs to conduct additional work, and continuing with the groundwater monitoring as examples of its due diligence to comply. 6/13/23 Tr., p. 177:8-22; MWG Ex. 1702, p. 95.

None of Complainants' experts disputed MWG's experts' conclusions, or even gave an opinion on the issue. Rather in a different matter, Sierra Club acknowledged that MWG made efforts to comply, stating:

"...the MWG Case has been complicated both legally and factually by Illinois Environmental Protection Agency's ("IEPA's") and the site operator's efforts to remediate the contamination in that case. Specifically, IEPA had established Groundwater Management Zones at most of the sites, and had entered into Compliance Commitment Agreements at all of the sites. And similarly, the site operators had taken at least some steps, which the complainants in that case allege were unsuccessful, to reduce contamination from the on-site storage of coal combustion byproducts."

*Sierra Club v. IL Power Generating Co., et al*, PCB 19-78, Comp.'s Opp. to Mot. to Bifurcate (April 29, 2019), p. 7 (emphasis added). Ultimately, since MWG began operating the Stations, it has shown due diligence to comply, which significantly mitigates any assessment of a penalty.

### **C. MWG Accrued Minimal Economic Benefit**

On the issue of economic benefit, both parties' experts used an economic benefit analysis that required inputting specific data. 415 ILCS 5/42(h)(3). MWG's economic expert, Gayle Koch, found this data through interviews, observation of hearing testimony, and a review of both the Board's orders and primary documentation from the Stations. Ms. Koch has significant expertise in evaluating economic benefit, including providing expert testimony dozens of times, and has

never had an opinion excluded by a court or a judicial body. SOF 679. She has special insight into estimating monetary costs. In the 1990s, she helped develop ASTM International's standard guide for estimating monetary costs and liabilities for environmental matters. SOF 679. Even to the present day, when ASTM's customers call with questions about those standards, they are often directed to speak with Ms. Koch, and she has primary responsibility for conducting ASTM's routine 5-year reviews of those standards. *Id.* Indeed, the Hearing Officer accepted and qualified her as an expert in the evaluation of economic benefit and factors related to economic benefit without objection from the Complainants. SOF 680. Her economic benefit analysis showed that MWG benefited, at most, \$52,958 from the alleged violations.

By contrast, Complainants have been at pains to emphasize the "sole purpose" of the testimony from their economic expert, Jonathan S. Shefftz, is to provide the Board with a "framework" for conducting an economic analysis. Comp. Resp. to Inter. Shefftz Appeal, at p. 3 (Aug. 21, 2023). And Complainants assert that, in providing this framework, Mr. Shefftz is also seeking to educate the Board on how to use the model; how to get it to convert the findings that the Board might make at some future date into an economic-benefits calculation. *Id.*, p. 3.

Yet his testimony does nothing of the kind; he admitted that changing the model's inputs and producing a new calculation is not a simple process, even for an expert. Also, his current estimate of economic benefit relies on information that has no basis in direct or circumstantial evidence. Instead, his estimate is based on assumptions from Complainants' counsel and the hearsay *opinions* of an expert who was cut loose by Complainants before he could be cross-examined at the remedy-phase hearing.

The Board should reconsider its decision that Mr. Shefftz's opinions relied upon reasonable assumptions arising from factual evidence in this case. Oct. 5, 2023 Order, p. 15. Complainants are using impermissible "parroting" tactics to feed dollar-figures from a report that has not been admitted into evidence, and reflects a remedy that they have *withdrawn* with figures even they do not claim are true Mr. Shefftz's use and reliance on that information violates Illinois Rule of Evidence 703. And, more importantly, by presenting expert testimony that is not grounded in established evidence, Complainants have failed to meet their burden of proof that MWG's economic benefit exceeded \$52,958. 415 ILCS 5/31(e), 42(h)(3).

**i. Ms. Koch's Methodology and Economic Benefits Findings**

The Act requires that the Board evaluate any "economic benefits" that MWG may have derived from violations of the Act and the Board's regulations. 415 ILCS 5/42(h)(3). Under the

circumstances of this case, those benefits generally consist of the "time value of money" MWG may have gained by delaying compliance costs if it could have reached compliance at a later date.

There is no uniform method for measuring time value of money, but a standard model for estimating this figure is the "BEN Model," which was developed by the USEPA in the mid-1980s. 6/15/23 NDI Tr., 47:2-4. Relative to other models, the BEN Model is user-friendly, because it requires only a few variables to produce an input: Date when noncompliance began, date when noncompliance ended, the cost of the compliance work that was delayed, and the company's industry sector. *Id.* at 29:11-14 & 48:5-7.

For some projects, such as this one, the model requires additional information, especially if the respondent's compliance efforts involved staggered "mitigation costs" – costs that did not immediately resolve an ongoing violation, but that ultimately contributed to achieving compliance at a later date. 6/15/23 NDI Tr., 39:6-7. The BEN Model recognizes that these costs offset (in part, or even in entirety) the "time value of money" benefit the respondent gained. These costs must be "credite[d]" to the party, and not treated as a delayed cost. Ex. 1901, MWG13-15\_82217. Mr. Shefftz apparently holds the same view. He told Complainants' counsel that "as a general conceptual point, for what [Ms. Koch] calls 'mitigation' costs, any measures that [MWG] have been taking should be incorporated (*i.e.*, either netted out from the compliance costs if they're a subset of what we're saying they should have incurred earlier, or effectively offset against the economic benefit if they were alternatives.)" Ex. 1209.<sup>38</sup>

Mitigation costs played an important role in Ms. Koch's analysis. Her report takes stock of MWG's extensive compliance and mitigation efforts that began in 2002 and are ongoing today. Ex. 1901, MWG13-15\_82211-82212, 82217-82218. Because the Weaver remedy relies on groundwater monitoring relating to MNA, evidence of MWG's prior expenses related to groundwater monitoring at the sites was of special importance. She even obtained invoices from the vendor that performed the groundwater monitoring (KPRG) so she could base her opinion on precise evidence regarding past costs. 6/15/23 NDI Tr., 34:23-24.

After converting available evidence into appropriate inputs, Ms. Koch ran the BEN Model analysis and documented the results in her report. Ex. 1901, MWG13-15\_82220. Because time value of money increases over time, the figures in Table 5 reflected what the benefit would be calculated at in April 2021, when Ms. Koch prepared her report. At the second hearing, Ms. Koch

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<sup>38</sup> Mr. Shefftz confirmed the authenticity of Exhibit 1209 at the hearing. 5/15/23 NDI Trans., p. 135:12-24 & 136:1-3.

presented updated calculations keyed to the date she testified (June 16, 2023).

Station	Economic Benefit (April 22, 2021)	Economic Benefit (June 16, 2023)
<b>Joliet 29</b>	\$0	\$0
<b>Powerton</b>	\$12,415	\$12,507
<b>Will County</b>	\$22,124	\$40,451
<b>Waukegan</b>	\$0	\$0
<b>TOTAL</b>	<b>\$34,539</b>	<b>\$52,958</b>

Ex. 1902, p. 14.

As the table shows, Ms. Koch’s analysis of economic benefit varied from site to site, reflecting the fact that compliance efforts were not identical. At the Powerton Site, she took into account the fact that there was some evidence that “might be viewed” as costs that should have been expended earlier. 6/15/23 NDI Tr. p. 35:23-36:8 “To err on the high side” she directed the BEN Model to consider the supplemental sampling as a cost that should have been incurred earlier. *Id.*, Ex. 1901, MWG13-15\_82220. She treated the additional wells installed at Will County similarly. 6/15/23 NDI Tr., p. 36:9-14; Ex. 1901, MWG13-15\_82220. For the final two Stations she concluded (after reviewing the Weaver Report and other documents) that even though MWG might not have been aware that it may have been in violation of any environmental regulations before the Board’s Interim Order in 2019, its compliance activity at Joliet 29 and Waukegan did not meaningfully differ from a hypothetical owner that *did* know of the violations and was engaged in the groundwater monitoring required to support the lowest-cost compliance option: monitored natural attenuation. 6/15/23 NDI Tr., p. 35:17-22 & 36:15-22. Therefore, in both cases, MWG never derived any economic benefit from the delayed compliance since there was no delay.<sup>39</sup>

These were conservative estimates because there is no showing that the supplemental testing performed at Powerton and Will County would have been mandatory in an on-time compliance

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<sup>39</sup> Though she found that MWG did not derive economic benefits from “delayed” compliance at the Waukegan Site, her analysis was not identical to the one that produced her conclusion regarding Joliet 29. For Waukegan, she accounted for Weaver’s conclusion that a cap would need to be installed on a portion of the site. 6/15/23 NDI Tr., p. 36:15-22. But she also accepted their conclusion that, even in an “on-time” compliance scenario, no hypothetical owner would be expected to conclude that a cap installation was the lowest-cost compliance alternative without first attempting an MNA remedy—a process that would take about ten years. *Id.* 36:18-21. As such, the owner in the on-time compliance scenario would have spent about the same amount in compliance costs that MWG did. *Id.* 36:21-22.



scenario. They were an assumptions Ms. Koch adopted that worked in Complainants' favor. And that was not the only assumption she adopted that tended to produce a higher estimate of economic benefits. She resolved the Board's ambiguous finding that the violations at each site began in "December 2010" against MWG—directing the BEN Model to assume that the violations began at the start of that month, rather than at the end. Ex. 1901, MWG13-15\_82219-82220. This had the effect of "maximiz[ing] the amount of economic benefit calculated." *Id.*

**ii. The Weaver Remedy is the Lowest Cost Alternative**

Section 42(h)(3) requires that the economic benefits must be determined "by the lowest cost alternative for achieving compliance." 415 ILCS 5/42(h)(3). Here, because Ms. Koch has a science background, and because of her work in the environmental consulting industry on over one thousand remediation sites, she credibly concluded that Weaver's proposed remedy is the lowest cost alternative presented. 6/15/23 NDI Tr., p. 31:4, 68:21-69:1-3, MWG Ex. 1901, MWG13-15\_82215. She also credibly concluded that site-wide removal, as used by Mr. Shefftz, is typically the worst case scenario at any site, and is not the lowest cost option for achieving compliance. 6/15/23 NDI Tr., p. 31:1-4; MWG Ex. 1901, MWG13-15\_82214-82215. She "very rare[ly]" sees site-wide removal selected as a remediation option, because it is one of the most expensive remedies she is aware of, second only to incineration. 6/15/23 NDI Tr., p. 31:1-7, 58:19-2. This "worst case" remedy is seldom found to be "the lowest cost alternative for achieving compliance." *Id.*, p. 58:19-21; 415 ILCS 5/42(h)(3).

In sum, Ms. Koch's finding that MWG derived \$52,958, at most, in economic benefit from the alleged violations relies upon reasonable assumptions arising from factual evidence admitted into the record. Almost every fact or opinion in her decision comes from evidence that has been admitted into evidence or testimony from experts that were available for cross-examination at the second phase hearing. Upon gathering this information, she used a widely accepted modeling program to determine the economic benefit MWG derived from delayed costs. Her final result is a conservative estimate that properly reflects MWG's work to monitor and manage potential groundwater contamination at the site.

**iii. The Board Should Give Mr. Shefftz's Opinions No Weight**

Unlike MWG's economic expert, Mr. Shefftz did not rely on "factual evidence." Even Complainants admit that none of the information they fed him appears in the record "currently." Comp. Resp. Opp. Inter. Appeal, at 9 n.2 (Aug. 21, 2023). And he did not evaluate the information he received in a "reasonable" manner that complies with Section 42(h)(3). Finally, Complainants

effectively admit that it is not an “opinion” at all – Mr. Shefftz is just explaining to the Board how his economic benefit model works and the “inputs” he uses are merely a placeholder for when the Board develops its own inputs.

The Board should reconsider its prior assessments of Mr. Shefftz’s claims, grant them no weight, and find that Complainants have not met their burden to show that MWG’s economic benefits exceeded \$52,958.

a. Mr. Shefftz’s Report and Testimony are not Based on Factual and Reliable Evidence.

An expert may rely on assumptions or hypotheticals “if [they are] based on direct or circumstantial evidence.” Board Order, Dec. 15, 2022 at 16. An expert’s opinion must also be based upon reliable information. *Taylor v. Cnty. of Cook*, 2011 IL App (1st) 093085, ¶ 32; Ill. R. Evid. 703. For, an “expert’s opinion is only as valid as the reasons for the opinion.” *Perona v. Volkswagen of America, Inc.*, 2014 IL App (1st) 130748, ¶ 51. In other words, if an expert’s opinion lacks factual support or fails to follow established standards, it should not be received. *Todd W. Musburger, Ltd. v. Meier*, 394 Ill. App. 3d 781, 802 (1st Dist. 2009) (affirming barring expert opinion that lacked factual basis). A party must show “that the facts or data relied upon by the expert are of a type *reasonably relied upon* by [experts] in that particular field in forming opinions or inferences.” *People v. Burhans*, 2016 IL App (3d) 140462, ¶ 30. (emphasis added); *see also* Ill. R. Evid 703.<sup>40</sup> Here, none of the assumptions Mr. Shefftz relies on to formulate his opinion are based on direct or circumstantial evidence or even his own expertise and experience, and none are of the type relied on by other experts.

*1. Representations of Counsel are not “Evidence.”*

References to relying on numbers and assumptions provided by Complainants’ attorneys appear throughout Mr. Shefftz’s reports.<sup>41</sup> To deem those representations “factual evidence” would contradict the Board’s prior acknowledgement that—while it is natural for experts to address hypothetical questions—it is improper for an expert to proceed on factual assumptions that are not supported by “facts or reasonable inferences” with a connection to “direct or circumstantial

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<sup>40</sup> In *Wilson v. Clark*, 84 Ill. 2d 186, 192-96 (1981), the Illinois Supreme Court adopted Federal Rule of Evidence 703.

<sup>41</sup> Ex. 1202, p. 22 (“The associated dates for all four sites are all based on information that Petitioners’ Counsel provided to me...”; “This schedule is based on information that Petitioners’ Counsel provided to me...”, pp. 23, 27; Ex. 1203, p. 14 (“...”which Petitioners have informed me is inadequate...”; “...”but which Petitioners have informed me would have needed to be taken...”; “...Petitioners have informed me that the ash liners...”; “...but which Petitioners once again inform me would have needed to be undertaken...”), pp. 2, 15, 16, 25; and Ex. 1207, p. 1.

evidence” that appears in the record. Board Order, Dec. 15, 2022, p. 16, citing *Carter v. Johnson*, 247 Ill. App. 3d 291, 297 (1st Dist. 1993). The core purpose of this rule is to bar, or at least grant minimal weight to, expert opinions relying on representations of counsel. To say otherwise would be to define these limits on hypothetical questions out of existence.

And, despite repeated reminders of this rule, Mr. Shefftz based his inputs for his economic model on representations from Complainants’ attorneys. He admitted that, when he ran his economic benefits model, he utilized several “legal inputs from the side that is retaining me.” 5/17/23 NDI Tr., 38:20-22. The “side that is retaining” him ordered him to run his model using the following assumptions: (1) that the appropriate option for bringing each of the sites into compliance was a site-wide excavation remedy, (2) this remedy would be a ten-year project, (3) the costs of the work would be evenly distributed across all ten years, and (4) the costs MWG spent to originally reline the ponds and conduct the groundwater monitoring would have had to have been expended anyway. Comp. Ex. 1201, 22-23 & 27; Ex. 1203, p. 2, 13-15; Ex. 1207, at 1. Mr. Shefftz’s report does not cite evidence supporting *any* of those assumptions.

As Ms. Koch explained, an expert’s core obligation to the factfinder is to assist the court and not be an advocate. 6/15/23 NDI Tr., p. 12:1-4. While an expert inevitably must rely on facts outside their direct knowledge, an expert who relies primarily on representations of an attorney to form their opinion provides little assistance: relying on “advocacy pieces of information,” produces “advocacy testimony,” not “expert testimony.” *Id.* 14:4-9. She finds such a practice neither customary nor consistent “with the ordinary role an expert plays in litigation” to rely solely on counsel. *Id.*, p. 11:15-23, 12:1-5. She cannot think of an instance where she proffered an opinion based solely on advocacy information, and views this as a practice that would call her credibility into question if she did. 6/15/23 NDI Tr., p. 12:21-24 & 13:4-6. For her opinions, Ms. Koch insisted on reviewing direct documentation, and her efforts to collect relevant factual information is documented in emails between her and MWG counsel. Comp. Exs. 1904, 1905, 1906. She testified that she did this because direct information is “more reliable than numbers that counsel would give me.” 6/15/2023 NDI Tr., p. 136:14-22, see also p. 141:4-6 (“I do see that I’m asking for documentation, again, because I need documentation as evidence, not what an attorney says.”), p. 144:1-3 (“But, again, I’m asking for more documentation.”).

2. *Mr. Kunkel's Opinions are not "Evidence" that Mr. Shefftz was Free to Parrot*

During the interlocutory appeal regarding the admissibility of Mr. Shefftz's report and testimony, Complainants claimed that the "remedy cost figures" Mr. Shefftz fed into his economic benefit model "are drawn directly from the expert report that was submitted by . . . Dr. Kunkel, and . . . heavily supported by extensive documentation and expert analysis." Comps' Resp. Opp. Interl. Appeal, at 8 (Aug. 21, 2023). Only in a footnote on the next page do Complainants sheepishly acknowledge this report is not "currently" in evidence. *Id.* at 9 n.2. It is not in evidence at all. Complainants specifically withdrew Mr. Kunkel as their expert in this case after the first hearing, and did so before he could testify as to any remedy opinions he might have held. Instead, Complainants submitted their new expert, Mr. Quarles, who did not rely on or even read Mr. Kunkel's opinions but instead came up with his own recommendation (nature and extent studies) that Mr. Shefftz completely ignores. Yet, Mr. Shefftz is told by Complainants that he should rely on costs of an untested, rejected remedy opinion of a withdrawn expert, from a report not in evidence – no doubt simply because those costs are higher.

All that survives of Mr. Kunkel's "remedy cost figures" is one sentence in Mr. Shefftz's report indicating that some of the numbers appearing in Table 3 of his report came from Table 6 of the Kunkel Report. Ex.1201 at 22 & 25 tbl. 3. Setting aside hearsay issues, the numbers Mr. Shefftz copied into his report are not factual evidence. It's just a half-dozen numbers, with no foundation, that Mr. Shefftz did not generate himself. Complainants *admitted* that without the rest of Mr. Kunkel's report, any reader will have a "very difficult" time understanding how Mr. Shefftz came up with his numbers, because the reader will lack "the calculations that are detailed over the course of [Mr. Kunkel's] report" and those are "important background to understanding what the basis is for Mr. Shefftz's testimony." 5/16/23 NDI Trans., p. 19:2-17. In their efforts to get the Kunkel Report admitted, Complainants promised that "[t]he Kunkel Remedy Report is not being offered for the truth of anything in the report" Comp. Resp. Mot. Exclude Kunkel Report, at 2 (May 12, 2023). But the report was not admitted, and is not evidence in this case.

Complainants cannot hide from their prior admissions that nothing in the Kunkel Report should be taken at face value and that, without the report in the record, it becomes "very difficult to understand" Mr. Shefftz's testimony. MWG is unaware of any definition of "factual evidence" that would encompass dollar figures, presented with no foundation, as hearsay from an expert with no knowledge of how they were generated, related to a complex question outside of the average

layperson's understanding. Nor can Mr. Kunkel's figures be saved by labeling them "circumstantial evidence." Circumstantial evidence is evidence that supports "an inference which is reasonable and probable, not merely possible." *Stojkovich v. Monadnock Bldg.*, 281 Ill. App. 3d 733, 739-740 (1st Dist. 1996), citing *Pyne v. Witmer*, 129 Ill. 2d 351 (1989). Yet, Complainants admit that Mr. Shefftz's report hinges on the *possibility* of a remedy that Complainants do not even request and for which they have yet to estimate the cost. Comps' Resp Op. MWG Interlocutory Appeal, at 4 (Aug. 10, 2023). Comp. Resp. MWG Mot. Reconsider, at 2 (Nov. 21, 2023).

MWG is also unaware of any standard by which it could have been reasonable for Mr. Shefftz to rely on these figures. He did not even bother reading the full report they came from—he skim[med] everything presented outside of Table 6. 5/16/23 NDI Trans., p. 17:6-9. He confesses that he can offer "no independent expert opinion on the cost estimates that were prepared in that report." Ex. 1201 p. 22. And his lack of familiarity with the full contents of Mr. Kunkel's report led to sloppy errors that forced him to change his numbers on-the-fly at the hearing. 5/16/23 NDI Tr., p. 131:19, 134:135:2, 6/15/23 NDI Tr., p. 33:3-21.<sup>42</sup>

As Ms. Koch credibly testified, this is not a widely accepted practice among economic-benefits experts. 6/15/23 NDI Tr., p. 14:4-9. Mr. Shefftz appeared as an advocate and assisted in the production of advocacy testimony despite Complainants self-contradicting and haphazard instruction to rely on information that lacked any basis. It was not "reasonable" for him to do so.

In any event, parroting the opinions of outside experts is unreasonable *per se*. It is true, as a general matter, that experts "commonly rely on facts or data gathered by experts in other specialties[.]" *McKinney v. Hobart Bros. Co.*, 2018 IL App (4th) 170333, ¶46. But it is equally true that they "may not parrot another expert's opinion if that [other expert's] opinion represents an exercise of professional discretion or judgment." *Id. citing Citibank, N.A. v. McGladrey & Pullen, LLP*, 2011 IL App (1st) 102427, ¶ 21.<sup>43</sup>

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<sup>42</sup> Mr. Shefftz's original opinion had an error that incorrectly inflated his estimate. He double-counted the site-wide excavation by totaling the site-wide excavation costs plus the costs to remove the ash ponds and certain alleged areas of ash. 5/16/23 NDI Tr., p. 131:19, 134:135; 6/15/23 NDI Tr., p. 33:3-21. On redirect, Mr. Shefftz attempted to correct his error by calculating an economic benefit using the site-wide excavation calculations only and excluding the excavations for the ash ponds and alleged ash areas. 5/17/23 NDI Tr., p. 23:26:13-27:10. But, Mr. Kunkel hadn't even recommended site-wide excavation as the removal option, but instead insisted he only intended for the ash ponds and certain limited ash areas to be removed. Comp. Ex. 412, p. 12; 6/15/23, 31:10-12.

<sup>43</sup> MWG raised this "parroting" issue in its interlocutory appeal challenging the Hearing Officer's decision to allow Mr. Shefftz to base his opinions on Mr. Kunkel's unfounded numbers. MWG Mem. Supp. Interlocutory Appeal, at 14-15 (July 26, 2023). The Board's Order denying that appeal did not acknowledge those arguments. See Board Order

Mr. Kunkel did not testify on a remedy, and his remedy report is not in evidence. Complainants' legal tactics now force the Board to make suppositions about whether Mr. Kunkel's cost-estimates represented his "professional discretion or judgment," *McKinney*, 2018 IL App (4th) 170333, ¶47, or whether they could instead "be likened to an X ray or other laboratory analysis." *Kurrack v. Am. Dist. Tel. Co.*, 252 Ill. App. 3d 885, 897-98 (1st Dist. 1993). Construction cost estimates, unlike lab analyses, do not come from "accredited laboratories" that apply "well-established professional guidelines that seek to ensure the scientific reliability of the laboratory's results." *Williams v. Illinois*, 567 U.S. 50, 95 (2012). They come from individual estimators applying their "professional discretion and judgment" and can vary wildly as a result. Even in cases involving a testifying expert's reliance on data from non-testifying lab technicians, the expert presenting the testimony still must establish that reliance on such data is "reasonable" and "customary" in the expert's field. *Kurrack*, 252 Ill. App. 3d at 897-98. No such foundation was laid here. While Mr. Shefftz did testify that he often relies on the opinions of environmental engineers, he did not testify that this is customary in the broader expert community. Nor did he state whether that community would find it customary for him to rely on a number from a single table of a report that he "skim[med]." 5/16/23 NDI Trans., p. 17:6-9.

Indeed, the hearing showed that Mr. Shefftz conceives of his role in a manner that, while it "felt...appropriate" to *him*, constitutes textbook parroting. Comp. Resp. Opp. MWG Interlocutory Appeal. at 10 (Aug. 10, 2023). He claims that there would be nothing controversial about a case where one expert establishes groundwater flows, then another expert determines a remedy based on the first expert's findings, then a third develops the cost estimate based on the second expert's remedy. 5/17/23 NDI Tr., 14:13-19. But, to the extent that his scenario envisions that only the third expert testifies at the hearing, he is flat wrong. The Seventh Circuit excluded the expert's opinion a nearly *identical* situation in *Dura Automotive Systems of Indiana, Inc. v. CTS Corp.*, 285 F.3d 609, 613-14 (7th Cir. 2002) (rejecting trial testimony of hydrologist who relied on opinions from non-testifying groundwater modelers), *holding endorsed by Citibank*, 2011 IL App (1st) 102427, ¶¶ 18-19 (applying Ill. R. Evid. 703).

This is the exact scenario the parroting rule exists to prohibit. Complainants could not get Mr. Kunkel's report admitted into evidence, and circumstances forced them to conclude that letting

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(Oct. 5, 2023). This is part of why MWG filed a Motion to Reconsider—to give the Board a chance to correct that oversight. See MWG Mot. Reconsider Interlocutory Appeal of Shefftz, at 4 (Nov. 9, 2023).

him take the stand was not in their best interest. They nonetheless “hide” Mr. Kunkel’s wild overestimate of remedy costs behind Mr. Shefftz’s testimony, even though Mr. Shefftz has no idea how Mr. Kunkel developed his estimates and, even if he had been told, had no insight into whether Mr. Kunkel’s methods were reliable.

b. Complainants State that Mr. Shefftz did not Offer an “Opinion.”

The Board’s 2021 and 2023 orders wrongly assume that Mr. Shefftz offered an “opinion.” That finding is contrary Complainants’ own descriptions of Mr. Shefftz’s role here. Before the Hearing, Complainants announced that Mr. Shefftz’s opinion would be “offered primarily for the purpose of offering a methodology to the Board of calculating economic benefit.” Comp. Remedies Prehearing Memo, at 8 (Apr. 21, 2023). More recently, they clarified that the “sole purpose” of Mr. Shefftz’s testimony was to provide the Board with a “framework” for calculating economic benefits. Comps. Resp Op. MWG Inter. Appeal, at 3 (Aug. 10, 2023). He is merely providing a formula into which the Board will eventually put “final inputs.” *Id.* at 4. To say otherwise is to “misunderstand[]” the limited scope of his testimony. *Id.* at 3.

But that is not an “opinion.” It is a textbook example of “expert testimony in non-opinion form”: An “exposition of scientific or other principles relevant to the case” that the trier of fact is left to “apply . . . to the facts” at some later point in time. Fed. R. Evid. 702 (1972 Comm. Note). See also Ill. R. Evid. 702. Ill. R. Evid. 702 (permitting expert to testify in form of an opinion “or otherwise”). As such, the Board’s prior orders have made *two* errors. Mr. Shefftz did not rely on “facts and evidence” from the record, *and* he did not offer an “opinion.”

In any event, the scenario Complainants seem to envision is the Board developing new inputs and running its own economic benefit analysis at some point, which is unprecedented and improper. Complainants seem to state that it would be “simple enough” for the Board to run the economic benefit analysis themselves. Comp. Resp. MWG Mot. Reconsider, at 2 (Nov. 21, 2023). But according to Mr. Shefftz, swapping in new inputs would not be simple at all. To adjust the inputs and run a new analysis, it would take him – an expert in his field who spent over a decade participating in its development (Ex. 1201, at p.3) – hours, or even a whole day, to complete this task. 5/16/23 NDI Trans. at p. 150:8-12.

And even if the Board felt up to that task, the *ex parte* financial investigation Complainants suggest would be unlawful: “A decision pursuant to an administrative hearing must be based upon testimony and other evidence received at the hearing, and a conclusion influenced by [the Board’s] extraneous considerations must be set aside.” *Metro. Sanitary Dist. v. Pollution Control Bd.*, 62 Ill.

2d 38, 43 (1975). The Board has *never* conducted an economic benefit analysis on its own, and Complainants' ongoing contentions that it may start now are bizarre.

Alternatively, Complainants are stating that after the Board's decision on a remedy, then the Board would turn to Mr. Shefftz to re-run the economic benefit analysis. Comp. Resp. MWG Mot. Reconsider, at 2 (Nov. 21, 2023). But that is equally unprecedented and improper. Similar to the issues identified with Mr. Quarles's non-opinion on remedy, that is not a solution for the Board to end this case. Are Complainants suggesting that the Board should keep this matter open throughout the investigation and analysis of a remedy (as proposed by Mr. Quarles) and then ultimately turn to Mr. Shefftz to run his economic benefit analysis following selection of the remedy? If so, then are they envisioning another round of discovery? Another hearing? Neither of these options is fair or reasonable to MWG or even the Board.

Complainants take a series of novel and improbable approaches in their effort to establish that MWG's economic benefits exceeded \$52,958. But they cannot meet evidentiary burdens without evidence. Representations of counsel are not evidence. Expert opinions that the Hearing Officer did not allow into evidence are not evidence. Nor is a scribbled IOU promising admissible remedies evidence at some future date (despite discovery having closed *years ago*). The Board should reject Complainants' "framework" and follow MWG's expert credible and factually supported opinion that MWG's economic benefit was, at most, \$52,958.

**D. Because of MWG's Voluntary Efforts to Comply, No Additional Penalty is Warranted to Deter Future Violations**

The fifth factor to consider is whether there is an amount of penalty that would serve to deter further violations by the respondent, and otherwise enhance voluntary compliance with the Act by the respondent and others. 415 ILCS 5/42(h)(5). The Board balances this factor against a respondent's voluntary efforts to comply. For example, in *Gott v. M'Orr Pork*, the Board stated that "in light of M'Orr Pork's voluntary efforts to comply, the Board cannot find that a large penalty is necessary to deter further violations by M'Orr Pork." PCB, April 16, 1998, *slip-op.* p. 14.

Here, because of MWG's extensive efforts to comply, even before there were any applicable regulations or statutes, there is little value in deterring a future violation or enhancing voluntary compliance. *See supra* §§ VII.E, VIII.B. Moreover, as Ms. Koch identified, in addition to MWG's extensive voluntary compliance, numerous other factors further eliminate any value to deter future violations. 6/15/23 NDI Tr., p. 55:3-12; MWG Ex. 1902, p. 15. Because MWG did not construct the ash ponds and is unlikely to build new ponds, it is pointless to increase a penalty to influence



MWG's construction of the original ponds or any future ponds. *Id.*, p. 55:13-21; MWG 1901, MWG13-15\_82221. Similarly, the "historic" coal ash at the Stations was deposited long before MWG took over the Stations, removing any value in deterring future placement of historic ash. SOF 708, 739, 909. Also, three of the four Stations are no longer burning coal and generating CCR, and the CCR that remains in the impoundments is being managed under two regulatory programs, negating any basis to deter any future violations related to CCR. MWG 1901, MWG13-15\_82221, 82223.

If anything, any significant penalty or corrective action here will have an opposite effect and deter others from voluntarily working with the IEPA. The Board recognized that risk in one of its original orders. In *Employees of Holmes Bros v. Merlan, Inc.*, the Board observed that imposition of penalties can hinder the fulfillment of the purposes of the Act, stating:

"In the opinion of the Board, Merlan has exercised good faith in trying to control its problems, and to penalize a company such as this would discourage all those who act in good faith to bring an end to their pollution problems. It is certainly the policy of this Board not to penalize those who are honestly trying, which is certainly the case here."

PCB71-89 (Sept. 16, 1971), p. 5 (emphasis added). The Board's policy was so persuasive, the Supreme Court relied upon it when it concluded that a Board's imposition of a penalty in a subsequent matter was arbitrary and capricious. *Southern Illinois Asphalt Co. v. Pollution Control Bd.*, 60 Ill. 2d 204, 217 (1975). The Board has continued to follow that policy stating that it is not "sound public policy to attach a substantial monetary penalty to a voluntary cleanup, especially when the evidence shows that the contamination was historical in nature." *International Union, et al v. Caterpillar, Inc.* PCB 94-240 (Aug. 1, 1996), *slip-op.*, p. 35. The Board further stated a significant penalty "would serve only to discourage the cleanup of contaminated property," and that they did not want to "adopt a policy which would serve to discourage respondent or any site owner or operator from reporting environmental contamination and then taking steps, in concert with government, to respond by removing and remediating the contamination." *Id.*

There is a real risk that a significant penalty here will have a chilling effect on IEPA's efforts for cooperation with the regulated community. What company would agree to work with IEPA to voluntarily investigate its property and give IEPA the data, when its own data could be turned around and used against it by a third-party? Moreover, despite MWG's agreement to enter into the CCAs at each of its Stations, the CCAs did not shield MWG from this matter. An unintended consequence of a significant penalty here is that regulated entities could conclude that they would be better off *not* working with the IEPA, *not* entering the CCAs, and forcing the State

to pursue enforcement, delaying any ultimate compliance. Because of MWG's considerable voluntary actions, there should be no increase in penalty based on a need to deter future violations.

**E. MWG Has No Prior Adjudicated Groundwater Violations**

MWG has no prior adjudicated violations. Ms. Shealey testified that none of the Stations has been subjected to an enforcement action by the Illinois Attorney General's Office or USEPA for a groundwater violation. SOF 713. The violation notices issued by IEPA are immaterial. Notices of violation do "not have the force of an adjudication," instead it is "merely a notice of potential liability" and is "a preliminary step in [IEPA's] investigation of possible violations of the Act." *Lincoln, Ltd*, 2016 IL App (1st) 143487, ¶37 (1st Dist. 2016), quoting *National Marine, Inc. v. IEPA*, 159 Ill. 2d 381, 389, 639 N.E.2d 571, 574 (1994).

**F. MWG Voluntarily Agreed to IEPA's Request to Investigate and Voluntarily Disclosed the Results**

MWG voluntarily agreed to conduct groundwater monitoring at its four Stations and voluntarily submit that data to IEPA. *See supra* §§ V.A, VII.E, VIII.B.; 415 ILCS 5/42(h)(6). MWG promptly submitted the results to IEPA, before any inspection or lawsuit, and continues to submit the data to IEPA under voluntary agreements. The groundwater sampling was not required by statute, rule, permit, judicial or administrative order, or consent agreement. SOF 489-493, 968, 972-975. MWG has also demonstrated that there is no risk of off-site environmental harm, and its proposed remedy, which it is already undertaking as much as it is able, will correct the alleged violations. *See supra* §V. MWG's voluntary self-disclosure of the results of the groundwater sampling, continued submission of the results, and its work to address the groundwater through relining ponds and implementing GMZs and ELUCs mitigates any penalty that could be assessed.

**G. MWG Successfully Completed the CCAs**

The eighth factor to consider under Section 42(h) is whether a respondent successfully completed a CCA. 415 ILCS 5/42(h)(8).<sup>44</sup> This is not in dispute. As the Board found, MWG successfully completed the CCAs. Order, p. 24, 38, 53, 65. This is further supported by the absence of any claim by IEPA that MWG had violated or failed to complete the tasks in the CCAs. SOF 1034. MWG's successful completion of the CCAs further mitigates any potential penalty.

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<sup>44</sup> The seventh factor, whether a respondent agreed to undertake a supplemental environmental project, is not at issue here. 415 ILCS 5/42(h)(7)

**IX. CONCLUSION**

The evidence shows that since it began operating at the Stations, MWG has acted reasonably with consistent efforts to uphold environmental stewardship and comply with the Act and its regulations. It also is undisputed that the constituents in the groundwater cause no risk or harm to public health or nearby waters. While MWG maintains that it did not violate the Act as claimed, MWG proposes as a solution to the Board that it issue an order stating that MWG will:

1. Continue groundwater monitoring within the GMZs to confirm that MNA is continuing to occur and reporting monitoring results to IEPA under Part 620 and continue the groundwater monitoring at the Waukegan Station pursuant to the construction permit;<sup>45</sup>
2. Continue conducting work pursuant to the federal and Illinois CCR rules to address MWG's CCR surface impoundments;
3. Maintain the institutional controls established on MWG's Stations under Part 742;
4. When the federal proposed rules for CCR management units (CCRMUs) become final, which USEPA has stated will be April 2024, comply with the final rules;
5. In the event the federal proposed rules for CCRMUs are not passed by April 2025, or twelve months after the Board's final order in this matter (whichever is later), coordinate with IEPA to discuss installing an engineered cap over the FS Area at the Waukegan Station, or taking other appropriate action as deemed necessary, taking into consideration the status of the federal CCR management unit rule and/or the Board's subdocket in PCB20-19(A).

The Board's order should state that no penalty is warranted, or, if the Board concludes that MWG should be required to pay the amount of any economic benefit it might have received, that pay an amount not to exceed \$52,958.

These measures technically practical and economically reasonable, they are protective of human health and the environment, and, significantly, they will result in an end to this matter.

Respectfully submitted,  
Midwest Generation, LLC

By: /s/ Jennifer T. Nijman  
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<sup>45</sup> The continued monitoring to include total metals, rather than dissolved.

**APPENDIX A**

**RESPONDENT MIDWEST GENERATION,  
LLC'S STATEMENT OF FACTS**

**NOS. 1-670**

APPENDIX A

**RESPONDENT MIDWEST GENERATION, LLC'S STATEMENT OF FACTS**

**I. GENERAL FACTS**

**1. In 1999, Midwest Generation LLC (“MWG”) began operating Joliet 29 Station, the Powerton Station, the Waukegan Station, and the Will County Station that are the subject of this matter (collectively “the Stations”).** Joint Agreed Stipulation filed on Oct. 2, 2017 (“JAS”), Nos. 2, 3, 17, 18, 32, 33, 40, 41. <sup>1</sup>

**A. MWG's Testifying Witnesses**

2. Maria Race began working for MWG in 2001 as the manager of general environmental compliance including NPDES permitting, compliance, landfill management, and toxic release inventory for the MWG Stations. 1/29/18 Tr. p. 159:17-160:18 (Testimony of Race). Ms. Race later became the Asset Manager and eventually the Director of Federal Environmental Programs. 10/23/17 Tr. p. 30:1-6, 31:24-32:2 (Testimony of Race)

3. Christopher Lux is the Engineering Manager at the Waukegan Station and began working at the Waukegan Station in approximately 1992 and continued to work at the Station when MWG took over in 1999 and when NRG purchased MWG in 2014. 10/24/17 Tr. p. 33:11-34:12 (Testimony of Lux).

4. Rebecca Maddox was the Environmental Specialist at the Will County Station from approximately 2008 until April 2015. 10/24/17 Tr. pp. 175:13-19, 178:14-16, 247:3-8 (Testimony of Maddox).

5. Richard Gnat is a Principal at KPRG & Associates (“KPRG”), a company that specializes in soil and groundwater impact issues. 2/1/18 Tr. p. 82:24-83:17 (Testimony of Gnat). Mr. Gnat has conducted multiple projects at the four Stations that are the subject of this matter and has visited all of the Stations multiple times. 2/1/18 Tr. p. 84:3-24 (Testimony of Gnat).

6. Mark Kelly is the Chemical Specialist at the Powerton Station. Mr. Kelly began working at the Powerton Station in approximately January 1992. Mr. Kelly is responsible for the boiler water chemistry, wastewater, drinking water, circulating water for the condensers, and water related to the coal ash. 1/31/18 Tr. p. 66:20-67:2, 68:13-69:5 (Testimony of Kelly).

7. Fredrick Veenbaas is the Senior Compliance Specialist at the Waukegan Station and he began working at the Waukegan Station in 2012. Before 2012, Mr. Veenbaas was the Chemistry Systems Specialist at the Will County Station beginning in 1999. 1/31/18 Tr. pp. 221:18-222:17 (Testimony of Veenbaas).

8. John Seymour (“Seymour”) is a Senior Principal at Geosyntec Consultants and practices in geotechnical engineering and remediation practices. Seymour was retained by MWG

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<sup>1</sup> The **Bolded** statements are facts on which the Complainants and MWG specifically agree based on the Joint Statement of Facts or testimony of Complainants' expert. In addition, many of the statements herein are undisputed.

to provide his expert opinion on the conditions at the four Stations. 2/1/18 Tr. p. 213:18-214:13 (Testimony of Seymour), MWG Ex. 900 (Seymour CV).

9. Seymour has forty years of experience in geotechnical engineering and remediation practices and over 14 years of experience specifically with coal combustion residuals (CCRs<sup>2</sup>). MWG Exs. 900, (Seymour CV); MWG Ex. 901, p. 2-3 (Seymour Presentation, included as Attachment 1 to this SOF).<sup>2</sup>

10. Seymour's experience with CCRs includes leading the design of a CCR surface impoundment closure in Illinois, preparing a closure plan for a CCR impoundment, investigating CCR landfill areas in Ohio, West Virginia, and Michigan, and assessing groundwater compliance under the CCR rules for eight CCR units in Ohio and Kentucky. MWG Exs. 900 (Seymour CV); 2/1/18 Tr. p. 217:5-12 (Testimony of Seymour).

11. Seymour's experience with evaluating groundwater quality includes a powerplant in Michigan, a CERCLA site as part of the CERCLA remedial investigation, a hazardous waste treatment facility as a part of the RCRA corrective action, a CERCLA site in Iowa as part of a TCE remediation, a superfund site in Michigan, and a number of manufactured gas plant sites in Wisconsin. MWG Ex. 900 (Seymour CV); 2/2/18 Tr. p. 130:24-132:15-23 (Testimony of Seymour).

#### **B. MWG's Business Operations**

12. MWG operates the four Stations, Joliet 29, Powerton, Waukegan, and Will County, as part of the PJM capacity market, which is a market for selling energy. 1/29/18 Tr. p. 166:14-19 (Testimony of Race).

13. The purpose of PJM is to ensure that there is a certain amount of capacity available during times when it is very hot or very cold and the energy demand is high, and to ensure there are no blackouts, so "people aren't in the cold and have no electricity. 1/29/18 Tr. p. 168:5-16 (Testimony of Race).

14. The four MWG electrical generating stations are used to fill the needs during peak needs for energy. 1/29/18 Tr. p. 168:17-169:1 (Testimony of Race).

15. Approximately 60 to 80 employees work at the Joliet 29 Station. 1/29/18 Tr. p. 170:21-24. (Testimony of Race).

16. Approximately 100 employees work at the Powerton Station. 1/29/18 Tr. p. 171:4-6. (Testimony of Race).

17. Approximately 60 employees work at the Waukegan Station. 1/29/18 Tr. p. 171:7-9. (Testimony of Race).

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<sup>2</sup> MWG Exhibit 901 (Seymour Presentation), cited throughout this SOF and MWG's Post-Hearing Brief, is attached to this SOF as Attachment 1 for ease of reference.

18. Approximately 60 to 80 employees work at the Will County Station. 1/29/18 Tr. p. 171:1-3. (Testimony of Race).

**C. Common Factors at MWG's Stations**

19. Prior owners have operated the Stations as coal burning plants since at least 1965; and some back to the 1920s-1950s. MWG Ex. 901, pp. 6, 14, 26, 44, 58 (Seymour Presentation, SOF Attachment 1); MWG Exs. 663 at p. 1 (Joliet 29 Timeline of Events), Ex. 664 at p. 1 (Powerton Timeline of Events), Ex. 665 at p. 1 (Waukegan Timeline of Events), and Ex. 666 at p. 1 (Will County Timeline of Events).

20. Since approximately 1978, active coal ash impoundments<sup>3</sup> at Joliet 29, Powerton, Waukegan and Will County were lined with a poz-o-pac liner, and/or a Hypalon liner; and relined by MWG with a high-density polyethylene (“HDPE”) liners. MWG Ex. 901, pp. 6, 16, 28, 60 (Seymour Presentation, SOF Attachment 1); MWG Ex. 500 (Pond Characterizations for MWG Stations).

21. From approximately 2000-2013, MWG investigated the impoundments, assessed potential risks, and conducted a Station-wide pond relining project. MWG Ex. 901, p. 6 (Seymour Presentation, SOF Attachment 1).

22. At all of the Stations, there is no risk to potential receptors. MWG Ex. 901, pp. 6, 10 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Appen. B (Seymour Expert Report); MWG Ex. 907 (Seymour Update to Appendix B of Expert Report - Updated Risk Analysis).

**D. Types of Liners in Ash Ponds**

23. Poz-o-pac, a very dense material, is an aggregate liner similar to concrete. 10/26/17 Morning Tr. p. 66:11-13 (Testimony of Gnat); 1/31/18 Tr. p. 77:5-14 (Testimony of Kelly); MWG Ex. 621, p. MWG13-15\_295 (2009 Hydrogeological Assessment of MWG Electric Generating Stations); 2/1/18 Tr. p. 241:17-22 (Testimony of Seymour); Comp. Ex. 286 (Poz-o-pac sample result).

24. Hypalon is a type of geosynthetic rubber lining material that is still a commonly used water barrier. 2/2/18 Tr. p. 83:10-18 (Testimony of Seymour); 1/29/18 Tr. p. 219:13-14 (Testimony of Race); 1/31/18 Tr. p. 77:18-21 (Testimony of Kelly).

25. **An HDPE liner is a high-density polyethylene liner.** JAS No. 1.

26. A HDPE liner is a “robust pond lining”, “about one of the best you can get”, is the least permeable type of liner, resistant to chemicals, and is the same liner used for hazardous waste

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<sup>3</sup> The ash impoundments at the Stations can also be called: “ash pond”, “pond”, or “basin”. 1/29/18 Tr. p. 192:18-24, 223:22-224:3 (Testimony of Race), 1/31/18 Tr. p. 70:10-17 (Testimony of Kelly); 1/31/18 Tr. pp. 225:14-17, 246:17-247:3 (Testimony of Veenbaas).

landfills. 1/29/18 Tr. p. 224:21-226:3 (Testimony of Race); 2/1/18 Tr. pp. 243:22-24, 256:8-14 (Testimony of Seymour).

27. HDPE liners are very effective to prevent any potential impact to groundwater. 2/1/18 Tr. p. 256:3-8 (Testimony of Seymour).

28. HDPE liners are one of the liners allowed under RCRA hazardous waste regulations used for hazardous waste landfills; HDPE liners are resistant to chemicals and have a very low permeability. 2/1/18 Tr. p. 243:23-244:21, 256:8-23 (Testimony of Seymour).

29. The active ponds also have geotextile in the liner system and a 12-foot sand cushion layer the purpose of which for both materials is to avoid punctures on the HDPE when equipment is in the ponds. MWG Ex. 901, pp. 16-18, 28-31, 46-47, 60-61 (Seymour Presentation, SOF Attachment 1); MWG Exs. 274, 505-507, 510, 610, 629, 703, and 706 (Construction Documentation for the MWG Ash Ponds); 2/1/18 Tr. 290:12-23 (Testimony of Seymour).

30. On top of the sand cushion layer, MWG laid down a 6-inch limestone warning layer. MWG Ex. 901, pp. 16-18, 28-31, 46-47, 60-61 (Seymour Presentation, SOF Attachment 1); MWG Exs. 274, 505-507, 510, 610, 629, 703, and 706 (Construction Documentation for the MWG Ash Ponds).

31. Limestone is white, which contrasts with the dark color of coal ash and makes it easy to see the difference between the white of the limestone and the ash. 1/31/18 Tr. p. 92:3-10 (Testimony of Kelly); 1/31/18 Tr. p. 252:3-8 (Testimony of Veenbaas).

32. The purpose of the limestone warning layer is to act as a warning to the operators when the operators are removing the ash and warn the operators before they hit the bottom of the pond. 1/31/18 Tr. p. 91:19-92:2, 109:23-110:3 (Testimony of Kelly).

#### **E. MWG Coal Ash and Its Properties**

33. **The Powerton Station, Waukegan Station and Will County Station burn subbituminous coal sourced from Powder River Basin in Wyoming.** JAS 51; 10/23/17 Tr. p. 62:10-14 (Testimony of Race); 10/27/18 Tr. p. 177:17-178:4 (Testimony of Kunkel).

34. **Until it ceased burning coal for the generation of electricity, Joliet 29 Station burned subbituminous coal sourced from the Powder River Basin in Wyoming.** JAS No. 52; 10/23/17 Tr. p. 62:10-14 (Testimony of Race); 10/27/18 Tr. p. 177:17-178:4 (Testimony of Kunkel).

35. **There are different types of coal ash, including but not limited to fly ash and bottom ash.** JAS No. 53.

36. A coal powered electric generating station generates generally two types of coal ash from the burning of the coal: bottom ash and fly ash. 1/31/18 Tr., p. 69:9-11 (Testimony of Race); 1/31/18 Tr., p. 224:19-20, 245:1 (Testimony of Veenbaas).



37. Fly ash are lightweight particles from a coal fired power plant. 10/24/17 Tr. p. 17:18-4 and 1/31/18 Tr. pp. 69:12-15 (Testimony of Mr. Race).

38. At Powerton, Waukegan, and Will County, the fly ash is collected via dry system using electrostatic precipitators and transported off-site for beneficial reuse, mine reclamation or stabilization. 1/29/18 Tr. p. 174:1-176:14, 177:2-178:5 (Testimony of Race); 1/31/18 Tr. pp. 69:20-24 (Testimony of Kelly); 1/31/18 Tr. p. 224:21-225:11; 245:4-10 (Testimony of Veenbaas); MWG Ex. 600 (LaFarge Ash Movements by Movements by Station).

39. At Joliet 29, the fly ash was collected via dry system using electrostatic precipitators and transported off-site for beneficial reuse. 1/31/18 Tr. pp. 69:20-24 (Testimony of Kelly); 1/29/18 Tr. p. 174:1-176:21 (Testimony of Race); 1/31/18 Tr. pp. 245:4-10, 224:21-225:11 (Testimony of Veenbaas); MWG Ex. 600 (LaFarge Ash Movements by Movements by Station).

40. Bottom ash consists of heavier particles that fall to the bottom of the furnace and is generally mixed with water and conveyed out of the plant at the Station, via a pipe to a settling basin or pond. 1/29/18 Tr. p. 192:18-24 (Testimony of Race); 1/31/18 Tr. p. 70:10-17 (Testimony of Kelly); 1/31/18 Tr. pp. 225:14-17, 246:17-247:3 (Testimony of Veenbaas).

41. Bottom is ash brown, very granular and soil-like and has no smell. 1/31/18 Tr. p. 227:22-228:11 (Testimony of Veenbaas); MWG Ex. 712 (Sample Jar of MWG Bottom Ash).

**42. Fly ash and bottom ash are not hazardous.** 10/27/18 Tr. p. 178:10-15 (Testimony of Kunkel); 1/29/18 Tr. p. 208:11-17 (Testimony of Race); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

43. Coal ash can be beneficially reused, and there is a market for the reuse of coal ash. 1/29/18 Tr. p. 208:11-17 (Testimony of Race); MWG Ex. 600 (LaFarge Ash Movements by Movements by Station).

44. The MWG fly ash and bottom ash are beneficially reused in different manners, including cement replacement, geotechnical stabilization, mine stabilization, structural fill, and roofing shingles. MWG Ex. 600 (LaFarge Ash Movements by Movements by Station); 1/29/18 Tr. p. 174:1-176:14, 177:2-178:5 (Testimony of Race); 1/31/18 Tr. p. 70:6-7, 71:9-11 (Testimony of Kelly); 1/31/18 Tr. p. 225:2-4, 245:7-8 (Testimony of Veenbaas); 2/1/18 Tr. p. 219:1-3 (Testimony of Seymour).

45. The bottom ash collected at the MWG Stations is hauled away for beneficial use; when Joliet 29 was operating as a coal-fired powerplant, its bottom ash was conveyed to a permitted landfill. 1/29/18 Tr. p. 192:18-19 (Testimony of Race); 1/31/18 Tr. p. 235:15-19 (Testimony of Veenbaas).

**46. The four MWG Stations burned the same coal and burned that coal in a similar manner; the resulting coal ash from each Station had similar constituents.** 10/27/18 Tr. p. 177:9-13 (Testimony of Kunkel); 2/1/18 Tr. p. 266:19-24 (Testimony of Seymour); MWG Ex. 903, p. 41 (Expert Report of Seymour).

47. Between 2004 and 2010, MWG analyzed the coal ash from its three of its ash ponds at different MWG Stations using the neutral leachable procedure (“NLET”) also known as ASTM D3987-85 for metals. MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1); MWG Exs. 512 (Bottom Ash Analytical Report 2010), 635 (2004 Limestone Basin and Bottom Ash Sampling), 700 (2007 Analytical Report of Bottom Ash), 806 (2004 Bottom Ash Sampling Results), 808 (ASTM D3987-85 – Standard Test Method for Shake Extraction of Solid Waste with Water); 2/1/18 Tr. p. 160:7-15 (Testimony of Gnat).

48. The purpose of the NLET analysis is to confirm that the historical ash met the coal combustion by-product (“CCB”) criteria under 415 ILCS 5/3.135. MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1); 2/1/18 Tr. p. 160:7-15 (Testimony of Gnat).

49. Coal ash may be classified as CCB and may be beneficially used, including as structural fill, foundation backfill, antiskid material, athletic tracks, or foot paths. 415 ILCS 5/3.135; MWG Ex. 293; 10/26/17 Morning Tr. p. 38:4-39:19 (Testimony of Gnat).

50. The CCB criteria requires that the material has no metals above the Illinois Class I groundwater standards and thus can safely be used for various reason including structural fill, pavement and shingles. 415 ILCS 5/3.135; 2/1/18 Tr. p. 159:3-9, 160:7-15, (Testimony of Gnat); 2/1/18 Tr. p. 217:21-218:3 (Testimony of Seymour).

51. Illinois law requires that the ASTM D3987-85 test method be used to determine whether coal ash can be used for beneficial reuse and classified as CCB. 2/1/18 Tr. p. 170:9-14 (Testimony of Gnat); 10/26/17 Morning Tr. p. 39:1-12 (Testimony of Gnat).

52. ASTM D3987-85 was originally written in 1985 and was reapproved in 2004 without any changes. 2/1/18 Tr. p. 171:2-8 (Testimony of Gnat); MWG Ex. 808 (ASTM D3987-85 – Standard Test Method for Shake Extraction of Solid Waste with Water).

53. In 2012, the ASTM D3987-85 was slightly modified and renumbered to ASTM D3987-12; from 1985 through 2011 there were no changes to the method. 2/1/18 Tr. p. 171:9-20. (Testimony of Gnat).

54. The only difference between the ASTM D3987-85 and ASTM D3987-12 is that the 2012 procedure modified the temperature window in which the analysis needs to be conducted in the lab. 2/1/18 Tr. p. 173:7-15 (Testimony of Gnat).

55. The MWG ash samples taken from the MWG ash ponds analyzed after 2012 were analyzed with ASTM D3987-85, and were also analyzed within the ASTM D3987-12 temperature range, so the ash sample results met the requirements of the 2012 ASTM standard. 2/1/18 Tr. p. 173:19-174:9 (Testimony of Gnat), Comp. Ex. 284 (Will County CCB Determination).

56. The results of the analysis of the ash samples taken after 2012 and analyzed with ASTM D3987-85 conformed with appropriate test methods. 2/1/18 Tr. p. 173:19-174:9 (Testimony of Gnat).

57. The results of the ASTM D3987-85 analysis of the MWG ash taken from the MWG ash ponds showed that the site-specific indicators of the MWG ash pond coal ash were barium,

boron, sulfate and total dissolved solids (“TDS”). MWG Exs. 512 at MWG13-15\_14712-13 (Bottom Ash Analytical Report 2010), 635 at MWG13-15\_11356 (2004 Limestone Basin and Bottom Ash Sampling), 700 at MWG13-15\_10951 (2007 Analytical Report of Bottom Ash), 806 at MWG13-15\_12814-15 (2004 Bottom Ash Sampling Results), and MWG Ex. 901 at p. 8 (Seymour Presentation, SOF Attachment 1).

58. The results of the ASTM D3987-85 analysis of the MWG ash taken from the MWG ash ponds showed that the concentrations of barium, boron, sulfate and TDS were below the established regulatory standards. MWG Exs. 512 at MWG13-15\_14712-13 (Bottom Ash Analytical Report 2010), 635 at MWG13-15\_11356 (2004 Limestone Basin and Bottom Ash Sampling), 700 at MWG13-15\_10951 (2007 Analytical Report of Bottom Ash), 806 at MWG13-15\_12814-15 (2004 Bottom Ash Sampling Results), and MWG Ex. 901 at p. 8 (Seymour Presentation, SOF Attachment 1).

59. Between 2004 and 2015, MWG performed investigations of historic ash in fill materials at the Joliet 29, Powerton and Will County Stations also using the NLET method to confirm that the historic ash met the CCB criteria under 415 ILCS 5/3.135. MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1); Comp. Ex. 284 (Will County CCB Determination) and 293 (Revised Joliet 29 CCB Report); MWG Ex. 635 (2004 Limestone Basin and Bottom Ash Sampling); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Gnat).

60. The results of all the NLET tests of historic ash in fill areas at the Stations showed that the historic ash also met the CCB criteria and could be used for beneficial reuse. 10/26/17 Morning Tr. p. 40:20-41:12 (Testimony of Gnat); 2/1/18 Tr. p. 168:6-24 (Testimony of Gnat); Comp. Ex. 284 (Will County CCB Determination) and 293 (Revised Joliet 29 CCB Report); MWG Exs. 635 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901 at p. 9 (Seymour Presentation, SOF Attachment 1); Ex. 903, p. 46 (Seymour Expert Report); 2/1/18 275:5-276:24 (Testimony of Seymour).

## **II. MIDWEST GENERATION STATIONS**

### **A. Joliet 29 Station**

61. **MWG operates the Joliet 29 Electric Generating Station (“Joliet 29”) located in Joliet, Will County, Illinois.** JAS No. 2.

62. **MWG has operated the Joliet 29 Station since 1999.** JAS No. 2.

63. A timeline of events for the Joliet 29 Station can be found at MWG Ex. 663.

64. The Joliet 29 Station was built in 1964-1965 and has been a power plant since 1964. MWG Ex. 663 (Joliet 29 Timeline of Events); MWG Ex. 901, p. 14 (Seymour Presentation, SOF Attachment 1); 1/29/18 Tr. p. 182:9-17 (Testimony of Race).

65. **On March 18, 2016, Joliet 29 Station ceased burning coal for the generation of electricity.** JAS No. 13.

66. **On May 26, 2016, the Joliet 29 Station began generating electricity with natural gas.** JAS No. 14.

67. When the Joliet 29 Station converted to gas 2016, it no longer generated coal ash. 1/29/18 Tr. p. 186:12-15 (Testimony of Race).

68. The Station is in an industrial area. 1/29/18 Tr. p. 179:19-22 (Testimony of Race).

69. The former Caterpillar, Inc. manufacturing facility is adjacent to the west of the Joliet 29 Station. 1/29/18 Tr. p. 179:19-22 (Testimony of Race); MWG 667 p. 2 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County)

70. Channahon Road borders the Joliet 29 Station to the north, beyond which are commercial and industrial facilities. MWG 667 p. 2; 1/29/18 Tr. p. 179:23-180:6 (Testimony of Race); 10/26/17 Morning Tr. p. 36:19-37:1 (Testimony of Gnat).

71. Channahon Road (Route 6) is a four-lane highway that runs adjacent and upgradient to the Joliet 29 ash ponds; another four-lane highway intersects Channahon Road near the northwest corner of Ash Pond 1. 10/26/17 Morning Tr. p. 36:19-37:8 (Testimony of Gnat).

72. Road salt, which has chloride as one of its elements, is commonly spread on the roads in the Chicagoland area in the winter. 10/26/17 Morning Tr. p. 37:9-13. (Testimony of Gnat).

73. The Station is bordered to the South by the Des Plaines River. MWG 667 p. 2 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

74. The geology at Joliet 29 includes 5 to 30 feet of fine sandy loam underlain by Silurian dolomite to approximately 176 feet below ground and the Maquoketa shale from about 176 to 241 feet below ground surface. MWG Ex. 621, MWG13-15\_297, 1/29/18 Tr. p. 253:2-6 (Testimony of Race).

75. The Maquoketa shale is a confining layer separating the upper aquifer from the lower aquifer, which means the Maquoketa shale does not allow any upper aquifer water to travel to the lower aquifer. MWG Ex. 621 p. MWG13-15\_297 (2009 Hydrogeological Assessment of MWG Electric Generating Stations), 1/29/18 Tr. p. 253:7-19 (Testimony of Race).

**76. There are no potable wells downgradient of the Joliet 29 ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/29/18 Tr. p. 254:5-11 (Testimony of Race); 2/1/18 Tr. p. 278:13-23 (Testimony of Seymour); 2/2/18 Tr. pp. 43:16-23 (Testimony of Seymour); MWG Ex. 901, p. 14.

77. The groundwater flow at the Joliet 29 Station flows in a southerly direction towards the Des Plaines River. 2/1/18 Tr. pp. 97:13-98:7, p. 109:19-110:1 (Testimony of Gnat); MWG Ex. 901, p. 20 (Seymour Presentation, SOF Attachment 1).

### **1.Joliet 29 Station at Time MWG Began Operations**

78. In 1999, the prior owner of the Joliet 29 Station conducted Phase I and Phase II environmental site assessments of the Station. Comp. Ex. 20 (Joliet 29 1998 ENSR Phase II) and 21D (Joliet 29 1998 ENSR Phase I); 10/23/17 Tr. p. 114:1-117:6, 224:1-228:23 (Testimony of Race).<sup>4</sup>

79. MWG received copies of the Joliet Phase I and Phase II reports, and MWG Director of Federal Environmental Programs Ms. Race, reviewed the reports in about 2003, after she began working at MWG. 10/23/17 Tr. 225:22-23 (Testimony of Race); 1/29/18 Tr. 159:20-23 (Testimony of Race).

80. The Joliet 29 Phase I and II reports both explicitly state that the data and reports were prepared solely for the benefit of the prior owner and that while the information may be shared with third parties, the third party relies upon that information at their own discretion. Comp. Ex. 20 at pp. MWG13-15\_23308-09 (Joliet 29 1998 ENSR Phase II), and Comp. Ex. 21 at MWG13-15\_25145 (Joliet 29 1998 ENSR Phase I) 1/29/18 Tr. p. 203:6-205:3 (Testimony of Race).

81. The boring logs for the monitoring wells installed during the 1999 Phase II investigation were not included in the Phase II report located in Comp. Ex. 20D (Joliet 29 1998 ENSR Phase II); 10/23/17 Tr. pp. 227:4-228:12 (Testimony of Race).

82. Instead, the boring logs in the 1999 Phase II in Comp. Ex. 20D were for borings taken from the Joliet 9 Power Station, an entirely different generating station not at issue; the Joliet 29 boring logs were admitted separately as MWG Ex. 604. 10/23/17 Tr. pp. 227:19-228:2 (Testimony of Race); 1/29/18 Tr. p. 199:10-201:2 (Testimony of Race).

83. The boring logs for Joliet 29 from the Phase II did not show any coal ash in the borings. MWG Ex. 604 (Joliet 29 ENSR 1998 Boring Logs); 1/29/18 Tr. p. 201:17-18 (Testimony of Race).

84. Importantly, before MWG took over the property, the consultant performing the Phase I and Phase II environmental assessments, (“ENSR”) told the prior owner that there was “no requirement under Illinois environmental law to further investigate or remediate this property”. Comp. Ex. 20D, at MWG13-15\_23324 (Joliet 29 1998 ENSR Phase II).

85. MWG considered that conclusion relevant in its work with respect to the Stations and their ash ponds. Comp. Ex. 20D, at MWG13-15\_23324 (Joliet 29 1998 ENSR Phase II), 10/23/17 Tr. pp. 230:23-231:12 (Testimony of Race).

## **2.Joliet 29 Coal Ash Ponds and Handling**

86. Joliet 29 has three ash ponds: Ash Pond 1, Ash Pond 2 and Ash Pond 3. MWG Ex. 901, p. 15 (Seymour Presentation, SOA Attachment 1); MWG Ex. 667, p. 4 (Midwest Generation

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<sup>4</sup> Pursuant to Hearing Officer Order of January 11, 2018, the admissible portions of the Phase I and Phase II reports are limited to specific questions raised during the Hearing.

Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 500 (Pond Characterizations for MWG Stations).

87. A list and description of the Joliet 29 Active Ash Basins is at p. 16 of the Seymour Presentation which is included as Attachment 1 to this SOF. MWG Ex. 901, p. 16 (Seymour Presentation, SOF Attachment 1).

**88. Ponds 1, 2, and 3 were lined in 1978 with Poz-o-Pac. JAS No. 5.**

89. It was unusual for a power plant to have installed a waste water treatment system that included liners under the ash ponds. 1/29/18 Tr. p. 188:13-19 (Testimony of Race); 2/1/18 Tr. p. 229:5-13, 240:16-245:1 (Testimony of Seymour).

90. The three Joliet 29 ash ponds are a part of the Station's wastewater treatment system. MWG Ex. 603 (Joliet 29 NPDES Permit); 1/29/18 Tr. p. 195:8-197:16 (Testimony of Race).

91. The ponds are permitted under Joliet 29's NPDES permit, No. IL0064254, issued by Illinois EPA, and MWG operated the ash ponds pursuant to the limits, terms, and conditions of the permit as part of the wastewater treatment program. MWG Ex. 603 (Joliet 29 NPDES Permit), 1/29/18 Tr. 195:15-16 (Testimony of Race).

92. At the time MWG began operating Joliet 29 Station in 1999, and continuing until 2016, the vast majority of the bottom ash was conveyed automatically by an enclosed pipe system across the Des Plaines River to a permitted landfill. 1/29/18 Tr. p. 192:16-194:4 (Testimony of Race).

93. On the rare occasions when the enclosed pipe system was offline, a small fraction of the Joliet 29 bottom ash was pumped to either Ash Pond 1 or Ash Pond 2. 1/29/18 Tr. p. 194:5-9 (Testimony of Race), Ex. 667, p. 4 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

**94. Only one pond (Joliet 29 Pond 1 or Pond 2) was in service at a time. JAS No. 8.**

**95. In 2007, MWG relined Joliet 29 Pond 1 with a 60 mil HDPE liner. JAS No. 6.**

**96. In 2008, MWG relined Joliet 29 Pond 2 with a 60 mil HDPE liner. JAS No. 7.**

97. The liner systems installed in Joliet 29 Ash Ponds 1, 2 and 3 consist of 12 inches of poz-o-pac, geotextile, HDPE, geotextile, 12-24 inches of sand and a limestone warning layer. MWG Ex. 901, pp. 16-18 (Seymour Presentation, SOF Attachment 1); MWG Ex. 610 (Construction Documentation for the Joliet Ash Ponds 1 and 2); MWG Ex. 629 (Construction Documentation for the Joliet Ash Pond 3).

98. The pond bottom elevation of Joliet 29 Ash Pond 1 and Ash Pond 2 is 516 feet. MWG Ex. 901, p. 17 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-1, 5-2 (Seymour Expert Report); 2/1/18 Tr. p. 291:19-293:23 (Testimony of Seymour).

99. The average groundwater elevation of the groundwater under Joliet 29 Ash Pond 1 is 506 feet. MWG Ex. 901, p. 17 (Seymour Presentation, SOE Attachment 1); MWG Ex. 903, Fig. 5-1 (Seymour Expert Report); 2/1/18 Tr. p. 291:19-293:23 (Testimony of Seymour).

100. The average groundwater elevation of the groundwater under Joliet 29 Ash Pond 2 is 505.5 feet. MWG Ex. 901, p. 17 (Seymour Presentation, SOE Attachment 1); MWG Ex. 903, Fig. 5-2 (Seymour Expert Report); 2/1/18 Tr. p. 291:19-293:23 (Testimony of Seymour).

101. **Joliet 29 Ponds 1 or 2 were dredged approximately every one to two years.** JAS No. 9.

102. Because Joliet 29 ash ponds were emptied in succession, one at a time, each pond was emptied every 2-4 years. MWG Ex. 901, p. 16 (Seymour Presentation, SOE Attachment 1); MWG Ex. 903, p. 30 (Seymour Expert Report); MWG Ex. 500 (Pond Characterizations for MWG Stations).

103. The ash removed from Joliet 29 Ponds 1 or 2 was taken to a permitted landfill. MWG Ex. 901, p. 15-16 (Seymour Presentation, SOE Attachment 1); 1/29/18 Tr. p. 194:10-19 (Testimony of Race).

104. **Coal ash was removed from the ponds at Joliet 29 Electric Generating Station by Beemsterboer.** JAS No. 16.

105. When Ash Pond 1 or 2 needed to be emptied, the Joliet 29 ash removal project manager held a kick-off meeting to discuss the protocols for proper removal of ash including identification of the warning posts, the warning layer and a description of the liner. MWG Ex. 903, p. 39 (Seymour Expert Report).

106. The Joliet 29 removal project manager inspected work throughout the ash removal process to confirm the work was acceptable. MWG Ex. 903, p. 39 (Seymour Expert Report).

107. If there were an incident during the relining, the Joliet 29 removal project manager would stop work, remove ash from the vicinity of the damaged location and ensure that a repair was conducted. MWG Ex. 903, p. 39 (Seymour Expert Report).

108. The Joliet 29 Station operators inspected the pond liners during daily inspections and if any unusual condition were observed, the supervisor was notified, and the repairs were implemented. MWG Ex. 903, p. 38 (Seymour Expert Report).

109. **Joliet 29 Ash Pond 3 was used as a finishing pond.** JAS No. 10.

110. Joliet 29 Ash Pond 3 received a *de minimis* amount of ash. 1/29/18 Tr. p. 188:22-191:21 (Testimony of Race), MWG Ex. 602 (Total Suspended Solids Results of the Joliet 29 Ash Pond 3 Influent).

111. **In 2013, MWG relined Joliet 29 Pond 3 with a 60 mil HDPE liner.** JAS No. 11.

112. From the time Joliet 29 Ash Pond 3 was placed into service in 1978 until it was relined in 2013, the pond had never needed to be emptied because no ash accumulated in the pond. MWG Ex. 901, p. 15-16 (Seymour Presentation, SOF Attachment 1); 1/29/18 Tr. p. 192:3-12 (Testimony of Race).

113. The pond bottom elevation of the Ash Pond 3 is 517.5 feet. MWG Ex. 901, p. 18 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-3 (Seymour Expert Report); 2/1/18 Tr. p. 292:5-23.

114. The average groundwater elevation of the groundwater under Ash Pond 3 is 505.5 feet. MWG Ex. 901, p. 18 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-3 (Seymour Expert Report); 2/1/18 Tr. p. 292:5-23.

**115. By October 12, 2015, MWG removed all coal ash from Pond 1 and removed Pond 1 for service for coal ash.** JAS No. 12, 1/29/18 Tr. p. 198:13-16 (Testimony of Race).

116. The remaining ash in Joliet 29 Ash Pond 2 is scheduled to be removed and hauled to a permitted landfill. 1/29/18 T. p. 198:19-199:1 (Testimony of Race).

117. In 2015, MWG sampled the influent water into Joliet 29 Ash Pond 3 to determine the total suspended solids in the water entering the pond. 1/29/18 T. p. 190:18-191:11 (Testimony of Race); MWG Ex. 602 (Total Suspended Solids Results of the Joliet 29 Ash Pond 3 Influent).

118. The analysis showed that there were 20 mg/l of total suspended solids in the water entering Joliet 29 Ash Pond 3, which is a very small number and means the influent looked like clear water. 1/29/18 Tr. p. 191:12-21 (Testimony of Race); MWG Ex. 602 Total Suspended Solids Results of the Joliet 29 Ash Pond 3 Influent).

### **3. Other Ash Areas at Joliet 29 Station**

119. Before MWG began operating at the Joliet 29 Station, ENSR, on behalf of the prior owner, identified two areas where ash had been placed as fill in the past (“historic ash areas”) in the Phase II report. MWG Ex. 901, p. 23 (Seymour Presentation, SOF Attachment 1); Comp. Ex. 20D (Joliet 29 1998 ENSR Phase II).

120. One of the locations is on the northeast area of the Joliet 29 Station and the second is on the southwest area of the Joliet 29 Station. MWG Ex. 901, p. 23 (Seymour Presentation, SOF Attachment 1); MWG Ex. 667, p. 7 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

121. When MWG began operating Joliet 29, MWG considered the identified areas of historic ash and concluded, based upon the Phase II report and other advice, that no further investigation or remediation was required in the historic ash areas. 1/29/18 Tr. p. 206:20-207:13 (Testimony of Race).

122. Neither U.S. Environmental Protection Agency (“USEPA”) nor the Illinois EPA have asked MWG to investigate either the of the historic ash areas at Joliet 29. 1/29/18 Tr. p. 185:20-24 (Testimony of Race).



123. In 2015, USEPA issued the Federal Coal Combustion Residual (“CCR”) regulations, which also concluded that investigation and remediation of historic areas of ash does not require further investigation or remediation. 1/29/18 Tr. p. 207:14-22 (Testimony of Race).

124. The CCR regulations state that the USEPA was not aware of any damage cases associated with inactive CCR landfills and are at low risk of release. 80 F.R. 21342. 2/1/18 Tr. p. 224:12-225:6 (Testimony of Seymour).

125. The northeast area at Joliet 29 is a part of the Joliet 29 NPDES stormwater permit, and pursuant to that permit MWG ensures that the area is covered. 1/29/18 Tr. 183:17-21 (Testimony of Race).

126. MWG has consistently complied with the Joliet 29 stormwater permit requirements, conducted inspections of the area to ensure that there were soils and seeding grasses growing in the area. 1/29/18 Tr. p. 185:17-19 (Testimony of Race); 1/30/18 Tr. p. 258:11-20 (Testimony of Race).

127. MWG’s consultant, KPRG & Associates (“KPRG”), conducts a walk-over inspection of the Joliet 29 northeast area on an annual basis to identify any erosional features that may have been exposed. Comp. Exs. 248-251 (2009-2012 Joliet 29 Northeast Area Inspections); MWG Ex. 803-805 (2012-2014 Joliet 29 Northeast Area Repair Documentations); 2/1/18 Tr. p. 112:20-113-3 (Testimony of Gnat).

128. In 2009, 2010, 2011 and 2012, KPRG observed some areas of erosion at portions of the Joliet 29 northeast area during its inspections. Comp. Ex. 248-251 (2012-2014 Joliet 29 Northeast Area Repair Documentations).

129. Within a few weeks of each inspection of the Joliet 29 northeast area, MWG had the areas repaired by a landscaping company. 10/26/17 Morning Tr. pp. 21:5-21, 23:16-10, 24:5-10, 26:2-9, 28:11-15 (Testimony of Gnat); MWG Exs. 800-803 (2010-2012 Joliet 29 Northeast Area Repair Documentation); 2/1/18 Tr. p. 115:11-20 (Testimony of Gnat).

130. At each inspection of the Joliet 29 northeast area, KPRG also looked at the repairs installed the year before and confirmed that MWG’s repairs were “done correctly and [were] holding up well.” 2/1/18 Tr. p. 118:5-16 (Testimony of Gnat); 10/26/17 Morning Tr. p. 25:6-14, 27:2-14 (Testimony of Gnat); Comp Ex. 250-251 (2011-2012 Joliet 29 Northeast Area Inspection).

131. In the later inspections in 2013 through 2016 of the Joliet 29 northeast area, KPRG observed that there was no evidence of erosion and no repairs were necessary. 10/26/17 Morning Tr. 30:13-32:20 (Testimony of Gnat); 2/1/18 Tr. p. 119:19-120:1, 121:8-18, p. 122:6-21 (Testimony of Gnat); MWG Ex. 804-805 (2013-2014 Joliet 29 Northeast Area Repair Documentation).

132. KPRG noted that all of the prior repairs at the Joliet 29 northeast area continued to be in good condition and did not need to be redressed. 2/1/18 Tr. p. 120:9-12, 121:8-18 (Testimony of Gnat); MWG Ex. 804-805 (2013-2014 Joliet 29 Northeast Area Repair Documentation).

133. The cause of the erosion in the Joliet 29 northeast area is surface water runoff from rain and snow melt. 2/1/18 Tr. p. 123:6-15 (Testimony of Gnat).

134. The erosion in the Joliet 29 northeast area is not from river water flooding over the northeast area. 2/1/18 Tr. p. 123:16-21 (Testimony of Gnat).

135. The KPRG reports regarding the inspections and repairs to the Joliet 29 northeast area do not state nor support a conclusion that the erosion was caused by flooding from the Des Plaines River. 2/1/18 Tr. p. 124:3-11 (Testimony of Gnat).

136. The property adjacent to the west of Joliet 29 was formerly owned and operated by Caterpillar, Inc. (“Caterpillar”); the property is contaminated with metals in the groundwater. MWG Ex. 611 (CenterPoint Caterpillar Request to place ELUC at the southwest area at Joliet 29 Station); 1/30/18 Tr. p. 7:4-10, p. 9:5-18 (Testimony of Race).

137. The Caterpillar property was in the Illinois Site Remediation Program with the intention of getting a “No Further Remediation” letter due to the historic contamination. 1/30/18 Tr. p. 6:22-7:3 (Testimony of Race).

138. Contamination in the groundwater from the Caterpillar property, including metals, has migrated onto the Joliet 29 Station, and the current owners of the Caterpillar property requested that MWG allow an Environmental Land Use Control (“ELUC”) to be established on that area to prevent any contact with metals in the groundwater. MWG Ex. 611 CenterPoint Caterpillar Request to place ELUC at the southwest area at Joliet 29 Station; 1/30/18 Tr. p. 7:4-10, 9:5-18 (Testimony of Race).

139. MWG agreed to the establishment of the ELUC, and on August 5, 2010, the ELUC was recorded on the MWG property with the Will County Recorder. MWG Ex. 612 (Joliet 29 Recorded ELUC – Aug. 5, 2010); 1/30/18 Tr. p. 7:24-8:2, 10:8-19 (Testimony of Race); MWG Ex. 901, p. 23 (Seymour Presentation, SOF Attachment 1).

140. The ELUC covers the western side of the Joliet 29 station, and under the terms of the ELUC MWG is restricted from using the groundwater and any soils that may be removed from the ELUC area. MWG Ex. 612, p. 2 Joliet 29 Recorded ELUC – Aug. 5, 2010); MWG Ex. 667, p. 6 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. p. 11:16-12:21 (Testimony of Race); MWG Ex. 901, p. 23 (Seymour Presentation, SOF Attachment 1).

141. In 2005, MWG asked its consultant, KPRG, to determine whether fill material located on the north west side of the Joliet 29 Station met the requirements of CCB. Comp. Ex. 293 (Revised Joliet 29 CCB Report).

142. MWG requested the CCB evaluation at Joliet 29 to determine whether the ash in that area could be beneficially used. 1/29/18 Tr. p. 209:21-210:3 (Testimony of Race).

143. One of the potential beneficial uses of the coal ash at Joliet 29 was as a wind break along the existing coal storage piles. 10/25/17 Tr. p. 106:9-14 (Testimony of Gnat).

144. KPRG analyzed the Joliet 29 coal ash samples using test method ASTM D3987-85. 10/26/17 Morning Tr. p. 38:12-24 (Testimony of Gnat); Comp. Ex. 293, MWG13-15\_19577 (Revised Joliet 29 CCB Report).

145. The samples and evaluation concluded with a high degree of statistical certainty that the ash in the Joliet 29 northwest area met the criteria established in the Illinois Environmental Protection Act and could be beneficially used. 10/26/17 Morning Tr. p. 39:20-40:7 (Testimony of Gnat); 1/29/18 Tr. p. 210:11-211:15 (Testimony of Race); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Seymour); MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1).

146. The levels of boron, manganese and barium in the Joliet 29 coal ash area were below the Illinois Class I groundwater standard. 1/29/18 Tr. p. 211:16-212:6 (Testimony of Race); MWG Ex. 293, p. MWG13-15\_19588 (Revised Joliet 29 CCB Report); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Seymour); MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1).

147. KPRG concluded that the material sampled in the northwest area of Joliet 29 leached less metals than the criteria established under the Illinois Environmental Protection Act. 10/26/17 Tr. p. 40:8-12 (Testimony of Gnat).

148. The KPRG report for Joliet 29 included all the quality control data, which was expected because the report complied with the very high standards on how a report was to be prepared established by MWG. 1/29/18 Tr. p. 212:21-213:3 (Testimony of Race).

#### **B. Powerton Station**

149. **MWG operates the Powerton Electric Generating Station (“Powerton”) located in Pekin, Tazewell County, Illinois.** JAS No. 17.

150. **MWG has operated the Powerton Station since 1999.** JAS No. 18.

151. A timeline of events for the Powerton Station can be found at MWG Ex. 664.

152. The Powerton Station began operations as a coal-fired power-plant with four coal-burning units in the late 1920s. MWG Ex. 901, p. 26 (Seymour Presentation, SOF Attachment 1); MWG Ex. 664, p. 1 (Powerton Timeline of Events); 1/30/18 Tr. p. 51:21-22 (Testimony of Race).

153. In the early 1970’s Units 5 and 6, came on line and the original four units were retired. MWG Ex. 664, p. 1 (Powerton Timeline of Events); 1/30/18 Tr. p. 51:23-52:3 (Testimony of Race).

154. Units 5 and 6 are currently operating. 1/30/18 Tr. p. 52:14-15 (Testimony of Race).

155. The Powerton Station is in an industrial and agricultural area and is bordered to the north by the Illinois River. MWG Ex. 901, p. 27 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 68:5-8 (Testimony of Kelly); MWG Ex. 667, p. 10 (Powerton Timeline of Events).

156. The geology below the Powerton Station includes sands and gravels of the Henry Formation. MWG Ex. 621, MWG13-15\_297 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

157. There are two groundwater flow units at the Powerton Station that are distinct and hydraulically connected. MWG Ex. 901, pp. 34 (Seymour Presentation, SOF Attachment 1); 2/2/18 Tr. p. 67:14-68:21 (Testimony of Seymour); MWG Ex. 2600, MWG13-15\_62539-62540 (2Q2017 Powerton Quarterly Monitoring Report); 2/1/18 Tr. p. 129:14-18 (Testimony of Gnat).

158. The first groundwater unit is a silty-clay unit, that is not a continuous unit, and the groundwater flows from east to west. MWG Ex. 901, pp. 34 (Seymour Presentation, SOF Attachment 1); 2/2/18 Tr. p. 68:2-7 (Testimony of Seymour); 2/1/18 Tr. p. 129:18-21 (Testimony of Gnat); Ex. 2600, MWG13-15\_62539; MWG Ex. 901, p. 34 (Seymour Presentation, SOF Attachment 1).

159. The second unit is a sandy gravel unit, which is larger and generally flows in a northerly direction towards the Illinois River. MWG Ex. 901, pp. 35 (Seymour Presentation, SOF Attachment 1); 2/2/18 Tr. p. 68:8-21 (Testimony of Seymour); Comp. Ex. 2600, MWG13-15\_62540 (2Q2017 Powerton Quarterly Monitoring Report); 2/1/18 Tr. pp. 132:19-133:9 (Testimony of Gnat); MWG Ex. 901, p. 35 (Seymour Presentation, SOF Attachment 1).

160. In winter, MWG applies a significant amount of salt for safety throughout the Powerton Station. 1/31/18 Tr. p. 140:11-18 (Testimony of Kelly).

161. **There are no potable wells downgradient of the Powerton ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/30/18 Tr. p. 79:11-20 (Testimony of Race); 2/1/18 Tr. p. 278:13-23 (Testimony of Seymour); 2/2/18 Tr. p. 79:10-13 (Testimony of Seymour); MWG Ex. 621, MWG13-15\_299.

### **1.Powerton Station at Time MWG Began Operations**

162. Before MWG began operating the Powerton Station in 1999, the prior owner conducted due diligence, including a Phase I and Phase II environmental site assessments of the Powerton Station. MWG Ex. 632 (Powerton ENSR Phase I 1998) and Comp. Ex. 17D (Powerton ENSR Phase II 1998); 10/23/18 Tr. p. 22-132:5 (Testimony of Race); 1/30/18 Tr. p. 52:19-54:23 (Testimony of Race).<sup>5</sup>

163. When the prior owner's consultant was conducting the Phase I at the Powerton Station in 1999, they observed that there was "no evidence of landfilling." 1/30/18 Tr. p. 53:21-23 (Testimony of Race) MWG Ex. 632, p. MWG13-15\_8516 (Powerton ENSR Phase I 1998).

164. The Phase II for the Powerton Station concludes "There is no requirement under Illinois environmental law to further investigate or remediate this property." Comp. Ex. 17D,

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<sup>5</sup> Pursuant to Hearing Officer Order of January 11, 2018, the admissible portions of the Phase I and Phase II reports are limited to specific questions raised during the Hearing.

MWG13-15\_3277 (Powerton ENSR Phase I 1998); 10/23/17 Tr. p. 229:18-11 (Testimony of Race).

165. As MWG Director of Federal Environmental Programs Ms. Race testified, this was a portion of the Powerton Phase II that was relevant to the work she was doing with respect to the Stations and the ash ponds. 10/23/17 Tr. p. 230:7-12 (Testimony of Race).

## **2.Powerton Ash Basins**

166. The Powerton Station is regulated by NPDES Permit No. IL0002232, and the ash ponds are operated pursuant to the limits, terms, and conditions in the NPDES permit. MWG Ex. 634 (Powerton NPDES Permit); 1/30/18 Tr. p. 65:13-66:24 (Testimony of Seymour).

167. A list and description of the Powerton active ash basins -- the Ash Surge Basin, the Bypass Basin, the Secondary Ash Basin, and the Metal Cleaning Basin -- is at p. 28 of the Seymour Presentation which is included as Attachment 1 to this SOF. MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

168. The primary ash basin at Powerton for the collection of ash is the Ash Surge Basin. 1/31/18 Tr. p. 75:20-23 (Testimony of Kelly); Ex. 667, p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 27-28 (Seymour Presentation, SOF Attachment 1).

169. **The Powerton Ash Surge Basin was built in 1978 with a poz-o-pac liner on the bottom and Hypalon liner on the sides.** JAS No. 20, 1/30/18 Tr. p. 58:8-11; MWG Ex. 901, p. 27-28.

170. The poz-o-pac liner under the Powerton Ash Surge Basin is at least 12 inches thick. 1/31/18 Tr. p. 77:15-17 (Testimony of Kelly); MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1); MWG Ex. 500 (Pond Characterizations for MWG Stations).

171. The pond bottom elevation of the Powerton Ash Surge Basin is 452 feet. MWG Ex. 901, p. 30 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-4 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

172. The average groundwater elevation of the groundwater under the Powerton Ash Surge Basin is 447 feet. MWG Ex. 901, p. 30 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-4 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

173. The purpose of the Powerton Ash Surge Basin is to settle out the bottom ash and hold the ash that is processed in the facility. 1/30/18 Tr. p. 58:13-18 (Testimony of Race), 1/31/18 Tr. p. 75:16-19 (Testimony of Kelly).

174. MWG removes the bottom ash when the Powerton Ash Surge Basin is full of ash, which is generally every six to eight years, but could be less often as the Station operates less. 1/30/18 Tr. p. 58:22-59:6 (Testimony of Race); 1/31/18 Tr. p. 78:2-3 (Testimony of Kelly); MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

175. **In 2013, MWG relined the Powerton Ash Surge Basin with a 60 mil HDPE liner.** JAS No. 21.

176. The liner system installed in the Powerton Ash Surge Basin is: 12-inches poz-o-pac, geotextile, HDPE, geotextile, 12-inches sand and 6-inches limestone warning layer. MWG Ex. 901, pp. 30 (Seymour Presentation, SOF Attachment 1); MWG Ex. 703 (Construction Documentation for the Ash Surge Basin).

177. The most recent time that the Powerton Ash Surge Basin was emptied was in 2013 before MWG relined the basin. 1/31/18 Tr. pp. 81:8-10, 92:11-13 (Testimony of Kelly).

178. No vehicles have been in the Powerton Ash Surge Basin since 2013. 1/31/18 Tr. p. 92:11-17 (Testimony of Kelly).

179. **The Powerton Bypass Basin receives ash when Powerton is emptying the Ash Surge Basin.** JAS No. 30.

180. The Powerton Bypass Basin is not used often. 1/30/18 Tr. p. 59:17-21 (Testimony of Race).

181. **The Powerton Bypass Basin had a poz-o-pac liner on the bottom and Hypalon liner on the sides.** JAS No. 28.

182. The Powerton Bypass Basin was lined with a 12-inch-thick poz-o-pac liner MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 99:3-6 (Testimony of Kelly); (MWG Ex. 500) (Pond Characterizations for MWG Stations).

183. The pond bottom elevation of the Powerton Bypass Basin is 459 feet. MWG Ex. 901, p. 31 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, p. 5-7 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

184. The average groundwater elevation of the groundwater under the Powerton Bypass Basin is 450.5 feet. MWG Ex. 901, p. 31 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, p. 5-7 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

185. Because the Powerton Bypass Basin is only used when MWG is emptying the Ash Surge Basin, it is emptied every six to eight years. 1/31/18 Tr. p. 99:7-16 (Testimony of Kelly); MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

186. **In 2010, MWG relined the Powerton Bypass Basin with a 60 mil HDPE liner.** JAS No. 29.

187. The liner system installed in the Powerton Bypass Basin is: 12-inches poz-o-pac, geotextile, HDPE, geotextile, 12-inches sand and 6-inches limestone warning layer. MWG Ex. 901, pp. 28, 31 (Seymour Presentation, SOF Attachment 1); MWG Ex. 706 (Construction Documentation for the Bypass Basin).

188. **Since before 1999, the Powerton Secondary Ash Settling Basin had a Hypalon liner.** JAS No. 22; MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

189. **The Powerton Secondary Ash Settling Basin is used as a finishing pond.** JAS No. 23; 1/31/18 Tr. p. 126:21-127:3 (Testimony of Kelly).

190. The pond bottom elevation of the Powerton Secondary Ash Basin is 440 feet. MWG Ex. 901, p. 32 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-5 (Seymour Expert Report); 2/2/18 Tr. p. 59:4-7 (Testimony of Seymour).

191. The average groundwater elevation of the groundwater under the Powerton Secondary Ash Basin is 441.5 feet. MWG Ex. 901, p. 32 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-5 (Seymour Expert Report); 2/2/18 Tr. p. 59:4-7 (Testimony of Seymour).

192. The Powerton Secondary Ash Settling Basin receives *de minimis* ash from the ash surge basin. 1/31/18 Tr. p. 127:4-6 (Testimony of Kelly); MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

193. The Powerton Secondary Ash Basin had never been emptied before it was cleaned out in preparation for the relining project in 2013. 1/31/18 Tr. p. 127:17-128:2 (Testimony of Kelly); 1/30/18 Tr. p. 60:15-19 (Testimony of Race).

194. The Powerton Secondary Ash Basin had never been dredged because there had never been a need for it, and there was no indication that any material needed to be cleaned out. 1/31/18 Tr. p. 128:8-15 (Testimony of Kelly).

195. **In 2013, MWG relined the Powerton Secondary Ash Settling Basin with a 60 mil HDPE liner.** JAS No. 24.

196. The liner system installed in the Powerton Secondary Ash Basin is: a prepared sub-grade and underdrain system, geotextile, and HDPE. MWG Ex. 901, pp. 32 (Seymour Presentation, SOF Attachment 1); MWG Ex. 710 (Construction Documentation of the Secondary Ash Basin Liner Replacement).

197. When the Station emptied the Powerton Secondary Ash Basin in 2013 there was “less than a foot of material and it really wasn’t ash.” 1/31/18 Tr. p. 127:17-128:2 (Testimony of Kelly).

198. The Powerton Secondary Ash Basin performs the same function as the Joliet 29 Ash Pond 3 and does not accumulate ash. 1/30/18 Tr. p. 102:2-12 (Testimony of Race).

199. The Powerton Secondary Ash Basin is not subject to the CCR rules for the same reasons as the Joliet 29 Ash Pond 3, as it was a finishing pond and did not accumulate ash. 1/30/18 Tr. p. 102:2-12 (Testimony of Race).

200. The Powerton Metal Cleaning Basin is not a part of the ash sluice system and instead is used during outages in the facility at the Station as a temporary lay-down area for ash cleaned out of the boiler tubes. 1/31/18 Tr. p. 115:3-14 (Testimony of Kelly).

201. **The Powerton Metal Cleaning Basin was constructed in 1978 with a 12-inch poz-o-pac liner on the bottom and a Hypalon liner on the sides.** JAS No. 25; MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 16-22 (Testimony of Kelly).

202. The pond bottom elevation of the Powerton Metal Cleaning Basin is 457.5 feet. MWG Ex. 901, p. 29 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-6 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

203. The average groundwater elevation of the groundwater under the Powerton Metal Cleaning Basin is 445 feet. MWG Ex. 901, p. 29 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-6 (Seymour Expert Report); 2/2/18 Tr. p. 56:2-57:14 (Testimony of Seymour).

204. **The ash in the Powerton Metal Cleaning Basin is dredged approximately on an annual basis.** JAS No. 27; 1/31/18 Tr. p. 117:6-7 (Testimony of Kelly); MWG Ex. 901, p. 28 (Seymour Presentation, SOF Attachment 1).

205. **In 2010, MWG relined the Powerton Metal Cleaning Basin with a 60 mil HDPE liner.** JAS No. 26; MWG Ex. 901, pp. 28-29 (Seymour Presentation, SOF Attachment 1).

206. The liner system installed in the Powerton Metal Cleaning Basin is: 12-inches poz-o-pac, geotextile, HDPE, geotextile, 12-inches sand and 6-inches limestone warning layer. MWG Ex. 901, pp. 29 (Seymour Presentation, SOF Attachment 1); MWG Ex. 706 (Construction Documentation for the Metal Cleaning Basin).

a. Powerton Bottom Ash Analysis

207. In May 2004, MWG analyzed the bottom ash at the Powerton Station for its leachability using the ASTM D3987-85 method as required under the Illinois EPA Act. 1/30/18 Tr. p. 74:7-76:14 (Testimony of Race); MWG Ex. 635 (2004 Limestone Basin and Bottom Ash Sampling).

208. The results of the bottom ash sampling showed that the levels of the metals in the coal ash were primarily non-detect, and only barium, boron and zinc were detected. 1/30/18 Tr. p. 74:11-19 (Testimony of Race); MWG Ex. 635, p. MWG 13-15\_11344 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

209. The concentrations of boron, barium, and zinc in the bottom ash were below the Illinois Class I groundwater standards. 1/30/18 Tr. p. 74:11-19 (Testimony of Race), MWG Ex. 635, p. MWG 13-15\_11344 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).



210. In March 2007, MWG analyzed the bottom ash at the Powerton Station for its leachability using the ASTM D3987-85 method as required under the Illinois EPA Act. 1/31/18 Tr. p. 72:18-74:11 (Testimony of Kelly); MWG Ex. 700 (2007 Analytical Report of Bottom Ash).

211. The results of the bottom ash showed that the levels of the metals in the coal ash were primarily non-detect, and only barium was detected. 1/31/18 Tr. p. 74:1-11 (Testimony of Kelly); MWG Ex. 635, p. MWG 13-15\_10951 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

212. The concentration of barium in the bottom ash was below the Illinois Class I groundwater standards. MWG Ex. 635, p. MWG 13-15\_10951 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

b. Inspections of Ash Ponds at Powerton

213. Even before MWG began operating the Powerton Station, Station operators inspected the ash ponds at least three times per days a part of the rounds made during each shift. 1/31/18 Tr. p. 145:2-23 (Testimony of Kelly).

214. That practice of regular inspections continued when MWG took over operations at Powerton in 1999. 1/31/18 Tr. p. 145:18-146:3 (Testimony of Kelly).

215. If an operator were to see an issue with the pond liner, the operator would contact a supervisor or directly contact Powerton Chemical Specialist, Mr. Kelly, the Station Chemical Specialist, and notify him of the issue. 1/31/18 Tr. p. 146:4-11 (Testimony of Kelly).

216. Upon notification, Powerton Chemical Specialist Mr. Kelly would make arrangements for a repair to the pond liner, contacts the contractor who conducts the repair, and it typically takes one to two weeks to conduct a repair. 1/31/18 Tr. p. 146:4-145:5 (Testimony of Kelly).

217. Tears in the pond liners in the basins did not occur often and typically occurred at the very top of the basins, above the water line. 1/31/18 Tr. p. 146:12-21 (Testimony of Kelly).

218. Powerton Chemical Specialist, Mr. Kelly, has never been told not to fix a tear, nor has he ever decided not to fix a tear. 1/31/18 Tr. p. 147:6-12 (Testimony of Kelly).

c. Powerton Ash Removal Process from Active Ash Basins

219. When the Powerton Ash Surge Basin, Bypass Basin, or the Metal Cleaning Basin are dredged, trained MWG operators operate the machinery inside the basin to remove the ash. 1/31/18 Tr. pp. 78:4-10, 99:17-20, 116:15-22 (Testimony of Kelly).

220. Before the dredging begins, the Powerton Station has a meeting to discuss the project and lay out the safety objectives, including be aware of the liner to avoid any damage to the liner. 1/31/18 Tr. p. 99:23-100:2, 116:15-22 (Testimony of Kelly).

221. Following the meeting, the Powerton Station dewateres the basin, and then the operators enter the basin to move the material and stock pile it to let more water to fall out of the material such that the material is as dry as possible before transport. 1/31/18 Tr. pp. 78:24-79:5, 100:3-6, 116:22-117:2 (Testimony of Kelly).

222. The trucks do not drive into the Powerton Bypass Basin or the Metal Cleaning Basin because they are not big enough, but instead stay on the top of the road or on the ramp. 1/31/18 Tr. pp. 100:12-17 (Testimony of Kelly).

223. The equipment the operators use in the Powerton Ash Surge Basin are end loaders with buckets and rubber tires. 1/31/18 Tr. pp. 79:6-12, 100:7-11, 116:22-117:5 (Testimony of Kelly).

224. Powerton Chemical Specialist, Mr. Kelly, described the operators as “careful,” “very methodical and very particular about what they’re doing, yes” 1/31/18 Tr. pp. 79:13-21, 117:8-15 (Testimony of Kelly).

225. When MWG is dredging a pond, the pond is not in service, which means there is no water in the basin. 1/31/18 Tr. p. 80:13-21 (Testimony of Kelly).

226. Once MWG has completed removing the ash from a basin, MWG inspects the basin to verify that the ash was removed safely. 1/31/18 Tr. p. 81:2-7, 100:18-101:1 (Testimony of Kelly)

227. Once the inspection is completed, MWG puts the basin back in service. 1/31/18 Tr. p. 81:2-7, 100:18-101:1 (Testimony of Kelly).

228. When the ash is removed from the basins, the Powerton ash is beneficially used for mine reclamation at the Buckheart Mine. 1/31/18 Tr. p. 71:7-11, 101:2-5, 116:10-15 (Testimony of Kelly).

229. If there is an incident related to the liner during a Powerton basin clean out, the operators stop their work and either call their supervisor or call, Powerton Chemical Specialist, Mr. Kelly, to inspect the damage, see the work required to conduct a repair, and schedule a repair. 1/31/18 Tr. pp. 80:1-8, 101:6-10 (Testimony of Kelly).

230. After the inspection of the tear, Powerton Chemical Specialist, Mr. Kelly contacts Clean Air and Water, the company that installed the liners, to conduct the repair, and typically it takes about a week to two weeks to complete the repair. 1/31/18 Tr. pp. 80:9-12, 80:22-81:1, 101:11-13 (Testimony of Kelly).

d. Other Powerton Basins

231. The Powerton Station has other basins that are unrelated to the current coal ash management at the Station. 1/31/18 Tr. p. 138:5-11 (Testimony of Kelly), MWG Ex. 667 p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

232. The Powerton East Yard Run-off Basin, located southwest of the Ash Surge Basin, is not a part of the ash sluicing flow system, is not used for ash storage, nor does it receive ash.

1/31/18 Tr. p. 138:5-11 (Testimony of Kelly); MWG Ex. 667 p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

233. The Powerton East Yard Run-off Basin is used for stormwater runoff from the east half of the property at the Station. 1/31/18 Tr. p. 138:12-14 (Testimony of Kelly).

234. In 2015, Illinois EPA concluded that the chlorides found in the East Yard Runoff Basin at Powerton was not due to coal ash, but from “deicing agents” applied at the Station. 1/31/18 Tr. p. 139:9-24 (Testimony of Kelly); MWG Ex. 711 (Modification of the Powerton CCA regarding the East Yard Run-off Basin).

**235. The Limestone Basin at the Powerton Electric Generating Station is lined on the bottom with a poz-o-pac liner.** MWG Ex. 667, p. 15, JAS No. 31.

236. Before 2013, the Powerton Limestone Basin had a Hypalon liner on the sides. 1/31/18 Tr. p. 144:12-145:1 (Testimony of Kelly).

237. The Powerton Limestone Runoff Basin is a historic basin that has not been used as part of the Station operations since 1989. 1/31/18 Tr. p. 144:2-6 (Testimony of Kelly).

238. The Powerton Limestone Basin been used to temporarily store coal ash when equipment changes occurred at the Station. 1/30/18 Tr. p. 70:2-7 (Testimony of Race); 1/31/18 Tr. p. 144:13-24 (Testimony of Kelly).

239. In 2004, there was coal ash in the Powerton Limestone Basin from when equipment was taken out of service. 1/30/18 Tr. p. 70:2-71:4 (Testimony of Race); MWG Ex. 635 (2004 Limestone Basin and Bottom Ash Sampling).

240. MWG analyzed the material in the Powerton Limestone Basin in 2004 for its leachability using the ASTM D3987-85 method as required under the Illinois EPA Act. 1/30/18 Tr. p. 70:2-71:4 (Testimony of Race).

241. The results of the ash sampling in the Powerton Limestone Basin showed that the levels of the metals in the coal ash were primarily non-detect, except for chromium and selenium which were below groundwater standards. 1/30/18 Tr. p. 71:14-22 (Testimony of Race), MWG Ex. 635, MWG 13-15\_11341 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Seymour).

242. In particular, the levels for boron, barium, sulfate and manganese in the coal ash were below the Illinois Class I groundwater standards. 1/30/18 Tr. p. 71:14-22 (Testimony of Race); MWG Ex. 635, p. MWG 13-15\_11341 (2004 Limestone Basin and Bottom Ash Sampling); MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1); 2/1/18 Tr. p. 276:3-18 (Testimony of Seymour).

243. Since 2013, the Limestone Runoff Basin has been empty. 1/31/18 Tr. p. 144:7-145:1. (Testimony of Kelly).

244. There is an inactive ash area on the north side of the Powerton Station called the Former Ash Basin. 1/31/18 Tr. p. 141:19-23 (Testimony of Kelly); MWG Ex. 667, p. 15 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 38 (Seymour Presentation, SOF Attachment 1).

245. Since MWG began operations at the Powerton Station in 1999, ash was not routed to the Former Ash Basin. 1/31/18 Tr. p. 142:10-13 (Testimony of Kelly).

246. The Powerton Former Ash Basin area is a part of the Station's NPDES permit as an emergency overflow for the Ash Surge Basin. 1/30/18 Tr. p. 61:14-17 (Testimony of Race); 1/31/18 Tr. p. 142:14-18 (Testimony of Kelly).

247. In extreme cases, water from the Powerton Ash Surge Basin may flow to the Former Ash Basin, which has only happened twice since 2008. 1/31/18 Tr. p. 143:19-144:2 (Testimony of Kelly).

248. **Monitoring wells MW-2 through MW-5 at Powerton are located downgradient and monitoring well MW-1 is side-gradient to the Former Ash Basin.** MWG Ex. 667, p. 11 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, pp. 33, 38 (Seymour Presentation, SOF Attachment 1); 10/27/17 Tr. p. 205:20-206:9 (Testimony of Kunkel).

249. The Second Quarter 2017 ("2Q2017") sampling results for the Powerton Station has the results for the most recent eight quarters, from May 2015 through May 2017. Comp. Ex. 2600 (2Q2017 Powerton Quarterly Monitoring Report); 10/27/17 Tr. p. 204:9-210:22 (Testimony of Kunkel).

250. **Complainants' expert, Dr. James Kunkel ("Kunkel"), agreed that groundwater monitoring results for the wells downgradient of the Powerton Former Ash Basin all had concentrations of boron, sulfate, and manganese below the Class I groundwater standard.** 10/27/17 Tr. p. 210:16-22 (Testimony of Kunkel).

251. Seymour made the same observation, stating that the downgradient wells all had concentrations less than the Illinois Class I groundwater standard. 2/1/18 Tr. p. 277:1-13, 2/2/18 Tr. p. 70:17-71:22 (Testimony of Seymour).

### **C. Waukegan Station**

252. **MWG owns and operates the Waukegan Electric Generating Station ("Waukegan") located in Waukegan, Lake County, Illinois.** JAS No. 32.

253. **MWG has owned and operated the Waukegan Station since 1999.** JAS No. 33.

254. A timeline of events for the Waukegan Station can be found at MWG Ex. 665.

255. The groundwater at the Waukegan Station generally flows to the east, southeast, but there is some divergence of the groundwater flow that goes towards the north, northwest towards the intake channel of Lake Michigan. MWG Ex. 901, p. 49 (Seymour Presentation, SOF

Attachment 1); MWG Ex. 813 (Waukegan 2017 Groundwater Flow Map); 2/1/18 Tr. p. 154:22-155:9 (Testimony of Gnat).

256. Historical information shows that the Waukegan Station was built in about 1923 and has been a power plant ever since. MWG Ex. 665, p. 1 (Waukegan Power Station Timeline of Events); MWG Ex. 901, p. 44 (Seymour Presentation, SOF Attachment 1); 1/30/18 Tr. p. 121:11-15 (Testimony of Race).

257. Currently, there are two coal-fired electricity generating units operating at Waukegan which began operating in 1958 and 1962. MWG Ex. 665, p. 1 (Waukegan Timeline of Events); 1/30/18 Tr. p. 121:16-122:8 (Testimony of Race).

258. The area around the Waukegan Station has historically been dominated by industries since at least the 1930s, including the Johns Manville Company, an active Superfund Site, to the north, the Griess-Pfleger Tannery and the General Boiler Site to the west, and the North Shore Sanitary District to the south. 1/31/18 Tr. p. 223:10-21 (Testimony of Kelly); MWG Ex. 667, p. 25 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

259. There is a former North Shore Gas North Plant, manufactured gas plant further southwest of the property and the Johnson Marine Plant, another active Superfund Site further south. 1/31/18 Tr. p. 223:10-21 (Testimony of Veenbaas); 2/1/18 Tr. p. 162:13-163:8 (Testimony of Gnat); MWG Ex. 667, p. 27 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County) and MWG Ex. 807 (Waukegan Aerial Map of Historic Areas).

260. There have been active cleanup operations and an arsenic plume at the Johns Manville Superfund Site. 1/30/17 Tr. p. 123:17-24-124:2 (Testimony of Race).

261. In winter, salt is placed on the roads for safety at the Waukegan Stations. 1/31/18 Tr. p. 240:16-241:12 (Testimony of Veenbaas).

262. **There are no potable wells downgradient of the Waukegan ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/30/18 Tr. p. 157:5-19 (Testimony of Race); 2/1/18 Tr. p. 278:13-23 (Testimony of Seymour); 2/2/18 Tr. p. 105:18-21 (Testimony of Seymour).

### **1. Griess-Pfleger Tannery Site and General Boiler Property**

263. The properties directly west of the Waukegan Station are the Griess-Pfleger Tannery Site and the General Boiler Property and are in the Illinois EPA Sites Remediation Program. MWG Ex. 667, p. 25 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 56-57 (Seymour Presentation, SOF Attachment 1); MWG Ex. 807 (Waukegan Aerial Map of Historic Areas); 1/30/18 Tr. p. 124:16-125:3 (Testimony of Race)

264. The General Boiler Property has a number of contaminants due to historical use, and the site is involved in the Illinois EPA Site Remediation Program. 1/30/18 Tr. p. 124:22-125:3 (Testimony of Race).

265. An investigation of the General Boiler Property showed that the property contained arsenic above remediation benchmarks and contains a fly ash fill area. MWG Ex. 623, p. MWG13-15\_472 (Powerton Supplemental Response to Illinois EPA VN).

266. The former Griess-Pfleger Tannery was built in 1917 and operated as a leather tanning facility from 1918 through 1973. MWG Ex. 643, p. MWG13-15\_47089 (Remedial Investigation Report – Phase I for the Former Griess-Pfleger Tannery Site).

267. The chemical tanning process at the former Griess-Pfleger Tannery used the chromium tanning process, which consisted of nine steps and involved numerous chemicals including borax. MWG Ex. 643, p. MWG13-15\_47089 (Remedial Investigation Report – Phase I for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. p. 130:2-17 (Testimony of Race).

268. Soil borings from the Griess-Pfleger Tannery site investigation showed that there was some coal and angular slag in the soil borings. MWG Ex. 643, p. MWG13-15\_47180-47181 (Remedial Investigation Report – Phase I for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. p. 131:6-134:2 (Testimony of Race).

269. A groundwater investigation of the Griess-Pfleger Tannery site showed that groundwater containing arsenic exceeding the Illinois Class I standard was migrating onto the Waukegan Station. MWG Ex. 644, p. MWG13-15\_46627 (Phase II Remedial Investigation Report for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. pp. 135:23-136:18, 138:3-139:3 (Testimony of Race).

270. The groundwater investigation at the Griess-Pfleger Tannery site showed other contaminants in the groundwater were also above the Class I standard, including chromium, cadmium, mercury, lead, manganese, iron and total dissolved solids. MWG Ex. 644, p. MWG13-15\_46629-46630 (Phase II Remedial Investigation Report for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. p. 136:19-138:1 (Testimony of Race).

271. A 1998 environmental site assessment of the Waukegan Station identified a plume of arsenic from the Griess-Pfleger Tannery site onto the Waukegan Station. Ex. 19D, p. MWG13-15\_45800 (Waukegan 1998 ENSR Phase II); 1/30/18 Tr. p. 155:10-21 (Testimony of Race).<sup>6</sup>

272. Upon purchase of the Waukegan Station, MWG was informed that “There is no requirement under Illinois environmental law to further investigate or remediate this property.” Comp.’s Ex. 19D, p. MWG13-15\_45801 (Waukegan 1998 ENSR Phase II).

273. In response to the arsenic contamination, the owner of the Griess-Pfleger Tannery site removed impacted soil and instituted use restrictions on the Griess-Pfleger Tannery site, and on the MWG property, to prevent any use of the groundwater, but was not required to treat the groundwater. MWG Ex. 645, p. MWG13-15\_46255-46256 (Remediation Objectives Report for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. p. 141:23-142:12 (Testimony of Race).

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<sup>6</sup> Pursuant to Hearing Officer Order of January 11, 2018, the admissible portions of the Phase I and Phase II reports are limited to specific questions raised during the Hearing.

274. **In 2003, the Griess-Pfleger property owner established an Environmental Land Use Control (“ELUC”) on the western side of the Waukegan Station property.** JAS No. 38.MWG Exs. 646 (ELUC established on a portion of the Waukegan Station); 667, p. 22 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. p. 142:23-144:4 (Testimony of Race).

275. **The ELUC was established to protect against “exposure to contaminated soil or groundwater or both, that may be present on the property as a result of past industrial activities on adjacent property known as the Griess-Pfleger Tannery Site.”** *Environmental Land Use Control, filed with Lake County, IL Recorder, June 6, 2003.* JAS No. 39.

276. The Griess-Pfleger Tannery ELUC covers a portion of a grassy area that lies to the west of the Waukegan ponds; no agency has requested further investigation of the grassy area. 1/30/18 Tr. pp. 159:22-160:10, 160:15-21 (Testimony of Race).

277. The owner of the Griess-Pfleger Tannery site continues to sample the groundwater on the tannery property and on the Waukegan Station on a semiannual basis in groundwater wells installed within the area of the ELUC (“ELUC wells”). 1/30/18 Tr. p. 146:9-23 (Testimony of Race); Comp. Ex. 39F, 40F, 42F, 42.5F (Tannery ELUC Annual Groundwater Results).

278. MWG reviewed the groundwater results from the ELUC wells and concluded that the arsenic, iron, manganese, and TDS concentrations in the ELUC wells on the Waukegan Station were higher than the concentrations predicted in the modeling to establish the ELUC. Comp. Ex. 41F, p. MWG13-15\_46117-46118 (Review of Tannery ELUC Groundwater Data); 1/30/18 Tr. p. 148:13-149:23 (Testimony of Race).

279. The 2016 groundwater results from the ELUC wells show that there continues to be contamination from the tannery site migrating onto the Waukegan Station. MWG Ex. 901, p. 56-57 (Seymour Presentation, SOF Attachment 1); Comp. Ex. 42.5F (2016 Tannery ELUC Annual Groundwater Results).

280. In 2016, the concentration of arsenic in the ELUC wells on the Waukegan Station property, downgradient of the tannery property, remained above the Illinois Class I standard and was not decreasing. Comp. Ex. 42.5F, p. MWG13-15\_61554, 61562 (2016 Tannery ELUC Annual Groundwater Results); 1/30/18 Tr. p. 151:15-24, 152:18-153:1 (Testimony of Race).

281. In 2016, the levels of manganese in the ELUC wells continue to be above the Class I groundwater standard. Comp. 42.5F, p. MWG13-15\_61562 (2016 Tannery ELUC Annual Groundwater Results); 1/30/18 Tr. p. 153:8-154:4 (Testimony of Race).

## **2.Waukegan Ash Ponds**

282. There are two ash ponds at the Waukegan Station located on the southern side of the Station – the East Pond and the West Pond. MWG Ex. 901, p. 45, 46 (Seymour Presentation, SOF Attachment 1); MWGW Ex. 667, p. 20 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County).

283. A list and description of the Waukegan ash ponds is at p. 46 of the Seymour Presentation which is included as Attachment 1 to this SOF. MWG Ex. 901, p. 26 (Seymour Presentation, SOF Attachment 1).

284. **The East Pond and West Pond at Waukegan were originally constructed in 1977 with Hypalon liners.** JAS No. 34; MWG Ex. 901, p. 45, 46.

285. **In 2003, MWG relined the Waukegan East Pond with a 60 mil HDPE liner.** JAS No. 35; MWG Ex. 901, p. 46 (Seymour Presentation, SOF Attachment 1).

286. **In 2004, MWG relined the Waukegan West Pond with a 60 mil HDPE liner.** JAS No. 36; MWG Ex. 901, p. 46 (Seymour Presentation, SOF Attachment 1).

287. The Waukegan East Pond and West Pond are “U-shaped”. 1/31/18 Tr. p. 225:22-226:4 (Testimony of Veenbaas); MWG Ex. 901, p. 45 (Seymour Presentation, SOF Attachment 1).

288. The Waukegan Station is regulated by NPDES Permit No. IL0002259, and the ash ponds are permitted pursuant to that permit. MWG Ex. 642 (Waukegan NPDES Permit); 1/30/18 Tr. p. 120:4-18 (Testimony of Race).

289. Since MWG’s purchase, only bottom ash is placed into the Waukegan East Ash Pond or West Ash Pond. 10/24/17 Tr. pp. 39:3-5, 47:4-7 (Testimony of Lux); 1/31/18 Tr. p. 245:11-14 (Testimony of Veenbaas).

290. The pond bottom elevation of the Waukegan East Ash Pond and West Ash Pond is 585.5 feet. MWG Ex. 901, p. 47 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-8, 5-9 (Seymour Expert Report); 2/2/18 Tr. p. 84:16-85:7 (Testimony of Seymour).

291. The average groundwater elevation of the groundwater under the Waukegan East Ash Pond is 582 feet. MWG Ex. 901, p. 47 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-8 (Seymour Expert Report); 2/2/18 Tr. p. 84:16-85:7 (Testimony of Seymour).

292. The average groundwater elevation of the groundwater under the Waukegan West Ash Pond is 583 feet. MWG Ex. 901, p. 4 (Seymour Presentation, SOF Attachment 1); MWG Ex. 903, Fig. 5-9 (Seymour Expert Report); 2/2/18 Tr. p. 84:16-85:7 (Testimony of Seymour).

293. **Only one pond at Waukegan (East Pond or West Pond) is in service at a time.** JAS No. 37.

294. The Waukegan East Pond and West Pond alternate receiving bottom ash. 10/24/17 Tr. p. 162:3-6 (Testimony of Lux); 1/30/18 Tr. p. 118:13-18 (Testimony of Race); 1/31/18 Tr. p. 230 (Testimony of Veenbaas).

295. Generally, most of the bottom ash from the Waukegan Station settles out on the influent side of the “U” of the pond. 10/24/17 Tr. p. 163:15-24 (Testimony of Lux); 1/31/18 Tr. p. 235:4-10 (Testimony of Veenbaas); 2/2/18 Tr. p. 82:15-83:4 (Testimony of Seymour).



296. The other side of the “U” of the Waukegan ponds, the effluent side, generally has water and only a little bit of bottom ash.” 10/24/17 Tr. p. 163:15-24 (Testimony of Lux); 1/31/18 Tr. p. 235:4-10 (Testimony of Veenbaas).

297. In July 2004, MWG analyzed the bottom ash at the Waukegan Station for its leachability using the ASTM D3987-85 method as required under the Illinois EPA Act. 2/1/18 Tr. p. 158:9-160:6 (Testimony of Gnat); MWG Ex. 806 (2004 Bottom Ash Sampling Results).

298. The results of the bottom ash sampling showed that the levels of the metals in the coal ash were primarily non-detect, and only barium and boron were detected below groundwater standards. MWG Ex. 806, MWG 13-15\_12812, 12815 (2004 Bottom Ash Sampling Results); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

### **3. Relining of the Waukegan Ash Ponds**

299. Before 2003, the Waukegan Station decided that the ash pond liners at the Stations should be relined as part of maintenance at the Station. 1/30/18 Tr. p. 110:22-111:1, 117:6-12 (Testimony of Race); 10/24/17 Tr. p. 167:15-22 (Testimony of Race).

300. There was no regulatory requirement to reline the ash ponds. 1/30/18 Tr. p. 117:3-5 (Testimony of Race).

301. Illinois EPA considered the Waukegan liner replacement as maintenance rather than new construction requiring a permit. 1/30/18 Tr. p. 114:20-7 (Testimony of Race).

302. After the HDPE liner was laid, MWG installed 12-inches of sand and then 6-inches of limestone on the top of the liner. MWG Ex. 901, p. 46-47 (Seymour Presentation, SOF Attachment 1); 10/24/17 Tr. p. 139:4-13 (Testimony of Lux); MWG Ex. 500 (Pond Characterizations for MWG Stations).

### **4. Dredging at the Waukegan Ash Ponds**

303. Historically, each pond at the Waukegan Station was dredged approximately every other year. MWG Ex. 901, p. 46 (Seymour Presentation, SOF Attachment 1); 10/24/17 Tr. p. 162:10-16 (Testimony of Lux); 1/30/18 Tr. p. 118:19-22 (Testimony of Race).

304. Recently the capacity factor for the Waukegan Station is down, and thus less bottom ash is generated causing a longer timeframe, approximately three to four years, between dredging. MWG Ex. 901, p. 46 (Seymour Presentation, SOF Attachment 1); 10/24/17 Tr. p. 162:17-163:4 (Testimony of Lux), 1/30/18 Tr. p. 118:22-24 (Testimony of Race); 1/31/18 Tr. p. 230:15-231:4 (Testimony of Ms. Veenbaas).

305. When the Waukegan ponds are dredged, MWG takes actions to prevent the liner from being damaged during dredging. 10/24/17 Tr. p. 130:16-20 (Testimony of Lux).

306. Waukegan, Engineering Manager, Mr. Lux testified that the liners in the Waukegan ponds are “a high priority.” 10/24/18 Tr. p. 128:13-14 (Testimony of Lux).

307. The first step in dredging a Waukegan pond is to dewater the pond scheduled to be dredged, such that only ash remains in that pond. 10/24/17 Tr. p. 159:8-18 (Testimony of Lux).

308. MWG has a pre-job brief with the company that conducts the dredging at Waukegan, LaFarge North America (“LaFarge”), to remind LaFarge to avoid the liner in the ash pond. 10/24/17 Tr. p. 130:23-131:3 (Testimony of Lux).

309. The dredging contractor is instructed to move methodically and carefully while operating the equipment in the pond to ensure that the liner in the ash pond is not teared. 10/24/17 Tr. p. 166:20-167:2 (Testimony of Lux).

310. At Waukegan, LaFarge uses front end loaders with rubber tires to remove the ash and lift the ash into trucks, which also have rubber tires. 1/31/18 Tr. p. 235:12-19 (Testimony of Veenbaas).

311. Waukegan Senior Compliance Specialist, Mr. Veenbaas testified that LaFarge was careful, methodical, and deliberate when operating its machinery in the Waukegan Ponds. 1/31/18 Tr. p. 237:1-7 (Testimony of Veenbaas).

312. Waukegan Station personnel are periodically at the ash pond being emptied during the dredging, so that if there were a tear or damage to the liner, the Station would be quickly notified to conduct the repair. 10/24/17 Tr. p. 160:5-17 (Testimony of Lux).

313. The LaFarge equipment operators do not drive quickly while maneuvering the equipment in the Waukegan ponds. 10/24/17 Tr. p. 165:21-166:2 (Testimony of Lux).

314. When dredging a pond at Waukegan, LaFarge typically leaves ash material on the slopes of the pond liner, and ash material on the bottom above the warning layer, to avoid damage to the pond liner. 10/24/17 Tr. p. 131:3-16 (Testimony of Lux); 1/31/18 Tr. p. 236:16-20 (Testimony of Veenbaas).

315. The Waukegan ash ponds also have 20-foot tall warning posts at the edge of the bottom of the pond, to help identify the bottom of the slope of the pond, which help the equipment operators stay away from the liner. 10/24/17 Tr. p. 131:23-132:11 (Testimony of Lux); 1/31/18 Tr. p. 236:11-15 (Testimony of Veenbaas).

316. Because most of the bottom ash collects on one side of the Waukegan Ash Pond in service, LaFarge is only dredging half of the pond, and at times even less. 10/24/17 Tr. p. 164:2-8 (Testimony of Lux); 1/31/18 Tr. p. 235:11-19 (Testimony of Veenbaas).

317. Both Waukegan, Engineering Manager Mr. Lux and Senior Compliance Specialist, Mr. Veenbaas, testified that they had never seen the limestone layer on the bottom of the Waukegan ash ponds, and had never seen the protective layer impacted or damaged during dredging. 10/24/17 Tr. p. 131:17-20 (Testimony of Lux); 1/31/18 Tr. pp. 235:20-23, 237:11-17 (Testimony of Veenbaas).

318. When the dredging of an ash pond is complete, one of the project managers at the Waukegan Station conducts a walkthrough of the ash pond to ensure that LaFarge did not damage

the pond liner, nor any damage to the protective layer on the bottom of the pond, or the ramp into the ash pond. 10/24/17 Tr. p. 167:3-14 (Testimony of Lux).

319. Upon confirmation that there is no damage to the ash pond liner or the ash pond, the project manager at Waukegan releases the pond for operations to put the pond back in service. 10/24/17 Tr. p. 167:11-14 (Testimony of Lux).

320. LaFarge takes the Waukegan ash off site for beneficial use. 1/31/18 Tr. p. 234:18-19 (Testimony of Veenbaas).

### **5. Inspections of the Waukegan Ash Ponds**

321. The Waukegan ponds are inspected at least once per day and often multiple times per day as part of the operators' rounds. 10/24/17 Tr. p. 126:20-127:6 (Testimony of Lux); 1/31/18 Tr. p. 237:20-23 (Testimony of Veenbaas).

322. If damage to a Waukegan pond liner is observed during one of the inspections, then the operator notifies the supervisor who notifies, Waukegan Engineering Manager, Mr. Lux to begin the repair process. 10/24/17 Tr. p. 128:2-9 (Testimony of Lux); 1/31/18 Tr. p. 228:23-239:5 (Testimony of Veenbaas).

323. Upon notification, Waukegan, Engineering Manager, Mr. Lux ensures that the water level is below the damage and retains a contractor to repair the damage including issuing a purchase order. 10/24/17 Tr. pp. 128:13-21, 143:11-144:1 (Testimony of Lux); 1/31/18 Tr. p. 239:6-8 (Testimony of Veenbaas).

324. There have been about five or six tears in the Waukegan ponds since 2003. 10/24/17 Tr. p. 145:5-8 (Testimony of Lux).

325. All of the tears in the Waukegan ponds were above the line of the water in the pond. 10/24/17 Tr. pp. 144:2-7, 145:12-17 (Testimony of Lux).

326. All of the tears in the Waukegan ponds were all repaired. 10/24/17 Tr. pp. 144:2-7, 145:9-17 (Testimony of Lux).

327. Typically, the repair contractor conducts the repair within one or two weeks. 1/31/18 Tr. p. 239:9-11 (Testimony of Veenbaas).

328. Waukegan Engineering Manager, Mr. Lux, Lux has never been told not to fix a tear in the Waukegan ponds, nor has he ever decided not to fix a tear. 10/24/17 Tr. p. 169:21-170:2 (Testimony of Lux).

329. MWG fixes all leaks and tears in the ash ponds, as quickly as possible. 1/31/18 Tr. p. 240:5-15 (Testimony of Veenbaas).

a. Berm Inspections

330. MWG has retained a contractor to annually inspect the eastern berm on the Waukegan East Ash Pond to assess the condition of the berm. 10/24/17 Tr. p. 140:1-4 (Testimony of Lux); Comp. Ex. 100 (2015 Waukegan Ash Pond Berm Inspection).

331. The inspections of the East Ash Pond berm are a regular part of ensuring the safety of the ponds at Waukegan. 10/24/17 Tr. p. 142:17-20 (Testimony of Lux).

332. Upon receipt of the East Ash Pond berm inspection report, if there are any issues noted, Waukegan Station conducts a repair. 10/24/17 Tr. p. 142:21-143:10 (Testimony of Lux).

b. 2005 Inspection of the Waukegan Ash Pond Liners

333. In 2005, MWG retained a consultant, KPRG, to conduct a third-party review and inspection of the liners in the West and East ash ponds at the Waukegan Station. 10/25/18 Tr. p. 193:10-15 (Testimony of Gnat); 10/26/18 Morning Tr. p. 52:9-20 (Testimony of Gnat); Comp. Ex. 274 (2005 Inspection of Waukegan Ash Pond Liners).

334. The purpose of the inspection was to provide observations, recommendations, or confirmation that the liner systems were installed correctly, met specifications and in good condition working. 10/25/18 Tr. p. 193:10-15 (Testimony of Gnat); 10/26/18 Morning Tr. p. 52:9-20 (Testimony of Gnat); Comp. Ex. 274 (2005 Inspection of Waukegan Ash Pond Liners).

335. A design engineer for HDPE liners, who also worked for a liner installation company, assisted in the inspection of the liners at Waukegan. 10/25/17 Tr. p. 194:16-20 (Testimony of Gnat); 10/26/18 Morning Tr. p. 52:5-8 (Testimony of Gnat).

336. The design engineer used for the Waukegan inspection had expertise in the specifications and installations of geomembrane liners. 10/25/17 Tr. p. 194:16-20 (Testimony of Gnat); 10/26/18 Morning Tr. p. 52:5-8 (Testimony of Gnat).

337. KPRG and the HDPE design engineer concluded that, with the exception of one area, the Waukegan pond liners did not appear to have suffered any tears and/or cracking or any separation or damage. They reported that there was “no evidence of displacement due to gas and/or water below the liner” and that “The liner appears to have been installed correctly and in accordance with the specifications and current industry standards.” 10/26/18 Morning Tr. p. 53:1-12 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12832 (2005 Inspection of Waukegan Ash Pond Liners).

338. The one exception in the Waukegan liner inspection report was a previously identified tear on the south side of the east ash pond; MWG was aware of the damage and had already scheduled a repair crew to conduct the repair. 10/26/17 Morning Tr. p. 53:13-24 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12832 (2005 Inspection of Waukegan Ash Pond Liners).

339. Mr. Gnat, KPRG, testified that he understood the tear identified in the report for Waukegan liner inspection was repaired. 10/26/17 Morning Tr. p. 54:1-3 (Testimony of Gnat).

340. KPRG and the HDPE design engineer observed that the “60 mil HDPE liner has been installed in accordance with the plans and specifications. The liner resin and roll properties met those listed in the specification and met typical industry standards (Section 02700 Geomembrane). The trial weld, destructive test, and non-destructive test reports available met the project specifications and typical industry standards. The HDPE panel layout also met the project specifications and typical industry standards.” 10/26/17 Morning Tr. p. 54:4-24 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12831 (2005 Inspection of Waukegan Ash Pond Liners).

341. KPRG and the HDPE design engineer concluded that the liner system in the Waukegan ponds was installed correctly and in accordance with the specifications and industry standards. 10/26/17 Morning Tr. pp. 55:8-13, 56:9-12, 58:12-17, 61:10-15 (Testimony of Gnat).

342. KPRG and the HDPE design engineer observed that wrinkles on the sides of the Waukegan pond liners were only an aesthetic issue. 10/26/17 Morning Tr. p. 55:14-56:12 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12831 (2005 Inspection of Waukegan Ash Pond Liners).

343. The wrinkles on the sides of the Waukegan pond liners were due to the deployment of excess liner material to compensate for thermal contraction in the liner when the temperature changes, and that liners without such excess material may result in tension and potentially cause stress cracks at seams. 10/26/17 Morning Tr. p. 55:14-56:12 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12831 (2005 Inspection of Waukegan Ash Pond Liners).

344. The wrinkles in the Waukegan pond liners did not affect the operation or performance of the liner, and the Waukegan pond liners were installed correctly and in accordance with the specifications and industry standards. 10/26/17 Morning Tr. p. 56:9-21 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12831 (2005 Inspection of Waukegan Ash Pond Liners).

345. KPRG and the HDPE design engineer observed other minor issues that did not impact the functioning of the pond liners, including extending the vertical battens on the East Pond, aesthetic settling at the top slope of the West pond, and a wedge weld pressure seam in the West Pond but not on the main portion of the liner. 10/26/17 Morning Tr. pp. 57:14-58:8, 58:18-59:8, 61:19-62:12 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12832 (2005 Inspection of Waukegan Ash Pond Liners).

346. Mr. Gnat, of KPRG, understood that the issues noted during the Waukegan pond liner inspection were repaired, though they did not impact the functioning of the liners. 10/26/17 Morning Tr. p. 57:14-58:8, 62:13-19 (Testimony of Gnat).

347. KPRG and the design engineer observed that the subgrade slopes under the Waukegan ponds were stable and intact. 10/26/17 Morning Tr. p. 60:3-22 (Testimony of Gnat); Comp. Ex. 274, p. MWG13-15\_12832 (2005 Inspection of Waukegan Ash Pond Liners).

## **6. Waukegan NPDES Permit Hearing**

348. On July 31, 2013, Illinois EPA held a public hearing for the MWG Waukegan Station NPDES Permit renewal. MWG Ex. 648 (Waukegan NPDES Permit Public Hearing July 31, 2013).

349. MWG Director of Federal Environmental Programs Ms. Race and Waukegan Senior Compliance Specialist, Mr. Veenbaas, were present for the entire public hearing. 1/30/18 Tr. p. 166:12-167:1 (Testimony of Race); 1/31/18 Tr. p. 241:20-242:10 (Testimony of Veenbaas).

350. Illinois EPA representatives were present at the public hearing on July 31, 2013, including Mr. Lynn Dunaway, an Illinois EPA groundwater expert, and Darin LeCrone, the head of the permit writers at Illinois EPA. 1/30/18 Tr. p. 166:6-11, 167:2-7 (Testimony of Race); 1/31/18 Tr. p. 242:11-23 (Testimony of Veenbaas).

351. At the NPDES public hearing Mr. Dunaway stated that Illinois EPA did not believe the active ash ponds at Waukegan were the source of contamination, and there appeared to be another source. MWG Ex. 648, p. MWG13-15\_29975-29976 (Waukegan NPDES Permit Public Hearing July 31, 2013); 1/30/18 Tr. p. 168:10-169:13 (Testimony of Race); 1/31/18 Tr. p. 242:24-243:9 (Testimony of Veenbaas).

352. In a January 6, 2015 email, Mr. Dunaway at Illinois EPA again stated that the additional monitoring required by the CCA's indicated that the active ash ponds at Waukegan, for which the VN was issued, were not the likely source of contaminants in the groundwater. MWG Ex. 649 (IEPA Email between J.Rabins and L.Dunaway Jan. 6, 2015); 1/30/18 Tr. p. 174:20-24 (Testimony of Race).

#### **D. Will County Station**

353. **MWG owns and operates the Will County Electric Generating Station (“Will County”) located in Romeoville, Will County, Illinois.** JAS No. 40.

354. **MWG has owned and operated the Will County Station since 1999.** JAS No. 41.

355. A timeline of events for the Will County Station can be found at MWG Ex. 665.

356. The Will County Station began operations as a coal-fired power-plant with four coal-burning units in 1955. MWG Ex. 901, p. 58 (Seymour Presentation, SOF Attachment 1); 1/30/18 Tr. p. 189:21-190:3 (Testimony of Race); MWG Ex. 666, p. 1, 4, 6 (Will County Timeline of Events).

357. **Will County has one active electric generating unit, Unit 4.** JAS No. 42.

358. The Will County Station is bounded to the north by Romeo Road, to the east by the Chicago Sanitary & Ship Canal, the south the Material Services Corp., and to the west by the Des Plaines River. 1/30/18 Tr. p. 185:2-10 (Testimony of Race); MWG Ex. 652, p. MWG13-15\_29515 (Will County ENSR Phase I 1998).<sup>7</sup>

359. There was also a former 55-gallon drum recycling facility to the west of the Will County Station, which caused groundwater and soil contamination, including volatile organic

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<sup>7</sup> Pursuant to Hearing Officer Order of January 11, 2018, the admissible portions of the Phase I and Phase II reports are limited to specific questions raised during the Hearing.

compounds, metals, various polyaromatic hydrocarbons and PCBs. 2/1/18 Tr. p. 178:11-179:5 (Testimony of Gnat).

360. The geology at Will County includes Silurian Dolomite, also known as bedrock, from the ground surface to approximately 55 feet, with shale approximately 55 to 100 feet below ground surface and limestone approximately 100 to 145 feet. MWG Ex. 621, p. MWG13-15\_296 (2009 Hydrogeological Assessment of MWG Electric Generating Stations); 1/30/18 Tr. p. 211:13-212:1 (Testimony of Race).

361. **There are no potable wells located downgradient of the Will County ash ponds.** 10/27/17 Tr. p. 181:4-13. (Testimony of Kunkel); MWG Ex. 621, MWG13-15\_298; 1/30/18 Tr. p. 212:11-213:7; 2/2/18 Tr. p. 124:21-125:3 (Testimony of Seymour).

362. The only potable wells located at the Will County Station are two MWG wells only used for the Station's purpose that are approximately 1,500 feet below ground surface downgradient of the ash ponds, and below the Maquoketa shale confining layer. MWG Ex. 621, p. MWG13-15\_298 (2009 Hydrogeological Assessment of MWG Electric Generating Stations); 1/30/18 Tr. p. 212:2-23 (Testimony of Race).

363. The groundwater flow under the ash ponds at Will County is to the west, towards the Des Plaines River. MWG Ex. 901, p. 63 (Seymour Presentation, SOF Attachment 1); 2/1/18 Tr. p. 164:18-22 (Testimony of Gnat).

364. In winters, salt is applied to area roads for safety throughout the Will County Station. 1/31/18 Tr. p. 256:24-257:11 (Testimony of Veenbaas).

365. In 2015, MWG asked its consultant, KPRG, to determine whether fill material located at the Will County Station met the requirements of CCB. Comp. Ex. 284 (Will County CCB Determination); 10/25/17 Tr. p. 217:8-218:16 (Testimony of Gnat); 10/27/17 Morning Tr. p. 63:12-64:11 (Testimony of Gnat); MWG Ex. 901, p. 59 (Seymour Presentation, SOF Attachment 1).

366. KPRG analyzed the coal ash samples at Will County using test method ASTM D3987-85. 10/25/17 Tr. p. 220:3-15 (Testimony of Gnat); Comp. Ex. 284, p. MWG13-15\_49666 (Will County CCB Determination).

367. The samples and evaluation concluded with a high degree of statistical certainty that the ash in fill at Will County met the criteria established in the Illinois Environmental Protect Act and could be beneficially used. 10/26/17 Morning Tr. p. 64:15-23 (Testimony of Gnat); MWG Ex. 284, p. MWG13-15\_49568 (Will County CCB Determination); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Seymour); MWG Ex. 901, p. 9 (Seymour Presentation, SOF Attachment 1).

### **1. Will County Station at Time MWG Took Ownership**

368. Before MWG began operating the Will County Station in 1999, the prior owner conducted due diligence, including a Phase I and Phase II environmental site assessments of the

Will County Station. Comp. Ex. 18D (Will County 1998 ENSR Phase II); MWG Ex. 652 (Will County 1998 ENSR Phase I). 10/23/17 Tr. p. 110:21-111:20 (Testimony of Race).<sup>8</sup>

369. When the prior owner's consultant was conducting the Phase I at Will County in 1999, they observed that there was "no evidence of landfilling" at the Will County Station 1/30/18 Tr. p. 185:11-17 (Testimony of Race); MWG Ex. 652, p. MWG13-15\_29515 (Will County 1998 ENSR Phase I).

370. The Phase II investigation of the Will County Station concludes that, "There is no requirement under Illinois environmental law to further investigate or remediate this property." 10/23/17 Tr. p. 230:17-231:3 (Testimony of Race); Comp. Ex. 18D, p. MWG13-15\_5723 (Will County 1998 ENSR Phase II).

371. When MWG purchased the Will County Station, the prior owner retained a tract in the middle of the Will County Station. 1/30/18 Tr. p. 187:23-188:15 (Testimony of Race); MWG Ex. 653 (Will County Alta Survey); MWG Ex. 667, p. 26 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 59 (Seymour Presentation, SOF Attachment 1).

## 2. Will County Ash Ponds

372. There are four ash ponds at the Will County Station: Ponds 1N, 1S, 2S, and 3S. 1/30/18 Tr. p. 191:3-19 (Testimony of Race); MWG Ex. 667, p. 28 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 59-60 (Seymour Presentation, SOF Attachment 1); MWG Ex. 500 (Pond Characterizations for MWG Stations).

373. **Pond 1N, 1S, 2S and Pond 3S were each originally constructed in 1977 with a poz-o-pac liner.** JAS No. 44; MWG Ex. 901, p. 60.; 1/31/18 Tr. p. 247:18-20 (Testimony of Veenbaas).

374. A list and description of the Will County Ash Basins is at p. 60 of the Seymour Presentation which is included as Attachment 1 to this SOF. MWG Ex. 901, p. 60 (Seymour Presentation, SOF Attachment 1).

375. The Will County Station is regulated by NPDES Permit No. IL0064254, and the ponds are operated pursuant to the limits, terms, and conditions in that NPDES permit. 1/30/18 Tr. p. 201:20-202:20 (Testimony of Race); MWG Ex. 655 (Will County NPDES Permit).

376. In December 2010, MWG analyzed the bottom ash from ponds at the Will County Station for its leachability using the ASTM D3987-85 method as required under the Illinois EPA Act. 10/24/17 Tr. p. 312:6-314:7 (Testimony of Maddox); MWG Ex. 512, p. MWG13-15\_14730-14731.

377. The results of the bottom ash sampling showed that the levels of the metals in the coal ash were primarily non-detect, and only boron was detected below groundwater standards.

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<sup>8</sup> Pursuant to Hearing Officer Order of January 11, 2018, the admissible portions of the Phase I and Phase II reports are limited to specific questions raised during the Hearing.



MWG Ex. 512, p. MWG 13-15\_14707 (Bottom Ash Analytical Report 2010); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

378. The concentration of boron in the bottom ash was below the Illinois Class I groundwater standards. MWG Ex. 512, p. MWG 13-15\_14707 (Bottom Ash Analytical Report 2010); MWG Ex. 901, p. 8 (Seymour Presentation, SOF Attachment 1).

a. Poz-o-pac Liners at Will County

379. When the four ash ponds at Will County were constructed, they were constructed with at least six 6-inch layers (a/k/a lifts). MWG Ex. 901, p. 60 (Seymour Presentation, SOF Attachment 1); MWG Ex. 500, p. MWG13-15\_5 (Pond Characterizations for MWG Stations); 1/30/18 Tr. p. 193:14-23 (Testimony of Race).

380. According to the original drawings of the Will County ash ponds the six 6-inch layers of the liners in the ash ponds were constructed as follows: the bottom two layers were each 6-inches of poz-o-pac; the middle two layers were rimmed with two layers of 6-inch poz-o-pac, and 12 inches of fill in the middle; and the top two layers were each 6-inches of poz-o-pac. 1/30/18 Tr. p. 196:21-197:7 (Testimony of Race); MWG Ex. 654, p. MWG13-15\_37214-37215 (Will County Ponds 1S, 2S and 3S 1977 drawings); MWG Ex. 901, p. 60 (Seymour Presentation, SOF Attachment 1); 2/2/18 Tr. p. 111:20-112:12 (Testimony of Seymour).

381. In 2013, MWG drilled two cores into the base of Pond 2S at Will County to assess the construction and condition of the poz-o-pac. MWG Ex. 510, p. MWG13-15\_34271, 34428 (Construction Documentation of the Will County Pond 2S).

382. The core sample taken from the rim, about three-feet from the edge of Pond 2S, was a total of 36-inches (six 6-inch layers) of solid poz-o-pac. MWG Ex. 510, p. MWG13-15\_34271, 34428 (Construction Documentation of the Will County Pond 2S).

383. The core sample taken in the middle of Pond 2S had layers of 12-inches of poz-o-pac (two 6-inch layers), 12-inches of sandy-clay fill with gravel, and a top layer of 12-inches of poz-o-pac (two 6-inch layers). MWG Ex. 510, MWG13-15\_34271, 34428 (Construction Documentation of the Will County Pond 2S).

384. When MWG drilled into the bottom of the poz-o-pac in Pond 2S at Will County in both cores, after drilling the furthest depth the drill could go, the drill did not reach the bottom of the third layer of poz-o-pac in either core. 1/30/18 Tr. p. 200:2-22 (Testimony of Race); MWG Ex. 510, p. MWG13-15\_34271, 34428 (Construction Documentation of the Will County Pond 2S); 10/26/17 Morning Tr. p. 68:17-18 (Testimony of Gnat).

385. The coring indicated that the poz-o-pac liners in the ash ponds at Will County are deeper than 36-inches. 1/30/18 Tr. p. 200:23-201:1 (Testimony of Race); 1/31/18 Tr. p. 26:4-11 (Testimony of Race); MWG Ex. 510, p. MWG13-15\_34271 (Construction Documentation of the Will County Pond 2S).

386. The poz-o-pac core from Pond 2S at Will County was tested and showed no evidence of discoloration through the length of the core, suggesting there were no fractures or

cracks through the poz-o-pac. Comp. Ex. 286 (Poz-o-Pac Sample Core Sample Analysis); 10/26/17 Morning Tr. p. 69:17-71:2 (Testimony of Gnat).

387. The poz-o-pac core had a permeability of  $3.12 \times 10^{-5}$ , which is a relatively low permeability, and has the density similar to concrete. Comp. Ex. 286 (Poz-o-Pac Sample Core Sample Analysis); 10/26/17 Morning Tr. p. 71:15-72:5 (Testimony of Gnat); 2/1/8 Tr. p. 241:17-22 (Testimony of Seymour).

b. Will County Pond 2S and Pond 3S

388. **There are two active ash ponds at the Will County Station: Pond 2 South (“2S”) and Pond 3 South (“3S”).** JAS 43.

389. **Only one pond (2S or 3S) at Will County is in service at a time.** JAS No. 46.

390. The ponds at Will County are used interchangeably, so that while one is in service, the other is designated for cleaning. Ex. 901, p. 60 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 247:9-11, 252:21-253:2 (Testimony of Veenbaas).

391. **Pond 2S or Pond 3S at Will County are dredged approximately on an annual basis.** JAS No. 47.

392. The bottom ash at Will County is transported off-site by a third-party contractor (LaFarge) for beneficial use. 1/31/18 Tr. p. 249:23-250:6 (Testimony of Veenbaas).

393. When LaFarge is removing ash from the Will County ash ponds, LaFarge uses front-end loaders that have rubber tires to remove the ash. 1/31/18 Tr. p. 249:13-22 (Testimony of Veenbaas).

394. When LaFarge is removing ash from the Will County ash ponds, the LaFarge front-end loaders fill the trucks that are on the ramp with bottom ash. 1/31/18 Tr. p. 250:7-12 (Testimony of Veenbaas).

395. When LaFarge removes the ash from one of the Will County ash ponds, LaFarge understands that the sides should not be touched. 1/31/18 Tr. p. 250:21-24 (Testimony of Veenbaas).

396. When LaFarge is removing the bottom ash, they work deliberately and slowly remove the ash, starting on the east side of the pond to the west. 10/24/17 Tr. p. 311:20-312:2 (Testimony of Maddox); 1/31/18 Tr. p. 251:15-22 (Testimony of Veenbaas)

397. When the ash from a Will County ash pond is removed, the ash is left on the side slopes and on the bottom. 10/24/18 Tr. p. 224:3-9 (Testimony of Maddox).

c. Will County Pond 1N and Pond 1S

398. **There are two inactive ponds at the Will County Station: Ponds 1 North (1N) and 1 South (1S).** JAS No. 48.

399. **Ponds 1N and 1S at the Will County Electric Generating Station have Poz-o-Pac liners.** JAS No. 49.

400. Ash Ponds 1N and 1S were finishing ponds and collected the bottom ash fines from Units 1 and 2 at the Will County Station. 1/31/18 Tr. p. 253:6-254:8 (Testimony of Veenbaas).

401. The bulk of the bottom ash from Units 1 and 2 at Will County landed on the retention pad, which was a concrete pad. 1/31/18 Tr. p. 253:12-21 (Testimony of Veenbaas).

402. The Will County bottom ash that landed on the retention pad was removed on a weekly basis for beneficial reuse. 10/24/17 Tr. p. 206:23-207:4 (Testimony of Maddox); 1/31/18 Tr. p. 253:12-15 (Testimony of Veenbaas).

403. Will County Ash Ponds 1N and 1S have the same poz-o-pac liner thickness as when originally installed, and were not relined with HDPE because they were no longer in service. 1/30/18 Tr. p. 201:2-10, 280:12-20 (Testimony of Race).

404. **Ponds 1N and 1S were removed from service in 2010 and neither receive any ash or process water.** JAS No. 50; 10/24/18 Tr. p. 276:15-21 (Testimony of Maddox); 1/30/18 Tr. p. 254:18-255:3 (Testimony of Race).

405. In 2013, MWG implemented a dewatering system in Ponds 1N and 1S that is designed maintain a depth of approximately less than one foot of water in the ponds. MWG Ex. 656 (Will County CCA).

406. The operators at Will County inspect Ash Ponds 1N, 1S, 2S, and 3S ash ponds as part of their regular shifts, which occurred three times per day. 10/24/18 Tr. p. 222:18-223:8 (Testimony of Maddox); 1/31/18 Tr. p. 257:15-258:4 (Testimony of Veenbaas).

407. If an operator saw an issue at the Will County Ash Ponds 1N, 1S, 2S and 3S, the operator would tell the shift supervisor who would communicate to the proper person to address the problem. 1/31/18 Tr. p. 258:5-9 (Testimony of Veenbaas).

### **III. MWG'S EVALUATION OF THE STATION IMPOUNDMENTS, RELINING, GROUNDWATER MONITORING AND CCAS**

#### **A. MWG's Evaluation of the Station Impoundments**

408. In about 2005, MWG began an assessment of the ash pond liners at the MWG Stations for preventative maintenance of the pond liners. 1/29/18 Tr. p. 214:4-10, 216:1-3 (Testimony of Race).

409. No Federal or State regulatory agency had asked MWG to evaluate the ash ponds, there was no legal requirement for MWG to conduct the ash pond liner evaluation, and there were no Illinois or Federal regulations related to the storage or use of the coal ash. 1/29/18 Tr. p. 218:3-16 (Testimony of Race).

410. Relining a pond at an operating power station is a huge level of effort. 1/29/18 Tr. p. 231:1. (Testimony of Race).

411. To reline a pond at an operating power station, a station must:

- hire a consultant to assist with the selection and engineering of the liner that is appropriate for the use of the ash pond. 1/29/18 Tr. p. 231:1-5 (Testimony of Race).
- involve the station engineering staff to determine whether there needs to be any changes in the equipment going to or out of the ash ponds. 1/29/18 Tr. p. 231:5-8. (Testimony of Race).
- time the relining during an outage so that the ash pond can be taken out of service. 1/29/18 Tr. p. 231:8-10 (Testimony of Race).
- to reline a pond at an operating power station, the station must establish a potential backup impoundment for use in case the station must operate, because the ash pond cannot be put into service without a liner. 1/29/18 Tr. p. 231:10-14 (Testimony of Race).
- plan the relining to avoid winter because the soils under the liner cannot be frozen, and installation of liner can only be performed within a certain temperature range. 1/29/18 Tr. p. 231:17-232:17 (Testimony of Race); 1/31/18 Tr. p. 113:7-14 (Testimony of Kelly); MWG Ex. 608, p. MWG13-15\_18177 (Application for Construction Permit for Joliet 29 Ponds 1 & 2 Liner Replacement).

412. MWG came up with a scientific way to evaluate the station impoundments and liners throughout the fleet of power stations to determine the order of relining any of the impoundments. 1/29/18 Tr. p. 218:20-219:2 (Testimony of Race).

413. One of the first evaluations as part of the assessment of the ash pond liners was a geotechnical analysis of soils surrounding the ponds, to assess which ponds should be lined first. Comp. Ex. 201-202 (2005 Geotechnical Analysis of MWG Stations and correction of Joliet 29 Map); 1/29/18 Tr. p. 214:13-18 (Testimony of Race).

414. MWG's third party consultant, NRT, conducted the evaluation of the impoundments based upon a Pond Characterization Document (MWG Ex. 500), the current liner material, the original liner construction dates and presumed liner conditions. Comp. Ex. 34 (2005 Technical Memorandum Regarding Impoundment Rankings).

415. NRT's evaluation contained the best information on the ash ponds that NRT could come up with based upon the information available in 2005. 10/23/17 Tr. p. 168:10-12, 16-24; 10/24/17 Tr. p. 11:4-12:13 (Testimony of Race).

416. NRT made a conservative assumption that the poz-o-pac liners were in poor condition based only on the age of the liners. 10/24/17 Tr. p. 12:22-13:3 (Testimony of Race).

417. The NRT evaluation culminated in its Technical Memorandum No. 1 from Dec. 1, 2005 (“2005 Technical Memo”), which described the ranking system to prioritize the impoundments and basins at MWG. Comp. Ex. 34 2005 (Technical Memorandum Regarding Impoundment Rankings).

418. The 2005 Technical Memo considered the type of liner to be used for the bottom ash settling basins. MWG Comp. Ex. 34, p. MWG13-15\_23612 (2005 Technical Memorandum Regarding Impoundment Rankings).

419. The 2005 Technical Memo looked to the Illinois regulations for sewage and livestock impoundments for guidance on the type liners to recommend. MWG Comp. Ex. 34, p. MWG13-15\_23612 (2005 Technical Memorandum Regarding Impoundment Rankings); 1/29/18 Tr. p. 219:22-220:14 (Testimony of Race).

420. In the 2005 Technical Memo, NRT considered a 2-foot thick clay liner or a geosynthetic material; because NRT considered coal ash waters to contain low concentrations of constituents, NRT recommended concrete or asphalt. MWG Comp. Ex. 34, p. MWG13-15\_23612 (2005 Technical Memorandum Regarding Impoundment Rankings); 1/29/18 Tr. p. 219:22-220:14 (Testimony of Race).

421. On October 13, 2006, NRT prepared an updated technical memorandum proposing a priority list for the ash pond liner upgrade and the liner system options and costs (“Oct. 2006 Technical Memo”). MWG Ex. 605 (October 2006 Technical Memo Regarding Liner Upgrade and Cost).

422. Following the October 2006 Technical Memo, there was a third version of the same memo with updated and additional information on November 22, 2016 (“November 2006 Technical Memo”). 1/29/18 Tr. p. 221:18-222:6 (Testimony of Race), MWG Ex. 606 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost).

423. The three technical memorandums were “living documents”, were meant to be looked at over a period of time and would continue to be updated and perhaps changed based upon developments at the Stations. 1/29/18 Tr. p. 222:4-11, p. 223:22-224:3 (Testimony of Race); 1/30/18 Tr. p. 278:19-280:3 (Testimony of Race).

424. NRT built flexibility into the sequence of the pond relinings, particularly after new information from the process including that the poz-o-pac was in good condition. 1/30/18 Tr. p. 279:19-280:3 (Testimony of Race).

425. The November 2006 Technical Memo included a potential schedule for the sequence of replacing the impoundment liners and the potential cost, which ranged from \$500,000 to \$2.5 million per pond. MWG Ex. 606, p. MWG13-15\_23637 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost).

426. In the November 2006 Technical Memo, the liner NRT recommended was either compacted clay, asphalt or concrete. MWG Ex. 606, MWG13-15\_23638 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost).

427. MWG elected to use HDPE for the new pond liners because it understood HDPE was the most conservative option, it was the least permeable, and would be more protective. 1/29/18 Tr. p. 225:1-226:3 (Testimony of Race).

428. The HDPE liners are a more expensive liner than NRT's liner recommendations. 1/29/18 Tr. 226:4-6 (Testimony of Race).

429. MWG Director of Federal Environmental Programs, Ms. Race, also created an internal document for the pond relining with her notes on the relining project. MWG Ex. 607 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost); 1/29/18 Tr. p. 227:1-10 (Testimony of Race).

430. Regarding Joliet 29 Pond 3, in the chart regarding the relining information, Director of Federal Environmental Programs, Ms. Race questioned why NRT assumed that the liner was in poor condition, because MWG knew Pond 3 was a polishing pond and no solids actually entered the impoundment. 1/29/18 Tr. p. 228:6-18 (Testimony of Race).

431. MWG Director of Federal Environmental Programs, Ms. Race also questioned the basis for NRT's assumption that the liner condition of all the ash ponds was poor. 1/29/18 Tr. p. 228:19-23 (Testimony of Race).

## **B. Relining Projects**

432. Following receipt of NRT's technical memorandum and recommendations, MWG began to execute its plan for the pond relining, which were designed for the removal of ash. 1/29/18 Tr. 228:13-24, 230:6-10 (Testimony of Race); 2/1/18 Tr. p. 262:3-16 (Testimony of Seymour).

### **1. Joliet 29 Relining**

433. Under the proposed schedule prepared by MWG through its fleet-wide evaluation, the first ash ponds for relining were Ash Ponds 1 and 2 at Joliet 29. MWG Ex. 607 (MWG Initial Schedule of Pond Relining Schedule for all Ash Ponds).

434. On June 21, 2007, MWG submitted to Illinois EPA a construction permit application for relining Joliet 29 Ash Ponds 1 and 2. MWG Ex. 608 (Application for Construction Permit for Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 230:19-21 (Testimony of Race).

435. In July 2007, Illinois EPA issued the construction permit for the liner replacement for Joliet 29 Ash Ponds 1 and 2. MWG Ex. 609 (Illinois EPA Construction Permit for the Joliet 29 Ponds 1 & 2).

436. Once MWG emptied the ponds for relining, MWG found that NRT's assumptions on the condition of the poz-o-pac was incorrect. 10/24/17 Tr. p. 13:10-14 (Testimony of Race).

437. MWG found that the poz-o-pac in Joliet 29 Ash Ponds 1 and 2, and then subsequently the ash ponds at the other MWG Stations, was in good condition. 10/24/17 Tr. p. 13:16-19 (Testimony of Race); 1/29/18 Tr. p. 236:1-4 (Testimony of Race).

438. The liner systems installed in Joliet 29 Ash Ponds 1 and 2 consisted of six layers of materials (from bottom to top): the original poz-o-pac, a geotextile cushion, the HDPE liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer. MWG Ex. 610, p. MWG13-15\_49507 (Joliet #29 Ponds 1 and 2 Construction Documentation), MWG Ex. 901, p. 17 (Seymour Presentation, SOF Attachment 1).

439. MWG installed marker posts along the edge of the base of Joliet 29 Ash Ponds 1 and 2 to mark the sides for the operators when the ponds are being dredged. MWG Ex. 610, MWG13-15\_49507 (Joliet #29 Ponds 1 and 2 Construction Documentation).

440. Before the HDPE installer began installing the HDPE in Ash Ponds 1 and 2 at Joliet 29, the installer visually inspected the subgrade of each pond and certified that the subgrade in each pond was acceptable for installation of the HDPE. MWG Ex. 610, p. MWG13-15\_49458-59 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 237:5-19 (Testimony of Race).

441. After installation of the HDPE in Ash Ponds 1 and 2 at Joliet 29, the installation company certified that the liners in each pond were installed properly and in accordance with the project specifications. MWG Ex. 610, p. MWG13-15\_49461-62 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 237:20-238:8 (Testimony of Race).

442. Before each ash pond was placed back in service at Joliet 29, MWG had an electronic leak location survey of the ash pond liners taken to identify any potential leaks in the HDPE liner. MWG Ex. 610, p. MWG13-15\_49471-75 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 238:13-18 (Testimony of Race).

443. No leaks were found in Ash Pond 1 at Joliet 29. MWG Ex. 610, p. MWG13-15\_49471-73 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 238:19-239:3 (Testimony of Race)

444. One leak was detected in Ash Pond 2 at Joliet 29, which was repaired. MWG Ex. 610, p. MWG13-15\_49474-75, 49493 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/29/18 Tr. p. 238:19-240:12 (Testimony of Race).

445. At the completion of the relining in 2008, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on December 23, 2008, which was the construction record documents related to the replacement of the liners in Joliet 29 Ash Ponds 1 and 2. MWG Ex. 610 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement).

446. The Joliet 29 Construction Documentation contained all the certifications for the installation of the HDPE liner and the as-built drawings and information for the pond liners in Ash Ponds 1 and 2. MWG Ex. 610, p. MWG13-15\_49362 (Construction Documentation of the Joliet 29 Ponds 1 & 2 Liner Replacement); 1/30/18 Tr. p. 41:18-42:6 (Testimony of Race).

## **2. Will County Relining**

447. On July 22, 2008, MWG submitted an application for a construction permit to reline Ash Ponds 2S and 3S at Will County with an HDPE liner. 10/24/17 Tr. p. 282:5-11 (Testimony of

Maddox); 1/30/18 Tr. p. 208:8-209:2 (Testimony of Race); MWG Ex. 501 (Application for Construction Permit for Will County South Ash Ponds 2 and 3 liner replacement).

448. On September 29, 2008, Illinois EPA issued the construction permit and NPDES stormwater permit to reline Ponds 2S and 3S at Will County. 10/24/18 Tr. pp. 284:12-14, 285:13-16 (Testimony of Maddox); MWG Ex. 502 (Illinois EPA Construction Permit for the Will County Pond 2S and 3S).

449. The first liner to be replaced was Will County Pond 3S. 1/30/18 Tr. p. 206:14-18 (Testimony of Race); MWG Ex. 666, p. 3 (Will County Timeline of Events).

450. Will County Pond 3S was relined with an HDPE liner. 10/24/17 Tr. p. 191:14-24 (Testimony of Maddox); 1/31/18 Tr. p. 247:21-248:1 (Testimony of Veenbaas); MWG Ex. 505 (Pond drawings for the relining of Pond 3S, Will County).

451. As part of the request for proposal (“RFP”) process, MWG established the geomembrane installer was responsible to ensure that equipment used for the installation and quality assurance test did not damage the geomembrane. 10/24/17 Tr. p. 293:6-22 (Testimony of Maddox); MWG Ex. 506, p. MWG13-15\_29250 (Will County No 2 & 3 Ash Pond Liner Specification).

452. As part of the RFP process, MWG established that “no vehicles were allowed on the deployed geomembrane under any circumstances,” and MWG’s Station Environmental Specialist at the Will County Station did not recall any vehicles on the geomembrane at Will County. 10/24/17 Tr. p. 293:23-294:7 (Testimony of Maddox); MWG Ex. 506, p. MWG13-15\_29250 (Will County No 2 & 3 Ash Pond Liner Specification).

453. In 2009, when all of the ash and water was removed from Will County Pond 3S, the Will County Chemistry Systems Specialist, Mr. Veenbaas, walked into the ash pond and observed the condition of the poz-o-pac. 1/31/18 Tr. p. 248:7-24 (Testimony of Veenbaas).

454. The Will County Chemistry Systems Specialist, Mr. Veenbaas, saw that the poz-o-pac in Pond 3S was very clear and concrete, without any cracks, and that it was “It was in beautiful shape.” 1/31/18 Tr. p. 248:7-24 (Testimony of Veenbaas).

455. Will County Chemistry Systems Specialist, Mr. Veenbaas, was surprised by the condition of the poz-o-pac because it had been installed in the mid-‘70’s and yet the poz-o-pac in Will County Pond 3S “it was actually pretty pristine.” 1/31/18 Tr. p. 249:1-3 (Testimony of Veenbaas).

456. As part of the plan to reline Will County Pond 3S, MWG removed the top 12-inches of the poz-o-pac. 1/30/18 Tr. p. 209:22-210:1 (Testimony of Race); MWG Ex. 501, p. MWG13-15\_29024 (Application for Construction Permit for Will County South Ash Ponds 2 and 3 liner replacement).

457. When MWG was removing the poz-o-pac in Pond 3S at Will County, MWG personnel reported that the poz-o-pac was in good condition and Will County Station personnel questioned whether to remove the poz-o-pac. 1/30/18 Tr. p. 210:8-17 (Testimony of Race).



458. As required by the RFP, and as part of the installation of the new liner, the MWG contractor inspected the subgrade of Pond 3S before deploying the geomembrane to verify that there were no potentially harmful foreign objects present, such as sharp rocks and other deleterious debris. 10/24/17 Tr. p. 294:8-17 (Testimony of Maddox); MWG Ex. 506, p. MWG13-15\_29249 (Will County No 2 & 3 Ash Pond Liner Specification).

459. The purpose of the inspection of the subsurface of the Pond 3S was to ensure that there was a smooth surface for the geomembrane to be applied. 10/24/17 Tr. p. 294:18-24 (Testimony of Maddox).

460. When the MWG contractor inspected the subgrade, the MWG contractor certified that the subgrade was in good condition for liner placement. 10/24/17 Tr. p. 297:3-8 (Testimony of Maddox); MWG Ex. 507, p. MWG13-15\_8240 (Will County Pond 3S Field Summaries and Field Directives).

461. After the HDPE was installed in Pond 3S, MWG installed a sand cushion layer and a limestone warning layer. 1/31/18 Tr. p. 251:23-252:6 (Testimony of Veenbaas); MWG Ex. 505, MWG13-15\_29104 (Pond drawings for the relining of Pond 3S, Will County).

462. The new liner system installed in Pond 3S consisted of six layers of materials (from bottom to top): 12-24 inches of the original poz-o-pac, a geotextile cushion, the HDPE liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer. MWG Ex. 901, p. 61 (Seymour Presentation, SOF Attachment 1); MWG Ex. 505 (Pond drawings for the relining of Pond 3S, Will County); MWG Ex. 506 (Will County No 2 & 3 Ash Pond Liner Specification); MWG Ex. 507 (Will County Pond 3S Field Summaries and Field Directives); MWG Ex. 508 (Leak Location Report for Pond 3S at Will County).

463. As part of the installation, MWG conducted a leak location survey on the HDPE liner in Pond 3S. 10/24/18 Tr. p. 297:16-18 (Testimony of Maddox); MWG Ex. 507, p. MWG13-15\_8250 (Will County Pond 3S Field Summaries and Field Directives); MWG Ex. 508 (Leak Location Report for Pond 3S at Will County).

464. When the leak location survey was being conducted, the MWG contractor saw runoff water that appeared to have been pushed into the areas under the liner when the warning layer was placed. 10/24/17 Tr. p. 297:19-298:11 (Testimony of Maddox); MWG Ex. 507, p. MWG13-15\_8250 (Will County Pond 3S Field Summaries and Field Directives).

465. Most of the runoff water under the Will County Pond 3S liner dissipated within two weeks of liner placement. MWG Ex. 507, MWG13-15\_8250 and 8254 (Will County Pond 3S Field Summaries and Field Directives); 10/24/17 Tr. p. 297:19-298:11 (Testimony of Maddox).

466. MWG's contractor pumped the remaining runoff water out and patched the Will County 3S liner following completion of pumping the water. MWG Ex. 507, p. MWG13-15\_8254 (Will County Pond 3S Field Summaries and Field Directives).

467. The leak location survey of the Pond 3S at Will County found no leaks in the geomembrane. 10/24/17 Tr. p. 300:7-19 (Testimony of Maddox); MWG Ex. 508 (Leak Location Report for Pond 3S at Will County).

468. As part of the relining project, MWG installed poles in Will County Pond 3S to identify the incline of the bank of the pond from the horizontal section of the pond. 1/31/18 Tr. p. 251:1-11 (Testimony of Veenbaas).

469. The poles would prevent persons excavating Will County Pond 3S from going near the base of the sides of the pond. 1/31/18 Tr. p. 251:1-11 (Testimony of Veenbaas).

470. After Will County Pond 3S was relined, and during dredging, MWG's Station Chemistry Systems Specialist did not see the white limestone warning layer, only ash left on the bottom. 1/31/18 Tr. p. 252:9-16 (Testimony of Veenbaas).

**C. Hydrogeologic Assessment of Areas Around Station Ash Ponds**

471. In December 2008, TVA had a large impoundment dam failure at Kingston Mine in Tennessee which released a large quantity of fly ash over a large area. 1/29/18 Tr. p. 240:13-23 (Testimony of Race).

472. Unlike the MWG ponds, the TVA impoundments were very large, were essentially dammed landfills, and were a final resting place for the ash. 1/29/18 Tr. p. 242:1-22 (Testimony of Race).

473. Because of TVA, USEPA became interested in whether or not there were other dammed impoundments across the nation that could fail. 1/29/18 Tr. p. 243:24-244:3 (Testimony of Race).

474. Illinois EPA began contacting energy companies in Illinois to conduct a survey of all the impoundments in Illinois to determine whether there were dams at ash impoundments and if there were any risks related to the dams. 1/29/18 Tr. p. 244:4-13 (Testimony of Race).

475. Beginning in early 2009, MWG and Illinois EPA had numerous discussions on the information Illinois EPA needed and would be most useful to Illinois EPA to help the Illinois EPA assess the potential risks of impoundments. 1/29/18 Tr. p. 244:16-23 (Testimony of Race).

476. Illinois EPA requested information on whether there were any potable wells nearby, whether the wells were downgradient of the Stations, and the constituents in the ash. 1/29/18 Tr. p. 244:24-245:5 (Testimony of Race).

477. MWG did not necessarily agree with Illinois EPA's information request and objected to Illinois EPA's authority to request the information. 1/29/18 Tr. p. 245:12-18 (Testimony of Race); MWG Ex. 621, MWG13-15\_293 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

478. MWG voluntarily agreed to give Illinois EPA the requested information, starting with the potable well information. 1/29/18 Tr. p. 245:12-15 (Testimony of Race).

### 1.2009 Hydrogeologic Assessment

479. On July 15, 2009, MWG submitted to Illinois EPA MWG's results of its first Hydrogeological Assessment ("2009 Hydrogeologic Assessment"). MWG Ex. 621 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

480. The 2009 Hydrogeological Assessment identified the ash ponds at each of the MWG Stations, described the type of liners in the ash ponds, and the geology beneath the stations. MWG Ex. 621 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

481. The 2009 Hydrogeological Assessment included that all the ponds were lined with impermeable materials, including HDPE and poz-o-pac, to prevent any potential release to the environment. 1/29/18 Tr. p. 255:10-14 (Testimony of Race); MWG Ex. 621, MWG13-15\_299 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

482. MWG did not believe that there was any migration of constituents to the groundwater from the MWG ash ponds, in part because when they had begun relining ash ponds the original poz-o-pac liner was in good condition; that was expected to be the case everywhere. 1/30/18 Tr. p. 78:19-79:7 (Testimony of Race).

483. MWG did not believe there was any migration to groundwater from the Waukegan ash ponds because the ash ponds had been relined relatively recently and were in good condition. 1/30/18 Tr. p. 156:13-24 (Testimony of Race).

484. MWG confirmed that there were no potable wells downgradient of the MWG ash ponds. 1/29/18 Tr. p. 255:15-19 (Testimony of Race); 1/30/18 Tr. pp. 80:16-24, 157:7-22, 212:2-23 (Testimony of Race); MWG Ex. 621, p. MWG13-15\_298-299 (2009 Hydrogeological Assessment of MWG Electric Generating Stations).

485. **Complainants' expert, Kunkel, agreed that the facilities do not have the possibility to impact offsite drinking water.** 10/27/18 Tr. p. 182:3-7 (Testimony of Kunkel).

486. MWG's Hydrogeological Assessment concluded that there was no reasonable basis to conclude that the MWG's operations of the ash ponds was causing a release to the groundwater or a risk of impairing potable water sources. MWG Ex. 621, p. MWG13-15\_299-300 (2009 Hydrogeological Assessment of MWG Electric Generating Stations); 1/30/18 Tr. p. 212:24-213:7 (Testimony of Race).

487. On June 21, 2010, U.S.EPA formally proposed regulations of coal combustion residuals ("CCR"). MWG Exs. 663, p. 3 (Joliet 29 Timeline of Events); 664, p. 5 (Powerton Timeline of Events); 665, p. 8 (Waukegan Timeline of Events); 666, p. 4 (Will County Timeline of Events).

488. When the CCR proposed rules came out, MWG paused its relining program due to concern about putting in a liner system that might conflict with specifics of the new federal rules. 1/30/18 Tr. pp. 207:16-208:4, 279:9-18 (Testimony of Race); 10/25/17 Tr. p. 23:9-15 (Testimony of Maddox).

## 2.2010 Hydrogeologic Assessments

489. Following MWG's submission of the 2009 Hydrogeologic Assessment, Illinois EPA requested MWG install groundwater monitoring wells directly upgradient and downgradient of the of the MWG ash ponds at Joliet #29, Powerton, Waukegan, and Will County. 1/29/18 Tr. p. 245:6-9 (Testimony of Race).

490. MWG expressed concern that installing the monitoring wells requested by Illinois EPA would not provide useful information about whether or not the MWG ash ponds were leaking. 1/29/18 Tr. p. 245:16-18 (Testimony of Race).

491. The MWG Stations are in old industrial areas, some surrounded by Superfund sites, and two of the MWG Stations already had environmental land use controls due to historic off-site contamination. 1/29/18 Tr. p. 246:20-24 (Testimony of Race).

492. MWG predicted that there likely was some historic contamination that would be detected in the groundwater, and the results would not establish anything about the ash ponds. 1/29/18 Tr. p. 246:1-7 (Testimony of Race).

493. Despite its reservations, MWG voluntarily agreed to Illinois EPA's request install groundwater monitoring wells around the ash ponds at the MWG Stations to sample the groundwater near and downgradient from the ash ponds. 1/29/18 Tr. p. 246:8-10 (Testimony of Race); 1/30/18 Tr. p. 157:23-158:3, 213:10-14 (Testimony of Race).

494. In 2010, MWG submitted to Illinois EPA Hydrogeologic Assessment Plans to conduct groundwater monitoring near the ash ponds at the four MWG Stations. MWG Exs. 613-616 (Hydrogeologic Assessment Plans for Joliet #29, Powerton, Waukegan, and Will County); 1/29/18 Tr. p. 248:16-21 (Testimony of Race).

495. Pursuant the Hydrogeologic Assessment Plans, MWG agreed to evaluate any potential migration and characterize the subsurface hydrogeology. 1/29/18 1/29/18 Tr. p. 249:3-11 (Testimony of Race); MWG Exs. 613-616 (Hydrogeologic Assessment Plans for Joliet #29, Powerton, Waukegan, and Will County).

496. On September 24, 2010, Illinois EPA approved MWG's Hydrogeologic Assessment Plans. MWG Exs. 617-620 (Illinois EPA's Approval of the Hydrogeologic Assessment Plans for Joliet #29, Powerton, Waukegan, and Will County).

497. Following approval of the Hydrogeologic Assessment Plans, MWG installed the monitoring wells and began sampling. 1/30/18 Tr. p. 13:4-8 (Testimony of Race); MWG Ex. 901, p. 19, 33, 48, 62.

498. After only one round of sampling, MWG submitted to Illinois EPA a Hydrogeologic Assessment Report for each of the four stations ("2010 Hydrogeologic Assessments"). Comp Exs. 12C-15C (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County); 1/30/18 Tr. p. 161:22-162:3 (Testimony of Race).

499. The Hydrogeologic Assessment Reports described the installation of the monitoring wells, the site lithology, topographic and water elevation surveys, and identification of potable wells. Comp Exs. 12C-15C, pp. MWG13-15\_6968-6971, 7085-7088, 7152-7155, 7235-7237 (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County).

500. The Hydrogeologic Assessment Reports also gave a preliminary evaluation of ash-related constituents in groundwater. Comp Exs. 12C-15C, pp. MWG13-15\_6972, 7089, 7156, 7238 (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County).

501. The reports noted that no determination could be made as whether an individual pond was contributing constituents to the groundwater. Comp Exs. 12C-15C, pp. MWG13-15\_6972, 7089, 7156, 7238 (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County).

502. MWG agreed to continue groundwater monitoring on a quarterly basis. Comp Exs. 12C-15C, pp. MWG13-15\_6974, 7091, 7158, 7240 (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County).

### **3. Groundwater Sampling at the MWG Stations**

503. MWG retained Patrick Engineering, a consulting firm, to conduct the groundwater sampling at the four MWG Stations beginning in the fourth quarter of 2010. 2/1/18 Tr. p. 85:19-86:3 (Testimony of Gnat); 1/30/18 Tr. p. 17:8-18 (Testimony of Race).

504. On May 11, 2012, Patrick Engineering submitted the first quarter 2012 results to the Illinois EPA. 1/30/18 Tr. p. 18:7-21 (Testimony of Race).

505. An MWG intern found transcription errors in the table of groundwater sample results for the four Stations. 1/30/18 Tr. p. 18:17-21 (Testimony of Race).

506. MWG submitted amended reports with the correct groundwater values on July 30, 2012. Comp. Ex. 24.5 (1Q2012 Powerton Amended Groundwater Monitoring Results).

507. In early 2012, MWG retained KPRG to continue the groundwater monitoring at the MWG Stations. 2/1/18 Tr. p. 85:9-18 (Testimony of Gnat).

508. KPRG developed summary data tables to organize the groundwater monitoring results at each of the Stations (See MWG Exhibits 809-812; Joliet 29 (MWG Ex. 809), Powerton (MWG Ex. 810), Waukegan (MWG Ex. 811), and Will County (MWG Ex. 812). 2/1/18 Tr. p. 88:23-89:7, 110:21-11:1, 135:23-136:2, 147:18-148:3, 165:3-166:4 (Testimony of Gnat).

509. The data in the summary data tables (MWG Exhibits 809 through 812) is downloaded directly from the analytical company in Excel spreadsheets. 2/1/18 Tr. p. 89:8-12 (Testimony of Gnat).

510. At the four MWG Stations there are "CCA Wells," which are the network of wells that was agreed to be sampled on a quarterly basis within the context of the Compliance

Commitment Agreement between MWG and Illinois EPA. 2/1/18 Tr. p. 89:19-90:2 (Testimony of Gnat).

511. At all four of the MWG Stations there are “CCR Wells”, which are wells that are sampled pursuant to the new USEPA CCR rules. 2/1/18 Tr. p. 90:2-7 (Testimony of Gnat).

512. Some of the wells at the four MWG Stations may be both CCR wells and CCA wells. 2/1/18 Tr. p. 90:2-7 (Testimony of Gnat).

513. Often the CCR wells and the CCA wells are collected on the same day. 10/26/17 Morning Tr. p. 11:5-9 (Testimony of Gnat).

514. **The CCA wells are sampled for dissolved metals.** (10/26/17 Afternoon Tr. p. 7:1-8 (Testimony of Gnat); 2/1/18 Tr. p. 91:3-5 (Testimony of Gnat); 10/26/18 Afternoon Tr. p. 71:4-6 (Testimony of Kunkel).

515. The CCR wells are sampled for total metals. (10/26/17 Afternoon Tr. p. 7:12-15 (Testimony of Gnat); 2/1/18 Tr. p. 91:6-8 (Testimony of Gnat).

516. **Complainants’ expert, Kunkel agreed that “the total recoverable and dissolved are the same for all practical purposes.”** 10/26/18 Afternoon Tr. p. 71:10-14 (Testimony of Kunkel).

517. The CCA well sample results are more representative than the CCR Data for comparison to the Class 1 Standards, 35 ILCS 620.410. 10/26/17 Morning Tr. p. 14:24-15:3 (Testimony of Gnat).

518. At the Waukegan Station, results from the monitoring of additional wells are included in the summary data table: wells installed as part of the ELUC agreement between MWG and the Griess-Pfleger Tannery property to the west (“ELUC Wells”); and monitoring wells (MW) 8 and 9. 2/1/18 Tr. p. 90:8-16, 147:6-17,148:22-149:10 (Testimony of Gnat).

519. At the Waukegan Station, pursuant to Illinois EPA’s construction permit, beginning in first quarter of 2017, the CCA Wells and the CCR Wells are analyzed for total metals and are not field filtered; this is reflected in the Waukegan summary data table. 2/1/18 Tr. p. 146:11-147:5 (Testimony of Gnat).

520. In the data summary tables (MWG Exhibits 809 through 812), the difference in analysis between CCA Wells and CCR Wells is shown in a note in the tables that states that the sample was not field filtered. 2/1/18 Tr. p. 91:22-92:19 (Testimony of Gnat); MWG Exs. 809-812 (Tables of Groundwater Analytical Results for MWG Stations: Joliet #29, Powerton, Waukegan, and Will County).

521. In the data summaries in MWG Ex. 809 through 812, if a well is both a CCA wells and a CCR well, the data in the summary data tables (MWG Exhibits 809 through 810) are only the CCA Well data. 2/1/18 Tr. p. 92:20-93:15 (Testimony of Gnat); MWG Exs. 809-812 (Tables of Groundwater Analytical Results for MWG Stations: Joliet #29, Powerton, Waukegan, and Will County).

522. The one place to look for all the relevant groundwater data at the four MWG Stations is in the data summary tables (MWG Exhibit 809 through 812) because the tables contain all the wells and all the relevant sampling data for the wells. 2/1/18 Tr. pp. 94:4-96:3, 96:4-15, 166:11-17 (Testimony of Gnat); MWG Exs. 809-812 (Tables of Groundwater Analytical Results for MWG Stations: Joliet #29, Powerton, Waukegan, and Will County).

#### **4.Joliet 29 Groundwater Results**

523. **Since the groundwater sampling has begun at Joliet 29, boron has only been detected above the groundwater Class I standards at Joliet 29 in one of the eleven wells in 2011 and never since.** MWG Ex. 908, MWG Ex. 809; 10/27/17 Tr. p. 246:4-250:20 (Testimony of Kunkel); 2/2/18 Tr. p. 40:13-18 (Testimony of Seymour).<sup>9</sup>

524. **Both experts agreed that the for the last 24 recent quarters, there are no sample results with boron above the Class I standard at Joliet 29.** 2/2/18 Tr. p. 40:13-18 (Testimony of Seymour); 10/27/17 Tr. p. 246:4-250:20 (Testimony of Kunkel).

525. **Complainants' expert Kunkel opined that the boron levels in the groundwater at Joliet 29 were decreasing or flat in nine of the eleven wells.** MWG Ex. 908; 10/27/17 Tr. p. 246:4-250:20 (Testimony of Kunkel).

526. **Complainants' expert Kunkel stated that ten of the eleven groundwater monitoring wells at Joliet 29 show sulfate below the Class I standard.** MWG Ex. 908, MWG Ex. 809; 10/27/17 Tr. p. 250:21-253:20 (Testimony of Kunkel).

527. **Complainants' expert, Kunkel, stated that the sulfate levels were either decreasing or flat, and he did not describe any as increasing.** MWG Ex. 908, 10/27/17 Tr. p. 254:2-6 (Testimony of Kunkel).

528. The other constituents associated with coal ash, including but not limited to manganese, arsenic, and barium, are not above the Class I standard in the groundwater wells at Joliet 29 and are not consistently present in the groundwater wells around the ponds. MWG Ex. 809 (Table of Groundwater Analytical Results for MWG Joliet 29, 4/Q2010-2Q2017).

529. The chloride levels at Joliet 29 are observed on a seasonal basis, consistent with the time periods when road salt is applied in winter. 10/26/17 Morning Tr. p. 37:14-24 (Testimony of Gnat); 2/1/18 Tr. p. 112:1-9 (Testimony of Gnat).

530. The seasonal levels of chloride suggest that the chloride was due to the spreading of road salt. 10/26/17 Morning Tr. p. 37:14-24 (Testimony of Gnat); 2/1/18 Tr. p. 112:1-9 (Testimony of Gnat); 2/1/18 Tr. p. 37:22-38:15 (Testimony of Seymour).

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<sup>9</sup> MWG Exhibit 908 (Joliet 29 Update of Kunkel Slides), cited in this SOF and MWG's Post-Hearing Brief, is attached to this SOF as Attachment 2 for ease of reference.

**D. Powerton Relining Projects**

531. In 2010, MWG continued to execute its preventative maintenance plan to reline the ash ponds at the Powerton Station. 1/31/18 Tr. p. 113:17-23 (Testimony of Kelly); MWG Ex. 606 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost); MWG Ex. 607 (MWG Initial Schedule of Pond Relining Schedule for all Ash Ponds).

532. Because MWG had already approved relining the Powerton Metal Cleaning Basin and Bypass Basin, MWG took the opportunity to continue the work. 1/31/18 Tr. p. 217:23-218:6 (Testimony of Kelly).

533. When the opportunity to conduct preventative maintenance was presented, MWG took it. 1/31/18 Tr. p. 218:7-13 (Testimony of Kelly).

**1.Powerton Metal Cleaning Basin**

534. On July 27, 2009, MWG submitted to Illinois EPA a construction permit application for relining the Powerton Metal Cleaning Basin with an HDPE liner. 1/31/18 Tr. p. 118:10-18 (Testimony of Kelly); MWG Ex. 707 (Application for Construction Permit for Metal Cleaning Basin Liner Replacement).

535. On November 13, 2009, Illinois EPA issued the construction permit for relining the Powerton Metal Cleaning Basin. MWG Ex. 708 (Illinois EPA Construction Permit for the Metal Cleaning Basin Liner).

536. When MWG removed the water and ash from the Powerton Metal Cleaning Basin in 2010, MWG found that the poz-o-pac was in excellent condition. 1/31/18 Tr. p. 121:20-21 (Testimony of Kelly).

537. MWG found that the Hypalon liner on the sides of the Powerton Metal Cleaning Basin was in good condition below the water line, and there were few repairs to the Hypalon liner around the top of the pond. 1/31/18 Tr. p. 121:20-122:1 (Testimony of Kelly).

538. The liner system installed in the Powerton Metal Cleaning Basin consisted of six layers of materials (from bottom to top): the original 12-inch poz-o-pac, a geotextile cushion, the HDPE liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer. MWG Ex. 706, p. MWG13-15\_ p. 49226 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); MWG Ex. 901, p. 29 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 125:20:5 (Testimony of Kelly).

539. Before the HDPE installer began installing the HDPE in the Powerton Metal Cleaning Basin, the installer visually inspected the subgrade and certified that the subgrade surface in Metal Cleaning Basin was acceptable for installation of the HDPE. MWG Ex. 706, p. MWG13-15\_49200 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 122:19-123:6 (Testimony of Kelly).

540. After installation of the HDPE, the installation company certified that the liner in the Powerton Metal Cleaning Basin was installed properly and in accordance with the project



specifications. MWG Ex. 706, p. MWG13-15\_49202 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 123:7-17 (Testimony of Kelly).

541. Before the Powerton Metal Cleaning Basin was placed back in service, MWG had an electronic leak location survey of the Metal Cleaning Basin taken to identify any potential leaks in the HDPE liner. MWG Ex. 706, p. MWG13-15\_49216 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 123:18-123:3 (Testimony of Kelly).

542. One leak was found in the Powerton Metal Cleaning Basin liner as installed, which was repaired. MWG Ex. 706, p. MWG13-15\_49216 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 107:15-17, 124:4-6 (Testimony of Kelly).

543. MWG installed marker posts along the edge of the base of the Powerton Bypass Basin to mark the sides and warn operators when the ponds are being dredged. MWG Ex. 706, MWG13-15\_49224, 49229 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 126:9-14 (Testimony of Kelly).

## **2.Powerton Bypass Basin**

544. In 2010, MWG submitted a construction permit application for relining the Powerton Bypass Basin with an HDPE liner. 1/31/18 Tr. p. 102:1-12 (Testimony of Kelly); MWG Exs. 704 (Application for Construction Permit for Bypass Basin Liner Replacement).

545. Before Illinois approved the application to reline the Powerton Bypass Basin, Illinois EPA requested confirmation that the cushion and warning layer would provide adequate protection of the liner from the mechanical equipment when it drove in the ash ponds. MWG Ex. 633 (2010 Documentation and Calculation of Geomembrane Protection Measures).

546. MWG's consultant provided specifications and calculations regarding the material used for the warning layer and calculations supporting the consultant's conclusion that the liners would be adequately protected. 1/31/18 Tr. p. 64:2-65:1 (Testimony of Kelly); MWG Ex. 633, MWG13-15\_49293 (2010 Documentation and Calculation of Geomembrane Protection Measures).

547. Following the submission of the additional specifications and calculations, Illinois EPA issued the permit to construct the HDPE liner on the Powerton Bypass Basin on September 15, 2010. MWG Ex. 633 (2010 Documentation and Calculation of Geomembrane Protection Measures); MWG Ex. 704 (Application for Construction Permit for Bypass Basin Liner Replacement); MWG Ex. 705 (Illinois EPA Construction Permit for the Bypass Basin Liner).

548. When MWG removed the water and ash from the Powerton Bypass Basin in 2010, MWG found that the poz-o-pac that lined the Bypass Basin was in excellent condition. 1/31/18 Tr. p. 104:17-105:1, 113:4-14, 121:20-21 (Testimony of Kelly).

549. In the Powerton Bypass Basin, there were no cracks in the poz-o-pac and the surface was very smooth and in good condition. 1/31/18 Tr. p. 105:2-6 (Testimony of Kelly).

550. MWG found that the Hypalon liner on the sides of the Powerton Bypass Basin was in good condition below the water line, and there were few repairs to the Hypalon liner around the top of the pond. 1/31/18 Tr. p. 105:7-15 (Testimony of Kelly).

551. The liner system installed in the Powerton Bypass Basin consisted of six layers of materials (from bottom to top): the original 12-inch poz-o-pac, a geotextile cushion, the HDPE liner, a geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer. MWG Ex. 706, p. MWG13-15\_ p. 49230 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); MWG Ex. 901, p. 31 (Seymour Presentation, SOF Attachment 1); 1/31/18 Tr. p. 108:6-22 (Testimony of Kelly).

552. Before the HDPE installer began installing the HDPE in the Powerton Bypass Basin, the installer visually inspected the subgrade and certified that the subgrade surface in the Bypass Basin was acceptable for installation of the HDPE. MWG Ex. 706, p. MWG13-15\_49200 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 106:2-17 (Testimony of Kelly).

553. After installation of the HDPE, the installation company certified that the liners in the Powerton Bypass Basin were installed properly and in accordance with the project specifications. MWG Ex. 706, p. MWG13-15\_49202 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 106:18-107:4 (Testimony of Kelly).

554. Before the Powerton Bypass Basin was placed back in service, MWG had an electronic leak location survey of Bypass Basin taken to identify any potential leaks in the HDPE liner. MWG Ex. 706, p. MWG13-15\_49209 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 107:5-14, (Testimony of Kelly).

555. One leak was found in the liner of the Powerton Bypass Basin as installed, which was repaired. MWG Ex. 706, p. MWG13-15\_49209 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 107:15-17 (Testimony of Kelly).

556. MWG installed marker posts along the edge of the base of the Powerton Bypass Basin to mark the sides to warn the operators when the ponds are being dredged. MWG Ex. 706, MWG13-15\_49224, 49229 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 109:4-9 (Testimony of Kelly).

557. At the completion of the relining, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on June 27, 2011 which was the construction record documents related to the replacement of the liners in the Powerton Bypass Basin and the Metal Cleaning Basin. MWG Ex. 706 Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement.

558. The Construction Documentation for the Powerton Bypass Basin and Metal Cleaning Basin was the QA/QC documents and contained the complete documentation. MWG Ex. 706 (Construction Documentation of the Metal Cleaning Basin and Bypass Basin Liner Replacement); 1/31/18 Tr. p. 86:2-7 (Testimony of Kelly).

**E. Compliance Commitment Agreements**

559. On June 11, 2012, Illinois EPA issued Violation Notices (“VNs”) to MWG alleging violations of the groundwater quality standards from the ash ponds. Comps Ex. 1A-4A (Violation Notices).

560. MWG disagreed that the groundwater sample results showed contamination from the current operations of the ponds. Comp. Ex. 8B-11B; MWG Ex. 622-625 (MWG’s Responses and Supplemental Responses to the Violation Notices).

561. There were a number of reasons why MWG did not think that the current pond operations were the source of the constituents in the groundwater. 1/30/18 Tr. p. 28:18 (Testimony of Race).

- the Stations are surrounded by other operations and are in old industrial areas. 1/30/18 Tr. p. 28:19-21 (Testimony of Race).
- there were already ELUCs established on two of the four MWG Stations because of contaminant plumes from off-site. 1/30/18 Tr. 28:21-29:1 (Testimony of Race).
- At Waukegan, there is the plume in groundwater migrating from the tannery site to the west which historically used borax, and there are Superfund sites to the adjacent to the north of the property and also to the south. 1/30/18 Tr. p. 29:1-5 (Testimony of Race).
- the ash ponds at the MWG stations are lined. 1/29/18 Tr. p. 188:4-19 (Testimony of Race); 1/30/18 Tr. p. 29:11-16 (Testimony of Race).
- At Waukegan, MWG had just relined the ponds and they were in good condition. 1/30/18 Tr. p. 29:21--30:4 (Testimony of Race).
- When MWG relined the next five ash ponds at Joliet 29, Will County and Powerton MWG found that the underlying poz-o-pac was in excellent condition. 1/30/18 Tr. p. 29:16-20 (Testimony of Race).

562. In 2012, Illinois EPA and MWG agreed to Compliance Commitment Agreements (“CCAs”) for each MWG Station. MWG Exs. 626, 636, 647, 656 (CCAs for Joliet 29, Powerton, Waukegan, and Will County).

563. Under the CCAs, MWG agreed to maintain and operate the ash ponds in a manner that protects the integrity of the liners. MWG Ex. 626, p. MWG13-15\_573 (Joliet 29 CCA); MWG Ex. 636, MWG13-15\_554 (Powerton CCA) MWG Ex. 647, MWG13-15\_567 (Waukegan CCA); MWG Ex. 656, MWG13-15\_561 (Will County CCA).

- MWG agreed to follow procedures to ensure that operating the ash removal equipment did not damage the liners. 1/30/18 Tr. pp. 35:12-15, 92:23-93:8, 165:1-

6 (Testimony of Race); MWG Ex. 626 (Joliet 29 CCA); MWG Ex. 636 (Powerton CCA) MWG Ex. 647 (Waukegan CCA); MWG Ex. 656 (Will County CCA).

- MWG agreed to continue to use the ash ponds as MWG always had, continue to have the ash removed, and not use as permanent disposal sites. 1/30/18 Tr. pp. 35:16-21, 165:1-6 (Testimony of Race); MWG Ex. 626 (Joliet 29 CCA); MWG Ex. 636 (Powerton CCA) MWG Ex. 647 (Waukegan CCA); MWG Ex. 656 (Will County CCA).
- When the ash is removed from the ash ponds, MWG agreed to conduct visual inspections of the liners to identify any potential breaches in the pond liners. 1/30/18 Tr. p. 35:16-21 (Testimony of Race); MWG Ex. 626 (Joliet 29 CCA); MWG Ex. 636 (Powerton CCA); MWG Ex. 647 (Waukegan CCA); MWG Ex. 656 (Will County CCA).
- MWG agreed to reline its remaining active ash ponds in a similar manner as its already relined ash ponds. MWG Ex. 626 (Joliet 29 CCA); MWG Ex. 636 (Powerton CCA); MWG Ex. 656 (Will County CCA).

### **1. Relining Projects Under the CCAs**

564. In 2012, there were no Federal CCR or Illinois specific CCR rules, so MWG and Illinois EPA referred to the original construction documents for the previously MWG relined ponds and concluded that HDPE would be the approved liner. 1/30/18 Tr. p. 31:13-22 (Testimony of Race).

#### **a. Joliet 29 Ash Pond 3**

565. Under the CCA signed for the Joliet 29 Station, MWG agreed to reline Ash Pond 3 at Joliet 29. MWG Ex. 626 (Joliet 29 CCA).

566. On February 25, 2013, the Illinois EPA issued a construction permit for MWG to replace the liner in Joliet 29 Ash Pond 3. 1/30/8 Tr. p. 39:7-8 (Testimony of Race); MWG Ex. 628 (Illinois EPA Construction Permit for the Joliet 29 Pond 3).

567. MWG emptied Joliet 29 Ash Pond 3 for the first time since MWG began operating the Station. 1/30/18 Tr. p. 39:24-40:19 (Testimony of Race).

568. When MWG emptied Joliet 29 Ash Pond 3, MWG found no ash material in the pond and found that the underlying poz-o-pac was intact. 1/30/18 Tr. p. 39:19-23 (Testimony of Race).

569. The new liner system installed in Joliet 29 Ash Pond 3 consisted of six layers of materials (from bottom to top): the original poz-o-pac, a geotextile cushion, the HDPE liner, a geotextile cushion, a 24-inch thick sand cushion layer, and a 12-inch limestone warning layer. MWG Ex. 629, p. MWG13-15\_33997 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); MWG Ex. 901, p. 18 (Seymour Presentation, SOF Attachment 1).

570. Before the HDPE installer began installing the HDPE liner in Joliet 29 Ash Pond 3, the installer visually inspected the subgrade and certified that the subgrade was that the surface was acceptable for installation of the HDPE. MWG Ex. 629, p. MWG13-15\_33945 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 42:11-20 (Testimony of Race).

571. After installation of the HDPE liner in Joliet 29 Ash Pond 3, the installation company certified that the liner was installed properly and in accordance with the project specifications. MWG Ex. 629, p. MWG13-15\_33947 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 42:21-43:8 (Testimony of Race).

572. Before Joliet 29 Ash Pond 3 was placed back in service, MWG had an electronic leak location survey of the ponds taken to identify any potential leaks in the HDPE liner. MWG Ex. 629, p. MWG13-15\_33987 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 43:9-23 (Testimony of Race).

573. No leaks were found in Joliet 29 Ash Pond 3. MWG Ex. 629, p. MWG13-15\_33987 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 43:21-23 (Testimony of Race).

574. The relining of Joliet 29 Ash Pond 3 was completed in late 2013, and the pond was returned to service. MWG Ex. 629, MWG13-15\_33867 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 44:12-14 (Testimony of Race).

575. At the completion of the relining of Joliet 29 Ash Pond 3, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on July 16, 2014 which was the construction record documents related to the replacement of the liner in Ash Pond 3. MWG Ex. 629 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement).

576. The Construction Documentation contained all the certifications for the installation of the HDPE liner and the as-built drawings and information for the Joliet 29 Ash Pond 3 liner. MWG Ex. 629 (Construction Documentation of the Joliet 29 Pond 3 Liner Replacement); 1/30/18 Tr. p. 41:16-42:6 (Testimony of Race).

b. Powerton Pond Re-Lining

577. Under the CCA signed for the Powerton Station, MWG agreed to reline the Ash Surge Basin and the Secondary Basin. MWG Ex. 636 (Powerton CCA).

578. On January 17, 2013, MWG submitted an application for a construction permit to install a new HDPE liner in the Powerton Ash Surge Basin. 1/31/18 Tr. p. 82:9-18 (Testimony of Kelly), MWG Ex. 701 (Application for Construction Permit for Ash Surge Basin Liner Replacement).

579. On February 25, 2013 granted the construction permit to install the new liner in the Powerton Ash Surge Basin. 1/31/18 Tr. p. 83:15-23 (Testimony of Kelly); MWG Ex. 702 (Illinois EPA Construction Permit for the Ash Surge Basin Liner).

580. The first step to reline the Ash Surge Basin was to have a meeting on how the project was going to go ahead. 1/31/18 Tr. p. 84:6-9 (Testimony of Kelly).

581. When MWG removed water and ash from the Powerton Ash Surge Basin, Powerton Chemical Specialist, Mr. Kelly observed that the Hypalon liner in the Ash Surge Basin was in good condition. 1/31/18 Tr. pp. 84:8-85:12 (Testimony of Kelly).

582. During the relining, MWG noticed some rips and tears around the top of the Powerton Ash Surge Basin that had been repaired in the past, but the Hypalon liner on the sides of the basin below the water line was in good shape. 1/31/18 Tr. p. 85:6-12 (Testimony of Kelly).

583. The Powerton Station Chemical Specialist also observed that the poz-o-pac on the bottom of the Powerton Ash Surge Basin was in excellent condition. 1/31/18 Tr. p. 84:18-20 (Testimony of Kelly).

584. MWG's liner contractor decided not to remove the poz-o-pac at the Powerton Ash Surge Basin because it was in such good-shape and would be so difficult to remove. 1/31/18 Tr. p. 84:18-24 (Testimony of Kelly).

585. MWG modified the bid specifications for the Powerton Ash Surge Basin to lay down the HDPE liner over the poz-o-pac in the Ash Surge Basin. 1/31/18 Tr. p. 84:18-85:1 (Testimony of Kelly).

586. The liner system installed in the Powerton Ash Surge Basin consists of six layers of materials (from bottom to top): the original 12-inch-thick poz-o-pac, a geotextile cushion, the HDPE liner, another geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer. MWG Ex. 901, p. 30 (Seymour Presentation, SOF Attachment 1); MWG Ex. 703, p. MWG13-15\_34156 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/16 Tr. p. 90:11-91:18 (Testimony of Kelly).

587. Before the HDPE installer began installing the HDPE liner in the Powerton Ash Surge Basin, the installer visually inspected the subgrade and certified that the subgrade was acceptable for installation of the HDPE. MWG Ex. 703, p. MWG13-15\_34095 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 86:15-87:17 (Testimony of Kelly).

588. After installation of the HDPE liner in the Powerton Ash Surge Basin, the installation company certified that the HDPE liner was installed in the Ash Surge Basin properly and in accordance with the project specifications. MWG Ex. 703, p. MWG13-15\_34097 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 88:3-16 (Testimony of Kelly).

589. Following installation of the HDPE liner but before the sand and warning layers were installed, a contractor conducted a liner integrity survey using an electronic leak location survey on the Powerton Ash Surge Basin. MWG Ex. 703, p. MWG13-15\_34140-34143 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 88:22-15 (Testimony of Kelly).

590. The leak location contractor for the Powerton Ash Surge Basin identified two leaks, marked the leaks for repair, and the leaks were repaired. MWG Ex. 703, p. MWG13-15\_34141 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 89:16-18 (Testimony of Kelly).

591. After the sand cushion layer and warning layer were installed, MWG had a second liner integrity survey conducted at the Powerton Ash Surge Basin. MWG Ex. 703, p. MWG13-15\_34144-34149 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 89:23-90:3 (Testimony of Kelly).

592. The electronic survey did not find any leaks in the HDPE liner in the Powerton Ash Surge Basin; a visual inspection observed three leaks which were repaired. MWG Ex. 703, p. MWG13-15\_34145 (Construction Documentation of the Ash Surge Basin Liner Replacement); 1/31/18 Tr. p. 90:4-10 (Testimony of Kelly).

593. At the completion of the relining but before the Powerton Ash Surge Basin was placed back into service, MWG's consultant took a panoramic photo of the entire Ash Surge Basin. MWG Ex. 703, MWG13-15\_34046 (Construction Documentation of the Ash Surge Basin Liner Replacement); MWG Ex. 664-A.

594. In the panoramic photo of the Powerton Ash Surge Basin, the white HDPE liner is visible on the slopes, as well as the crushed limestone layer in the middle of the basin. 1/31/18 Tr. p. 94:18-95:3 (Testimony of Kelly); Ex. 664-A (Panoramic View of the Ash Surge Basin at Powerton).

595. The photo shows the warning poles installed in the Powerton Ash Surge Basin to let the operators know the location of the slope in the ponds, so that the operators avoid the sides of the ponds and avoid any potential tears. 1/31/18 Tr. p. 95:10-96:1 (Testimony of Kelly); Ex. 664-A (Panoramic View of the Ash Surge Basin at Powerton).

596. At the end of the relining project of the Powerton Ash Surge Basin, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on July 18, 2014 which was the quality assurance/quality control ("QA/QC") documents related to the replacement of the liners. 1/31/18 Tr. p. 85:22-86:7 (Testimony of Kelly); MWG Ex. 703 (Construction Documentation of the Ash Surge Basin Liner Replacement).

597. The Powerton Ash Surge Basin Construction Documentation contained the complete certifications for the installation of the HDPE liner and the as-built drawings and information for the pond liners. 1/31/18 Tr. p. 86:2-4 (Testimony of Kelly); MWG Ex. 703 (Construction Documentation of the Ash Surge Basin Liner Replacement).

598. As part of the Powerton CCA, MWG agreed to reline the Secondary Ash Basin at the Powerton Station. MWG Ex. 636 (Powerton CCA).

599. MWG had originally submitted the application to reline the Powerton Secondary Ash Basin on December 18, 2009, as part of MWG's relining program. Comp Ex. 33, MWG Ex. 605, p. MWG13-15\_23625 (Oct. 2006 Technical Memo Regarding Liner Upgrade and Cost); MWG Ex. 607 (MWG Initial Schedule of Pond Relining Schedule for all Ash Ponds).

600. On April 2, 2010, the Illinois EPA issued the permit to reline the Secondary Ash Basin. MWG Ex. 709 (Illinois EPA Construction Permit for the Secondary Ash Basin).

601. In 2010, MWG paused the relining program at the MWG Stations, including the relining project of the Powerton Secondary Ash Basin, due to the Federal CCR Rules. 1/30/18 Tr. p. 279:9-18 (Testimony of Race).

602. The permit to reline the Secondary Ash Basin issued in 2010 expired on January 31, 2015. MWG Ex. 709 (Illinois EPA Construction Permit for the Secondary Ash Basin).

603. In the spring of 2013, MWG began the process of relining the Powerton Secondary Ash Basin. 1/31/18 p. 129:16-18 (Testimony of Kelly).

604. When MWG removed the water and ash from the Powerton Secondary Ash Basin, MWG observed that the Hypalon liner in the pond was in good condition. 1/31/18 Tr. p. 130:16-131:3 (Testimony of Kelly).

605. After the Hypalon liner was removed from the Powerton Secondary Ash Basin, the Illinois River crested to an all-time high and caused water to seep into an area of the Secondary Ash Basin. 1/31/18 Tr. p. 131:14-132:6 (Testimony of Kelly).

606. MWG installed an underdrain system in the Powerton Secondary Ash Basin, under the new HDPE liner. MWG Ex. 710, MWG13-15\_34265 (Construction Documentation of the Secondary Ash Basin Liner Replacement); 1/31/18 Tr. p. 132:11-12 (Testimony of Kelly).

607. The purpose of the underdrain system at the Powerton Secondary Ash Basin, composed of stone, drain tiles, and riprap on the sides, is to keep water away from the pond liner. 1/31/18 Tr. p. 133:2-10 (Testimony of Kelly); MWG Ex. 710, MWG13-15\_34265 (Construction Documentation of the Secondary Ash Basin Liner Replacement).

608. Water beneath the Powerton Secondary Ash Basin would be routed to a sump under the Basin, and from that sump, MWG could pump the water out. 1/31/18 Tr. p. 8-10 (Testimony of Kelly), MWG Ex. 710, MWG13-15\_34263 (Construction Documentation of the Secondary Ash Basin Liner Replacement).

609. **Complainants' expert, Kunkel, agreed that final drawings showed that MWG installed an underdrain system under the Secondary Ash Basin, which was specifically designed to prevent any uplift on the HDPE liner in the Secondary Ash Basin.** 10/27/18 Tr. p. 103:3-109:9 (Testimony of Kunkel), MWG Ex. 710, MWG13-15\_34261-34265.

610. Following installation of the underdrain system in the Powerton Secondary Ash Basin, MWG installed a 12-inch cushion layer of sand, a geotextile cushion layer, and finally the HDPE liner. 1/31/18 Tr. p. 135:2-6 (Testimony of Kelly), MWG Ex. 710, MWG13-15\_34265 (Construction Documentation of the Secondary Ash Basin Liner Replacement); MWG Ex. 901, p. 32 (Seymour Presentation, SOF Attachment 1).

611. Before the HDPE installer began installing the HDPE liner in the Powerton Secondary Ash Basin, the installer visually inspected the subgrade and certified that the subgrade



in the Secondary Ash Basin was acceptable for installation of the HDPE. MWG Ex. 710, p. MWG13-15\_34228 (Construction Documentation of the Secondary Ash Basin Liner Replacement); 1/31/18 Tr. p. 136:1-6 (Testimony of Kelly).

612. Following installation of the HDPE liner in the Powerton Secondary Ash Basin, a contractor conducted a liner integrity survey using an electronic leak location survey. MWG Ex. 710, p. MWG13-15\_34258-34259 (Construction Documentation of the Secondary Ash Basin Liner Replacement); 1/31/18 Tr. p. 136:7-12 (Testimony of Kelly).

613. The electronic survey did not find any leaks in the HDPE liner in the Powerton Secondary Ash Basin. MWG Ex. 710, p. MWG13-15\_34258-34259 (Construction Documentation of the Secondary Ash Basin Liner Replacement); 1/31/18 Tr. p. 136:13-15 (Testimony of Kelly).

614. MWG did not install a cushion or warning layer on top of the HDPE in the Powerton Secondary Ash Basin because the basin had never been emptied in 35 years and would not need to be dredged. 1/31/18 Tr. p. 135:10-18 (Testimony of Kelly).

615. At the end of the relining project for the Powerton Secondary Ash Basin, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on July 18, 2014 which was the documentation showing to MWG that the HDPE liner was installed properly. 1/31/18 Tr. p. 136:16-21 (Testimony of Kelly); MWG Ex. 710 (Construction Documentation of the Secondary Ash Basin Liner Replacement).

616. After completion of the relining, MWG put the Powerton Secondary Ash Basin back into service, and it has not been emptied since 2013. 1/31/18 Tr. p. 136:22-137:2 (Testimony of Kelly).

617. Since 2013, there have not been any issues related to the river water impacting or moving the liner. 1/31/18 Tr. p. 137:3-7 (Testimony of Kelly).

c. Will County Ponds

618. As part of the CCA agreement, MWG relined Pond 2S at Will County. 1/30/18 Tr. p. 215:23-24 (Testimony of Race); MWG Ex. 656 (Will County CCA).

619. Illinois EPA issued a new construction permit for Will County Pond 2S relining on Feb. 25, 2013. 10/24/17 p. 289:24-290:8 (Testimony of Maddox); 1/30/18 Tr. p. 219:12-23 (Testimony of Race); MWG Ex. 657 (Illinois EPA Construction Permit for the Will County Pond 2S).

620. During the Pond 2S relining project, MWG retained a contractor to conduct construction quality assurance during subgrade preparation, geocell installation and placement of the cushion/warning layers, and to conduct full-time construction quality assurance oversight during liner installation and leak location survey. 10/24/18 Tr. p. 301:24-302:10 (Testimony of Maddox); MWG Ex. 509 (2013 Meeting Minutes re Will County Pond #2S Liner Replacement Project).

621. The poz-o-pac liner in Ash Pond 2S at Will County was in very good condition at the time Ash Pond 2S was being relined. 10/24/17 Tr. p. 304:7-10 (Testimony of Maddox).

622. As part of the relining project of Will County Pond 2S, MWG's contractor removed the top layer of poz-o-pac; due to the good condition of the poz-o-pac, removing the poz-o-pac was very difficult. 10/24/17 Tr. p. 304:2-14 (Testimony of Maddox); MWG Ex. 510, MWG13-15\_34274 (Construction Documentation of the Will County Pond 2S); MWG Ex. 901 p. 61 (Seymour Presentation).

623. Before the HDPE installer began installing the HDPE liner at Will County Pond 2S, the installer visually inspected the subgrade and certified that the subgrade was acceptable for installation of the HDPE liner. MWG Ex. 510, MWG13-15\_34391 (Construction Documentation of the Will County Pond 2S).

624. Following certification that the subgrade at Will County Pond 2S was acceptable, the MWG contractor installed geotextile, which is a black material, and over the geotextile, a geomembrane which is the white material. 10/24/17 Tr. p. 304:23-305:8 (Testimony of Maddox); MWG Ex. 510, MWG13-15\_34285 (Construction Documentation of the Will County Pond 2S).

625. Upon installation of the HDPE liner, the geomembrane installer certified that the HDPE geomembrane and geotextiles installed in Will County Ash Pond 2 were installed in accordance with the project specifications and manufactures recommendations. MWG Ex. 510, MWG13-15\_34393 (Construction Documentation of the Will County Pond 2S).

626. **Will County Pond 2S has a concrete geocell on the sides of the basin.** JAS No. 46.

627. A geocell is concrete placed in a honeycomb structure. 10/24/17 Tr. p. 204:9-18 (Testimony of Maddox).

628. The purpose of the geocell was for additional protection of the liner during operation and cleanup. 10/24/17 Tr. p. 204:23-205:2 (Testimony of Maddox); 1/30/18 Tr. p. 247:23-248:5 (Testimony of Race).

629. Following installation of the HDPE liner, a contractor conducted a liner integrity survey using an electronic leak location survey on Will County Pond 2S and no leaks were found. MWG Ex. 510, p. MWG13-15\_34422 (Construction Documentation of the Will County Pond 2S).

630. The final layers of the liner system in Will County Ash Pond 2S consists of six layers of materials (from bottom to top): 12-24-inches of poz-o-pac, a geotextile cushion, the HDPE liner, another geotextile cushion, a 12-inch thick sand cushion layer, and a 6-inch limestone warning layer on the bottom and a geocell layer on the sides. MWG Ex. 901, p. 61 (Seymour Presentation, SOF Attachment 1); MWG Ex. 510, MWG13-15\_34432 (Construction Documentation of the Will County Pond 2S).

631. At the end of the relining project for Will County Ash Pond 2S, MWG's consultant submitted to MWG "Construction Documentation Transmittal" on July 18, 2014 which was a final

construction project report for Ash Pond 2S. 10/24/17 Tr. p. 303:4-13 (Testimony of Maddox); MWG Ex. 510 (Construction Documentation of the Will County Pond 2S).

632. As part of the CCA agreement, MWG dewatered ponds 1N and 1S at Will County. 10/24/17 Tr. p. 276:19-277:13 (Testimony of Maddox).

633. Both Will County ponds 1N and 1S were engineered to keep the water level in the ponds below 12 inches by sloping the pond to direct the water out to the wastewater treatment. 10/24/17 Tr. p. 279:2-7 (Testimony of Maddox); 1/30/18 Tr. p. 220:12-19 (Testimony of Race); MWG Ex. 511 (Map of Will County Ponds 1N and 1S); MWG Ex. 656 (Will County CCA).

## **2.Additional Groundwater Monitoring Wells and Future Groundwater Monitoring**

634. In the Powerton and Waukegan CCAs, MWG agreed to install additional monitoring wells. 1/30/18 Tr. pp. 93:9-23, 165:8-10 (Testimony of Race).

635. In all of the CCAs, MWG agreed to continue groundwater monitoring on a quarterly basis. MWG Exs. 626, p. MWG13-15\_573 (Joliet 29 CCA); MWG Ex. 636, MWG13-15\_554 (Powerton CCA); MWG Ex. 647, MWG13-15\_567 (Waukegan CCA); MWG Ex. 656, MWG13-15\_561 (Will County); 1/30/18 Tr. pp. 35:22-36:7, 165:14-16 (Testimony of Race).

## **3.Groundwater Management Zones and ELUCs**

636. In the CCAs, MWG agreed to establish a groundwater management zone (“GMZ”) pursuant to 35 Ill. Adm. Code 620.250 at the Powerton, Will County and Joliet 29 Stations. Comp. Exs. 242, 254, 276P (MWG Applications for the GMZ at Joliet 29, Powerton, and Will County); MWG Exs. 626, 636, 656 (CCAs for Joliet 29, Powerton, and Will County); MWG Ex. 627, 638, 658 (Illinois Approval of GMZs at Joliet 29, Powerton and Will County); 1/30/18 Tr. p. 216:5-7 (Testimony of Race).

637. Upon establishment of the GMZs at the Stations, otherwise applicable groundwater standards are not applicable to the groundwater within the GMZ area at the Stations. 1/30/18 Tr. p. 36:16-18 (Testimony of Race); 2/1/18 Tr. p. 107:9-17, 166:24-167:6 (Testimony of Gnat).

638. On January 18, 2013, MWG submitted its applications for the GMZ for the Joliet 29, Powerton, and Will County Stations. 1/30/18 Tr. p. 37:22-38:15 (Testimony of Race); Comp. Exs. 242, 253, and 276 (Applications for GMZs for Joliet 29, Powerton, and Will County).

639. The GMZ area at each of the Stations covers large parts of the three Stations, including the ash ponds, the groundwater monitoring wells, and the surrounding areas, and upon establishment, MWG has not heard from Illinois EPA related to any concerns with the GMZs or groundwater. MWG Ex. 901, p. 23, 39, 67 (Seymour Presentation, SOF Attachment 1); MWG Ex. 667, pp. 4, 13, 29 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); Comp. Ex. 242 (Application for GMZ at Joliet 29); Comp. Ex. 254 (Application for GMZ at Powerton); Comp. Ex. 276 (Application for GMZ at Will County); 2/1/18 Tr. pp. 112:16-19, 140:2-5, 167:7-11 (Testimony of Gnat).

640. **At Joliet 29, MWG applied for a Groundwater Management Zone (“GMZ”) for the area including the ash ponds.** JAS No. 55; Comp. Ex. 242.

641. **Illinois EPA approved the Joliet 29 GMZ on August 8, 2013.** JAS No. 56; MWG Ex. 627.

642. **At Powerton, MWG applied for a GMZ that covers the eastern part of the Station including the ash ponds.** JAS No. 58; Comp. Ex. 254.

643. **Illinois EPA approved the Powerton GMZ on October 3, 2013.** JAS No. 59; MWG Ex. 638.

644. **At Will County, MWG applied for a GMZ that covers the middle part of the Station including the ash ponds.** JAS No. 66; Comp. Ex. 276.

645. **Illinois EPA approved the Will County GMZ on July 2, 2013.** JAS No. 67; MWG Ex. 658.

646. MWG also established Environmental Land Use Controls (“ELUCs”) as corrective actions pursuant to 35 Ill. Adm. Code 742.1010 at Powerton, Will County, and Waukegan. Comp. Ex. 253, 263 and MWG Ex. 659 (Applications for ELUC for Powerton, Waukegan and Will County; MWG Exs. 639, 650, 660 (Illinois EPA’s approval of ELUCs at Powerton, Waukegan and Will County); 1/30/18 Tr. p. 216:8-10 (Testimony of Race).

647. An ELUC is an institutional control tool in which a designated parcel of land has certain use restrictions, such as not allowing the installation of any groundwater or water wells within the defined ELUC area to prevent any human receptor, and once it is agreed upon the ELUC is registered on the deed of the property. 2/1/18 Tr. p. 108:2-14, 167:16-21 (Testimony of Gnat).

648. **At Powerton, MWG applied for an ELUC that covers the eastern part of the Station including the ash ponds.** JAS No. 60; Comp. Ex. 253.

649. The area for the ELUC at Powerton is identical to the area of the GMZ established at Powerton. MWG Ex. 901, p. 39-40, 68 (Seymour Presentation, SOF Attachment 1); Comp. Ex. 253 (Application for ELUC at Powerton); Comp. Ex. 254 (Application for GMZ at Powerton).

650. **Illinois EPA approved the Powerton ELUC on August 26, 2013.** JAS No. 61; MWG Ex. 639.

651. **At Waukegan, MWG applied for an ELUC that covers the remaining Waukegan Station property that was not already included in the existing Former Tannery Site ELUC, including the ash ponds.** JAS No. 63; Comp. Ex. 263, MWG Ex. 667, pp. 21-22.

652. The area of the Waukegan CCA ELUC extends from the Griess-Pfleger Tannery ELUC and over the ash ponds and the surrounding areas. Comp. Ex. 263 (Application for ELUC at Waukegan); MWG Ex. 901, p. 52 (Seymour Presentation, SOF Attachment 1); 1/30/18 Tr. p. 165:17-166:2 (Testimony of Race).

653. **Illinois EPA approved the Waukegan ELUC on August 26, 2013.** JAS No. 64; MWG Ex. 650.

654. **At Will County, MWG applied for an ELUC that covers the middle part of the Station including the ash ponds.** JAS No. 68; MWG Ex. 659.

655. The area for the ELUC at Will County is identical to the GMZ established. Comp. MWG Ex. 901, p. 67-68 (Seymour Presentation, SOF Attachment 1); Comp. Ex. 276 (Application for GMZ at Will County); MWG Ex. 659 (MWG Proposed ELUC for the Will County Station).

656. **Illinois EPA approved the Will County ELUC on September 26, 2013.** JAS No. 69; MWG Ex. 660; 1/30/18 Tr. p. 224:4-11.

#### **4.CCA Certifications**

657. **On October 9, 2013, MWG submitted to Illinois EPA its certification that all of the Joliet 29 CCA measures were successfully completed.** JAS No. 57; MWG Ex. 630 (CCA Compliance Certification Joliet 29).

658. **On October 17, 2013, MWG submitted to Illinois EPA its certification that all of the Powerton CCA measures were successfully completed.** JAS No. 62; MWG Ex. 637 (CCA Compliance Certification Powerton).

659. **On October 22, 2013, MWG submitted to Illinois EPA its certification that all of the Waukegan CCA measures were successfully completed.** JAS No. 65; MWG Ex. 651 (CCA Compliance Certification Waukegan).

660. **On October 17, 2013, MWG submitted to Illinois EPA its certification that all of the Will County CCA measures were successfully completed.** JAS No. 70; MWG Ex. 661(CCA Compliance Certification Will County).

661. In its Compliance Statements, MWG certified that all of the alleged violations in the Violation Notice were addressed and that all CCA measures were completed on time. MWG Exs. 630, 637, 651, and 661 (CCA Compliance Statements for Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. pp. 45:2-12, 96:21-97:6, 179:17-180:14, 226:13-18 (Testimony of Race).

#### **IV. CCR COMPLIANCE**

662. In December 2014, U.S.EPA adopted new Coal Combustion Residual (“CCR”) Rules. MWG Exs. 663, p. 5 (Joliet 29 Timeline of Events); 664, p. 7 (Powerton Timeline of Events); 665, p. 10 (Waukegan Timeline of Events); 666, p. 6 (Will County Timeline of Events); Comp. Ex. 406 (Federal CCR Rules).

663. Upon their adoption, MWG assessed how the new CCR Rules would affect its ash ponds. 1/30/18 Tr. p. 46:8-13; 101:13-102:4 (Testimony of Race).

664. At the Joliet 29, Powerton, Will County, and Waukegan Stations, MWG personnel are conducting the weekly inspections required under the CCR rules. 1/30/18 Tr. p. 47:23-48:9, 227:11-16 (Testimony of Race); 1/31/18 Tr. p. 148:19-6 (Testimony of Kelly); 1/31/18 Tr. 237:23-238:12 (Testimony of Veenbaas).

665. The CCR inspections are in addition to the inspections conducted by the operator inspections conducted during every shift. 1/31/18 Tr. p. 147:19-148:6 (Testimony of Kelly); 1/31/18 Tr. 238:18-22 (Testimony of Veenbaas).

666. Once the inspection is completed, MWG creates a record of the inspection, and stores the record in the Station library. 1/31/18 Tr. p. 148:7-14 (Testimony of Kelly).

667. If the inspector finds a tear or damage to the liner, then the same procedure for repairing the tear as described above. 1/31/18 Tr. p. 148:15-19 (Testimony of Kelly).

668. MWG has retained KPRG to conduct the groundwater sampling required under the Federal CCR Rules. 10/26/17 Morning Tr. p. 10:13-21 (Testimony of Gnat)

669. The CCR groundwater samples are taken from similar groundwater wells as the CCA data at Joliet 29, Powerton, Waukegan, and Will County. 10/26/17 Morning Tr. p. 11:5-19 (Testimony of Gnat).

670. MWG is complying with requirements of CCR rules at its Stations. 1/30/18 Tr. p. 48:5-12, 102:13-104:13, 181:2-13, 227:11-16 (Testimony of Race).

**APPENDIX B**

**MIDWEST GENERATION, LLC'S  
STATEMENT OF SUPPLEMENTAL  
FACTS NOS. 671-1177**

**APPENDIX B**

**MIDWEST GENERATION, LLC'S STATEMENT OF SUPPLEMENTAL FACTS**

*This Appendix B: Statement of Supplemental Facts presents the facts established at the second hearing that supplement the facts established at the first hearing (see Appendix A – Statement of Facts). Accordingly, the paragraph numbering in this Appendix B is continued from Appendix A.*

The **Bolded** statements are uncontested facts on which the Complainants and MWG specifically agree based on the Joint Statement of Facts or testimony of Complainants' experts.

**I. GENERAL FACTS**

**A. MWG's Testifying Witnesses at Second Hearing**

671. Sharene Shealey began working for MWG in 2015 as the Environmental Director for Midwest Generation, LLC ("MWG"), where she directs the compliance with environmental rules and laws, and help support the MWG plants in their operations to maintain compliance with environmental laws and regulations. 6/14/23 Tr. p. 112:19-113:23 (Testimony of Shealey).

- a. In particular, she oversees the preparation and submission of permit applications, supports the reporting requirements, engages consultants and experts to support MWG's operations, and communicates regularly with regulatory agencies. 6/14/23 Tr. p. 113:3-23 (Testimony of Shealey).
- b. Her environmental compliance responsibilities included the ash ponds at Joliet 29, Powerton, Waukegan, and Will County. 6/14/23 Tr. p. 113:24-114:3 (Testimony of Shealey). Her responsibilities include overseeing the permit applications for the coal combustion residual ("CCR") surface impoundments, reviewing reports required under the federal and state CCR rule, and recommending experts for the MWG plants to engage to conduct the activities required under the rules. 6/14/23 Tr. p. 114:4-19. (Testimony of Shealey).
- c. Ms. Shealey supports the MWG plants for budgeting and costs associated with compliance, including engaging consultants to conduct the work required, including the sampling required. 6/14/23 Tr. p. 115:5-17. (Testimony of Shealey).
- d. Ms. Shealey currently lives in Will County, close to the Will County Station in Romeoville. 6/14/23 Tr. p. 202:17-203:3. (Testimony of Shealey).
- e. Before working at MWG, Ms. Shealey worked at a power producing company in Pennsylvania, which produced power with coal, gas, and oil. At the company, she learned how power plants operate, including their waste streams, the purpose of power plants, the environmental regulations related to power plants. 6/14/23 Tr. p. 110:18-111:20 (Testimony of Shealey).
- f. Ms. Shealey was elected as a "School Director" (a/k/a School Board Member) for the Pittsburgh Public Schools for a four year term. 6/14/23 Tr. p. 112:7-18 (Testimony of Shealey).



- g. Ms. Shealey has a Bachelor of Science degree from Howard University and a Master of Science degree in chemical engineering from Carnegie Mellon University. 6/14/23 Tr. p. 108:24-109:3 (Testimony of Shealey).

672. Richard Gnat is a Principal at KPRG & Associates (“KPRG”), a company that specializes in soil and groundwater impact issues. 2/1/18 Tr. p. 82:24-83:17 (Testimony of Gnat); 5/19/23 Tr., p. 110:15-111:5. Mr. Gnat has conducted multiple projects at Joliet 29, Powerton, Waukegan, and Will County (“Stations”) and has visited all of the Stations multiple times. 2/1/18 Tr. p. 84:3-24 (Testimony of Gnat). Ms. Gnat is a professional geologist in Illinois and Wisconsin. 5/19/23 Tr., p. 17-22 (Testimony of Gnat).

673. Douglas Dorgan is the co-president of Weaver Consultants Group (“Weaver”), an environmental, civil, and geotechnical engineering consulting firm. 6/12/23 Tr., p. 164:9-19. Mr. Dorgan joined Weaver in 1995. In his time at Weaver, he has led the environmental practice group, the civil survey group, and the geotechnical group. 6/12/23 Tr., p. 164:20-165:3 (Testimony of Dorgan); Weaver Expert Report on Relief and Remedy, MWG Ex 1701, p p1-2 (“Weaver Expert Report”).

- a. Mr. Dorgan has expertise in the area of brownfields redevelopment (among others), which looks at older industrial properties going through closure and/or redevelopment. Mr. Dorgan evaluates the industrial properties for long-term uses, and whether there are any legacy environmental concerns and how the concerns might influence the redevelopment of and future uses of the properties. 6/12/23 Tr., p. 167:14-168:6 (Testimony of Dorgan); MWG Ex. 1701 (Weaver Expert Report), MWG13-15\_81418-19 and 81489.
- b. Mr. Dorgan also has expertise in remediation design and cost modeling, which is an outgrowth of the brownfields work. The remediation design and cost modeling uses risk-based strategies. 6/12/23 Tr., p. 168:20-169:14 (Testimony of Dorgan); MWG Ex. 1701, MWG13-15\_81418-19 and 81489.
- c. Mr. Dorgan has additional expertise in groundwater impact assessments, which evaluates whether there was a release to groundwater, the condition of the groundwater, and any downgradient receptors. The assessments include an analysis of risk-based corrective actions, including evaluating the potential pathways for exposure of the contamination. 6/12/23 Tr., p. 172:9-24 (Testimony of Dorgan); MWG Ex. 1701, MWG13-15\_81419 and 81489.
- d. Mr. Dorgan’s experience includes working with coal combustion byproducts (“CCB”) and CCR for many years predating the CCR rules. Many of the sites he has worked on had CCR as a component of the site conditions, and he also worked at sites that were exclusively CCR, including a large landfill in northwest Indiana and closure of CCR units, including two in New Jersey. 6/12/23 Tr., p. 176:18-177:6 (Testimony of Dorgan); MWG Ex. 1701, MWG13-15\_81489.
- e. In Mr. Dorgan’s experience, when conducting a corrective action in Chicago, CCR is encountered frequently as part of the Chicago fill materials, stating “pretty much

any site we do in the city involves Chicago fill materials, and CCRs are often a component of the materials we are dealing with.” 6/12/23 Tr., p. 177:10-17 (Testimony of Dorgan); MWG Ex. 1701, MWG13-15\_81489.

674. Michael Maxwell is the Chicago Environmental Practice Group Operations Manager for Weaver. 6/12/23 Tr., p. 180:24-181:5 (Testimony of Maxwell); MWG Ex. 1701 (Weaver Expert Report), MWG13-15\_81419 and 81492. Mr. Maxwell joined Weaver in 1996. *Id.* p. 181:9-10 (Testimony of Maxwell).

- a. Mr. Maxwell has worked on hundreds of brownfield sites, including sites in Illinois within the Illinois SRP and TACO program. 6/12/23 Tr., p. 181:11-23 (Testimony of Maxwell); MWG Ex. 1701, MWG13-15\_81492.
- b. Mr. Maxwell’s experience with brownfield sites includes remedy evaluation, and using the information gathered at the site to design a proper remedy that is protective of human health and the environment based upon the data collected and the available technologies that are practicable and feasible. 6/12/23 Tr., p. 182:3-19 (Testimony of Maxwell).
- c. Mr. Maxwell’s experience includes sites that have CCR, including CCR landfills, brownfield sites, industrial waste landfills, and sites subject to the federal CCR rule. 6/12/23 Tr., p. 183:7-21 (Testimony of Maxwell).
- d. Mr. Maxwell has designed and installed groundwater monitoring programs for over 25 years, including at brownfield sites. 6/12/23 Tr., p. 185:13-186:6 (Testimony of Maxwell).

675. Mr. Dorgan and Mr. Maxwell testified as a panel. 6/12/23 Tr., p. 164:2-5 (Testimony of Weaver). For this matter, they worked to review the Illinois Pollution Control Board’s (“Board”) 2019 and 2020 opinions and develop the appropriate remedy and relief for the four MWG Stations. 6/12/23 Tr., p. 165:10-16 (Testimony of Weaver); *see* Weaver Expert Report, MWG Ex. 1701. Mr. Dorgan and Mr. Maxwell collaborated closely on the project as a whole, but Mr. Dorgan focused more on the Waukegan and Powerton Stations, and Mr. Maxwell focused on the Joliet 29 and Will County Stations. 6/12/23 Tr., p. 165:20-166:7 (Testimony of Weaver).

676. The Hearing Officer accepted and qualified both Mr. Dorgan and Mr. Maxwell as experts in site remediation in this matter without objection from the Complainants. 6/12/23 Tr., p. 188:15-22 (Testimony of Weaver).

677. Brian Richard is the Assistant Director at the Center for Governmental Studies at Northern Illinois University, which conducts economic development and workforce development analysis, evaluation, and policy development. 6/15/23 Tr., p. 9:2-6 (Testimony of Richard); MWG Ex. 1801. Dr. Richard has a Ph.D. in international development, a master’s degree in applied economics, and a bachelor’s degree in finance. 6/15/23 Tr., p. 8:21-23 (Testimony of Richard); MWG Ex. 1801. He is certified as an economic development finance professional, which is focused on economic development and financial analysis. 6/15/23 Tr., p. 10:2-5 (Testimony of Richard); MWG Ex. 1801. He is also certified to use the IMPLAN economic model. 6/15/23 Tr., p. 10:13-19 (Testimony of Richard); MWG Ex. 1801.

- a. IMPLAN stands for Impact Analysis for Planning and is model that estimates the economic impacts of economic activities, such as a factory, a retail operation, or a service industry. 6/15/23 Tr., p. 10:21-11:1 (Testimony of Richard); MWG Ex. 1802, MWG13-15\_82254. The model estimates the money the employees at a company are spending in the local economy, the additional jobs created by the employees' spending at the local stores, and the company's purchasing inputs and the jobs and income created from the activities. 6/15/23 Tr., p. 11:2-14 (Testimony of Richard).
- b. The IMPLAN model uses over 90 data sources, including data from the Bureau of Labor Statistics, the Bureau of Economic Analysis, and the Census Bureau. 6/15/23 Tr., p. 11:17-20 (Testimony of Richard). It was originally developed by the U.S. Forest Service, and is the most commonly used economic impact model in the U.S., used by universities, state agencies and federal agencies. 6/15/23 Tr., p. 12:3-19 (Testimony of Richard).
- c. The inputs for the IMPLAN model are the number of employees at a company, the total payroll, the total sales at the business, and the size of the business. 6/15/23 Tr., p. 12:22-13:3 (Testimony of Richard). The model can also be customized to evaluate the economic activities from a particular industry.

678. The Hearing Officer accepted and qualified Dr. Richard as an expert in economic value in this matter without objection from the Complainants. 6/15/23 Tr., p. 13:4-12 (Testimony of Richard).

679. Gayle Koch is a principal with Axlor Consulting, consulting on matters that involve a combination of technical and economic issues. 6/15/23 NDI Tr., p. 9:10:17 (Testimony of Koch); MWG Ex. 1901, MWG13-15\_82228. She has a Bachelor of Science in chemical engineering and a Bachelor of Science in humanities and engineering in the Science, Technology, and Society Program, from Massachusetts Institute of Technology ("MIT"), and a masters in science in management science with a concentration in applied economics, corporate strategy and technologic innovation from MIT. 6/15/23 NDI Tr., p. 7:23-8:6 (Testimony of Koch); MWG Ex. 1901, MWG13-15\_82228. She has worked in the environmental consulting industry on over one thousand remediation sites. 6/15/23 NDI Tr., p. 31:4;

- a. Ms. Koch is the technical contact (a/k/a resource) for the ASTM International standard guide for estimating monetary costs and liabilities for environmental matters. She developed the standard in the 1990's, and has been the technical contact since it was approved in 2001. 6/15/23 NDI Tr., p. 10:13-11:5 (Testimony of Koch); MWG Ex. 1901, MWG13-15\_82228.
- b. Ms. Koch has testified as an expert dozens of times, and her opinion has never been excluded by a court or a judicial body. 6/15/23 NDI Tr., p. 9:20-10:10 (Testimony of Koch).

- c. Ms. Koch also teaches a course on how to be an expert for the American Institute of Chemical Engineers, including important considerations when becoming an expert. 6/15/23 NDI Tr., p. 11:15-22 (Testimony of Koch).

680. The Hearing Officer accepted and qualified Ms. Koch as an expert in the evaluation of economic benefit and factors related to economic benefit without objection from the Complainants. 6/15/23 NDI Tr., p. 14:23-15:7 (Testimony of Koch).

**B. MWG's Business Operations**

681. The below information, addressing MWG's Business Operations at the MWG Stations, is in addition to the information provided during the first hearing about MWG's Business Operations at the MWG Stations found in SOF 12-18 in Appendix A.

682. MWG's policy regarding environmental compliance is a "simple statement that empowers each [person in the company] to act to protect environment before we would produce a megawatt" in other words it is "environment over production" and the number one goal is to comply with environmental laws and regulations. 6/14/23 Tr. p. 117:5-8, 275:18-22 (Testimony of Shealey).

683. **The Joliet 29 Station, Powerton Station, Waukegan Station, and Will County Station generate electricity sold on the PJM Energy Market, and offer generating capacity sold on PJM's capacity market.** 2022 Joint Agreed Stipulations for the Continued Hearing ("2022 Joint Stipulations), No. 1.

684. The Stations were used to fill the needs during peak needs for energy. For example, when it is very hot or very cold and the electricity demand is greater than normal, MWG would run its units to meet demand to avoid brownouts and blackouts. 1/29/18 Tr. p. 168:17-169:1 (Testimony of Race); 6/14/23 Tr., p. 119:22-120:11 (Testimony of Shealey); Appen. A, SOF 13-14.

685. **On May 26, 2016, the Joliet 29 Station began generating electricity with natural gas.** 2017 Joint Agreed Stipulations No. 14; 6/14/23 Tr. p. 133:23-24. (Testimony of Shealey); Appen. A, SOF 66.

686. In 2021, approximately 42 employees worked at the Joliet 29 Station. MWG Ex. 1601.

687. Joliet 29 will continue to employ people at the station. 6/14/23 Tr., p. 279:17-19 (Testimony of Shealey).

688. Powerton will continue to generate electricity as a coal-fired power plant. 6/14/23 Tr., p. 232:8-11 (Testimony of Shealey).

689. In 2021, approximately 100 employees worked at the Powerton Station. MWG Ex. 1601.

690. As Powerton will continue to operate, it will continue to employ people at the station. 6/14/23 Tr., p. 278:22-279:1 (Testimony of Shealey).

691. **MWG has publicly announced that the Waukegan Station is scheduled to cease burning coal in June 2022.** 2022 Joint Stipulation, No. 19; 6/14/23 Tr. p. 236:13-16 (Testimony of Shealey).

692. In May 2022, the Waukegan Station ceased burning coal, and continues to have peaker units that operate during peak demand. 6/14/23 Tr. p. 120:19-121:5 & 236:17-24 (Testimony of Shealey); 6/13/23 Tr., p. 129:19-20 (Testimony of Weaver); 6/14/23 Tr., p. (Testimony of Shealey).

693. In 2021, approximately 64 employees worked at the Waukegan Station. MWG Ex. 1601.

694. **Midwest Generation has publicly announced that the Will County Station is scheduled to cease burning coal in June 2022.** 2022 Joint Stipulation, No. 24; 6/14/23 Tr. p. 263:19-22 (Testimony of Shealey).

695. In June 2022, the Will County Station ceased burning coal to generate electricity. 6/14/23 Tr. p. 121:8 & 263:23-264:3 (Testimony of Shealey); MWG Ex. 1702, p. 52 (Weaver Presentation); 6/13/23 Tr., p. 90:22 (Testimony of Weaver).

696. Approximately 46 employees work at the Will County Station. MWG Ex. 1601.

697. Both the Waukegan Station and Will County Station have plans to install battery storage units, which will enhance renewable energy resource usage. Renewable energy resources may only operate when weather conditions allow (*i.e.* – when it is sunny or windy). Batteries store the electricity from the renewable resources, for use when the renewable resource is not available, such as at night. 6/14/23 Tr., p. 121:11-122:4 & 264:4-7 (Testimony of Shealey).

698. As Waukegan will continue to operate with the peaker units and with battery storage, it will continue to employ people at the station. 6/14/23 Tr., p. 279:2-10 (Testimony of Shealey).

699. The battery storage projects will bring construction jobs to Lake County. 6/14/23 Tr., p. 324:5-11 (Testimony of Shealey).

700. As Will County will continue to operate with battery storage, it will continue to employ people at the station. 6/14/23 Tr., p. 279:11-16 (Testimony of Shealey).

701. The battery storage projects will bring construction jobs to Will County. 6/14/23 Tr., p. 324:5-11 (Testimony of Shealey).

### **C. Common Factors at the MWG Stations**

702. The below information, addressing Common Factors at the MWG Stations, is in addition to the information provided during the first hearing about Common Factors at the MWG Stations found in SOF 19-22 in Appendix A.

703. **Each of the four Stations has ash ponds subject to 40 C.F.R. §257 (“federal CCR rule”) and/or 35 Ill. Adm. Code 845 (“state CCR Rule”).** 2022 Joint Stipulations, Nos. 3, 8, 17, 18, 25, 26.

704. The four Stations are all in industrial areas, which are suitable for the stations’ operations. 6/14/23 Tr. p. 277:9-15 (Testimony of Shealey).

705. Because the Waukegan and Powerton Stations are about 100 years old, the stations were at their locations first. 6/14/23 Tr. p. 277:16-24 (Testimony of Shealey).

706. The Stations are not RCRA or CERCLA cleanup sites, but instead would be considered brownfield sites because each property has a long history of industrial use. 6/12/23 Tr., p. 168:10-15, 170:8-13 (Testimony of Weaver).

707. Fly ash generated at the Stations is sent offsite for beneficial reuse, and was not placed or stored on the Station property. 6/14/23 Tr. p. 126:6-10 (Testimony of Shealey).

708. Other than the surface impoundments and the fly ash being sent offsite, ash is not placed in other locations at the MWG Stations. 6/14/23 Tr. p. 126:11-18. (Testimony of Shealey).

709. Environmental Groups’ counsel stated that their “expert witnesses had not found an immediate risk to drinking water.” MWG Ex. 1602, p. 3; 6/14/23 Tr. p. 130:8-19. (Testimony of Shealey).

710. Environmental Groups’ counsel stated that “most of the coal ash repositories at Midwest Generation's coal plants are lined, and unlike many other companies, Midwest Generation frequently emptied the ash and sold it for 'beneficial reuse' as construction materials and other uses. That means Midwest Generation's active coal ash ponds subject to the state and federal rules were probably less likely to be contaminating groundwater than at many other coal ash sites,” MWG Ex. 1602, p. 4; 6/14/23 Tr. p. 130:20-131:10 (Testimony of Shealey).

711. From approximately 2000-2013, MWG investigated the impoundments, assessed potential risks, and conducted a Station-wide pond relining project. MWG Ex. 901, p. 6 (Seymour Presentation); 6/14/23 Tr. p. 146:7-147:9 (Testimony of Shealey); MWG Ex. 1607 (timeline), pp. 8, 26, 39, 59; MWG Ex. 1701, MWG13-15\_81472 (Weaver Expert Report).

712. At all of the Stations, there is no risk to potential receptors. MWG Ex. 901, pp. 6, 10 (Seymour Presentation); MWG Ex. 903, Appen. B (Seymour Expert Report); MWG Ex. 907 (Seymour Update to Appendix B of Expert Report - Updated Risk Analysis); MWG Ex. 1701, MWG13-15\_81462-81464 (Weaver Expert Report); 6/12/23 Tr., p. 222:1-5; Appen. A, SOF 22. 6/12/23 Tr., p. 220:5-6 & 6/13/23 Tr. p. 84:1-7, 104:10-105:4 (Weaver Testimony); MWG Ex. 1702, p. 25, 44, 63 (Weaver Presentation).

713. None of the Stations has been subject of an enforcement action by the Illinois Attorney General’s Office or USEPA for a groundwater violation. 6/14/23 Tr. p. 278:13-21 (Testimony of Shealey).

714. A groundwater monitoring system is a complex dynamic system because groundwater is constantly flowing, and as additional information is collected it is common for the system to be adjusted based upon new information collected. 6/12/23 Tr., p. 186:21-187:4 (Testimony of Weaver).

## **II. ADDITIONAL AND UPDATED INFORMATION ON THE MIDWEST GENERATION STATIONS**

### **A. The Joliet 29 Station**

715. The below information regarding the Joliet 29 Station is in addition to the information provided during the first hearing about the Joliet 29 Station found in SOF 61-148 in Appendix A.

716. A timeline of events for the Joliet 29 Station can be found at MWG Ex. 663 and the updated timeline of events can be found in Ex. 1607.

717. The Joliet 29 Station was built in 1964-1965 and has been a power plant since 1964. MWG Ex. 663 (Joliet 29 Timeline of Events); MWG Ex. 901, p. 14 (Seymour Presentation); 1/29/18 Tr. p. 182:9-17 (Testimony of Race); 6/14/23 Tr. p. 145:23-146:2. (Testimony of Shealey); MWG Ex. 1607, p. 8; MWG Ex. 1702, p. 11 (Weaver Presentation); Appen. A, SOF 64.

718. The Joliet 29 Station is zoned I-3, an industrial classification. MWG Ex. 1607, p. 5; 6/14/23 Tr. p. 134:13-17. (Testimony of Shealey).

719. The Joliet 29 Station is in a predominantly industrial area. 6/12/23 Tr., p. 272:12-13 (Testimony of Weaver); SOF 68.

720. The former Caterpillar, Inc. manufacturing facility is adjacent to the west of the Joliet 29 Station, and is now a transportation hub. 1/29/18 Tr. p. 179:19-22 (Testimony of Race); MWG 667 p. 2 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 6/14/23 Tr. p. 133:14-15. (Testimony of Shealey); 6/12/23 Tr., p. 13:23-14:5 (Testimony of Gnat); MWG Ex. 1702, p. 11 (Weaver Presentation); Appen. A, SOF 69.

721. Channahon Road borders the Joliet 29 Station to the north, beyond which are commercial and industrial facilities. MWG 667 p. 2; 1/29/18 Tr. p. 179:23-180:6 (Testimony of Race); 10/26/17 Morning Tr. p. 36:19-37:1 (Testimony of Gnat); 6/12/23 Tr., p. 13:21-23 (Testimony of Gnat); MWG Ex. 1702, p. 11 (Weaver Presentation); 6/12/23 Tr., p. 272:15-17 (Testimony of Weaver); Appen A., SOF 70.

722. Channahon Road (Route 6) is a four-lane highway that runs adjacent and upgradient to the Joliet 29 ash ponds; another four-lane highway intersects Channahon Road near the northwest corner of Ash Pond 1. 10/26/17 Morning Tr. p. 36:19-37:8 (Testimony of Gnat); 6/14/23 Tr. p. 133:8-15. (Testimony of Shealey); 5/19/23 Tr., p. 155:4-8 (Testimony of Gnat); Appen. A., SOF 71.

723. Road salt, which has chloride as one of its elements, is commonly spread on the roads in the Chicagoland area in the winter. 10/26/17 Morning Tr. p. 37:9-13. (Testimony of Gnat); 6/12/23 Tr., p. 15:17-19 (Testimony of Gnat); Appen. A, SOF 72.

724. Road salt is primarily a calcium carbonate-type material, or calcium chloride. 6/12/23 Tr., p. 15:20-16:1 (Testimony of Gnat).

725. To the east of the Joliet 29 Station is the Brandon Road Lock and Dam, which was installed for flood control and allows for barges and boats to move through the Des Plaines River. 6/12/23 Tr., p. 13:20-21, 14:6-14 (Testimony of Gnat); 6/12/23 Tr., p. 272:22-23 (Testimony of Weaver); MWG Ex. 1702, p. 11.

726. Boats and barges travel on the Des Plaines River on a regular basis. 6/12/23 Tr., p. 14:15-18 (Testimony of Gnat).

727. **There are no potable wells downgradient of the Joliet 29 ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/29/18 Tr. p. 254:5-11 (Testimony of Race); 2/1/18 Tr. p. 278:13-23 (Testimony of Seymour); 2/2/18 Tr. pp. 43:16-23 (Testimony of Seymour); MWG Ex. 901, p. 14; MWG Ex. 1702, p. 20 (Weaver Presentation); 6/12/23 Tr., p. 300:12-17 (Testimony of Weaver); Appen. A, SOF 76.

728. The groundwater flow at the Joliet 29 Station generally flows in a southerly direction towards the Des Plaines River. 2/1/18 Tr. pp. 97:13-98:7, p. 109:19-110:1 (Testimony of Gnat); 5/19/23 Tr. p. 113:10-13; MWG Ex. 901, p. 20 (Seymour Presentation); MWG Ex. 1702, p. 20 (Weaver Presentation); Appen. A, SOF 77.

729. **At times, the groundwater at Joliet 29 has a component of flow from the Northeast Area towards MW-1 and MW-2.** MWG Ex. 1702, p. 20 (Weaver Presentation); 6/12/23 Tr., p. 301:2-302:21 (Testimony of Weaver); Comp. Ex. 12C, Comp. 12C, MWG13-15\_6983; Comp. Ex. 401, p. 10 (Kunkel Report).

**i. The Joliet 29 Ponds**

730. Ponds 1 and 3 at Joliet 29 are not CCR surface impoundments. Ex. 1604 - *In the Matter of: Petition for Midwest Generation, LLC for Adjusted Standard from 35 Ill. Adm. Code 845.740(a) and Finding of Inapplicability of 35 Ill. Adm. Code 845*, Order (May 18, 2023); 6/14/23 Tr. p. 136:3-13. (Testimony of Shealey); MWG Ex. 1607, p. 7.

731. MWG confirmed that Ponds 1 and 3 are not CCR surface impoundments by conducting a bathymetric survey of the ponds, sampling the “muck” at the base of the ponds, and confirming that the material was not CCR. 6/14/23 Tr. p. 136:18-137:2. (Testimony of Shealey); 5/19/23 Tr., p. 130:18-139:16; MWG Ex. 1501, MWG13-15\_120498-120503, MWG13-15\_120515; 6/12/23 Tr., p. 276:4-12 (Testimony of Weaver).

732. Illinois Environmental Protection Agency (“IEPA” or “Agency”) and the Board agreed that both ponds (1 and 3) are not CCR surface impoundments. 6/14/23 Tr. p. 138:12-18 (Testimony of Shealey); MWG Ex. 1603, MWG13-15\_120535; MWG Ex. 1604, p. 7.

733. **Pond 2 at Joliet 29 is a CCR surface impoundment as defined in 415 ILCS 5/3.143.** 2022 Joint Stipulation No. 3; MWG Ex. 1604, p. 7.



734. The ash in Pond 2 was removed in 2019, and Pond 2 does not contain ash. 5/19/23 Tr., p. 17:19, 6/14/23 Tr. p. 141:2-7 (Testimony of Shealey); Ex. 1607, p. 7, 13; 6/12/23 Tr., p. 276:4-12 (Testimony of Weaver).

**ii. Other Ash Areas at Joliet 29 Station**

735. Before MWG began operating at the Joliet 29 Station, ENSR, on behalf of the prior owner, identified two areas where ash had been placed as fill in the past (“historic ash areas”) in the Phase II report. MWG Ex. 901, p. 23 (Seymour Presentation); Comp. Ex. 20D (Joliet 29 1998 ENSR Phase II); MWG Ex. 1701, MWG13-15\_81451 (Weaver Expert Report); MWG Ex. 1702, p. 14 (Weaver Presentation); Appen. A, SOF 119.

736. One of the locations is on the Northeast Area of the Joliet 29 Station and a second is on the Southwest Area of the Joliet 29 Station. MWG Ex. 901, p. 23 (Seymour Presentation); MWG Ex. 667, p. 7 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 1701, MWG13-15\_81474 (Weaver Expert Report); Appen. A, SOF 120.

737. When MWG began operating Joliet 29, MWG considered the identified areas of historic ash and concluded, based upon the Phase II report and other advice, that no further investigation or remediation was required in the historic ash areas. 1/29/18 Tr. p. 206:20-207:13 (Testimony of Race); Appen. A, SOF 121. 6/12/23 Tr., p. 283:16-284:7, 6/13/23 Tr., p. 57:14-24, 98:24-99:6, 134:7-14 (Testimony of Weaver); MWG Ex. 1701, MWG13-15\_81444-81459 (Weaver Expert Report); MWG Ex. 1702, p. 14, 37, 57, 75 (Weaver Presentation).

738. Under current law MWG is not aware of any requirement to conduct additional work at the historic areas of ash at the Joliet 29 station. 6/14/23 Tr., 200:7-11 (Testimony of Shealey).

739. Midwest Generation has not placed ash in the Northeast Area at the Joliet 29 Station. 6/14/23 Tr., p. 186:2-5 (Testimony of Shealey).

740. The Northeast Area at Joliet 29 is a part of the Joliet 29 NPDES stormwater permit, and pursuant to that permit MWG ensures that the area is covered. 1/29/18 Tr. 183:17-21 (Testimony of Race); 6/14/23 Tr., p. 186:17-187:1 (Testimony of Shealey); 5/19/23 Tr., p. 188:13-18 (Testimony of Gnat); Appen. A, SOF 125.

741. Neither U.S. Environmental Protection Agency (“USEPA”) nor the IEPA have asked MWG to investigate the Northeast Area at Joliet 29, other than to conduct walkover inspections pursuant to the Joliet 29 Station NDPEs stormwater permit. 1/29/18 Tr. p. 185:20-24 (Testimony of Race); 6/14/23 Tr., p. 186:17-187:1 (Testimony of Shealey); Appen. A, SOF 122.

742. MWG has consistently complied with the Joliet 29 stormwater permit requirements, and conducted inspections of the Northeast Area to ensure that there were soils and seeding grasses growing in the area. 1/29/18 Tr. p. 185:17-19 (Testimony of Race); 1/30/18 Tr. p. 258:11-20 (Testimony of Race); Appen. A, SOF 126.

743. MWG’s consultant, KPRG & Associates (“KPRG”), conducts a walk-over inspection of the Joliet 29 Northeast Area on an annual basis to identify any erosional features that

may have been exposed. Comp. Exs. 248-251 (2009-2012 Joliet 29 Northeast Area Inspections); MWG Ex. 803-805, 1508-1512 (2012-2022 Joliet 29 Northeast Area Inspections); 2/1/18 Tr. p. 112:20-113-3 (Testimony of Gnat); MWG Ex. 1508-1512; 5/19/23 Tr., p. 188:5-196:23 (Testimony of Gnat); MWG 1702, p. 2 (Weaver Presentation); Appen. A, SOF 127.

744. When Mr. Gnat conducted the first inspection of the Northeast Area in 2009, he observed sparkly, sandy looking material and some “cindery” material mixed in the soil at the bottom of a gully, but no “cindery” material in the sides. 6/12/23 Tr., p. 13:1-5 & 150:20-151:7 (Testimony of Gnat).

745. Mr. Gnat did not observe solid ash or a solid wall of ash, instead it was dirt mixed with ash and cinder. 6/12/23 Tr., p. 151:15-23 (Testimony of Gnat).

746. Other than the soils mixed with ash observed during the inspection in 2009, Mr. Gnat has not seen ash in the Northeast Area at Joliet 29. 6/12/23 Tr., p. 13:6-11 (Testimony of Gnat).

747. Because the Northeast Area is about 40 acres, it takes Mr. Gnat several hours to conduct the inspection, and as part of his inspection he takes photographs of the area. 5/19/23 Tr., p. 194:2-7, 201:10-19 (Testimony of Gnat).

748. For the inspections, KPRG walks the entire length of the embankment along the Des Plaines River of the Northeast Area of the Joliet 29 station, to visually inspect the bank and also the slope up the bank to look for any erosional rails or potential features that might affect the embankment, and takes pictures. 5/17/23 Tr., p. 155:23-156:7 & 5/19/23 Tr., p. 188:18-189:6 (Testimony of Gnat); MWG Ex. 1513.

749. The material in the embankment along the Des Plaines River in the Northeast Area is cobble-type, with dolomite cobble, and heavily vegetated. 5/19/23 Tr., p. 206:5-6, 206:15-207:6, 208:1-12, 209:4-9; 210:5-18 & 6/12/23 Tr., p. 111:12-24, 114:20-115:2, 117:10-21, 153:17-22, 154:17-156:1 (Testimony of Gnat); MWG Ex. 1513.

750. Cobble is a relative grain size – it is a rock about six to eight inches, which is smaller than a boulder. 5/19/23 Tr., p. 208:13-209:1 (Testimony of Gnat).

751. The presence of cobbles is typical of the material removed when the Des Plaines River was dredged when the lock-and-dam was constructed. 5/19/23 Tr., p. 205:6-13 & 6/12/23 Tr., p. 156:19-157:4 (Testimony of Gnat).

752. Cobble is one of the types of river spoils from dredging, and the other types are soft sediments, sands, silts, and clay. 6/12/23 Tr., p. 157:5-12 (Testimony of Gnat)

753. The Northeast Area at Joliet 29 looks like a “jungle,” and when Mr. Gnat conducts the inspection, he does not observe stressed vegetation. 5/19/23 Tr., p. 204:11-19 (Testimony of Gnat); MWG Ex. 1513.

754. In the inspections of the Joliet 29 Northeast Area for 2018 through 2021, Mr. Gnat observed that there was no evidence of erosion or seeps and no repairs were necessary. MWG Ex.

1508-1511 (2018-2021 Joliet 29 Northeast Area Repair Documentation); 5/19/23 Tr., p. 188:5-196:23 (Testimony of Gnat); Ex. 1513 (KPRG 2021 Photos).

755. In the 2022 inspection, KPRG observed the potential development of erosion in the sandy gravel material in the Northeast Area at Joliet 29. In the area, KPRG did not observe ash. 5/19/23 Tr., p. 196:11-197:11 (Testimony of Gnat); MWG Ex. 1512.

756. In the spring of 2023 KPRG returned to the area where it observed some potential erosion in the Northeast Area at Joliet 29; KPRG noted that area may have expanded a little, but still KPRG did not see any ash. KPRG arranged for a contractor to conduct a repair. 5/19/23 Tr., p. 200:2-16 (Testimony of Gnat).

757. Mr. Gnat has also not observed any seeps in the Northeast Area at Joliet 29. 6/12/23 Tr., p. 156:2-18 (Testimony of Gnat).

758. Because no seeps have been observed from the Northeast Area to the Des Plaines River, there is no basis to sample the sediment in the Des Plaines River. 5/18/23 Tr., p. 109:1-9 (Testimony of Gnat).

759. The U.S. Army Corp of Engineers (“USACE”) and the Illinois Dept. of Natural Resources (“IDNR”) approached MWG about using the Northeast Area for a fish barrier at the Brandon Road Lock and Dam on the Des Plaines River to prevent the migration of invasive species into the Great Lakes. 5/19/23 Tr., p. 81:6-13, 6/14/23 Tr., p. 187:2-9; 190:1-14 (Testimony of Shealey).

760. In MWG’s conversations with USACE and IDNR, two agencies informed MWG that the Northeast Area at Joliet 29 contained river spoils from dredging from the Des Plaines River during construction of the Brandon Road Lock and Dam adjacent to the Northeast Area at Joliet 29. 5/19/23 T., p. 81:21-82:10, 6/14/23 Tr., 187:10-14 (Testimony of Shealey); 6/12/23 Tr., p. 319:3-9 (Testimony of Weaver).

761. Based on Ms. Shealey’s experience working at power stations, she does not agree with suggestions that the Northeast Area was historically used as an ash landfill because the source of ash in the past (*i.e.*, a station across the river) was too far away. 6/14/23 Tr., 188:1-20, 292:7-9 (Testimony of Shealey).

762. There is a significant distance between the Northeast Area and the source of ash; it would not make sense for how a coal-fired power plant operates to haul, by truck, large quantities of ash from across the river (where there were there other disposal locations) to the Northeast Area at Joliet 29. 6/14/23 Tr., 188:1-20, 292:7-9 (Testimony of Shealey).

763. KPRG found no reason to evaluate whether there were seeps or other potential impacts at the Des Plaines River downgradient of Ponds 1, 2 and 3 at Joliet 29. The monitoring wells located downgradient of the ponds and between the ponds and the River (MW-2, -3, -4, and -5) show sample results below drinking water standards (which are lower than sediment standards). 5/18/23 Tr., p. 110:3-15, 144:3-12 (Testimony of Gnat).

764. Midwest Generation has not placed ash in the Southwest Area at the Joliet 29 Station. 6/14/23 Tr., p. 191:11-13 (Testimony of Shealey).

765. Neither USEPA nor the IEPA have asked MWG to investigate the Southwest Area at the Joliet 29 Station. 6/14/23 Tr., p. 191:14-24 (Testimony of Shealey).

766. The property adjacent to the west of Joliet 29 was formerly owned and operated by Caterpillar, Inc. (“Caterpillar”); the property is contaminated with metals in the groundwater. The property went through the Illinois SRP process and attained a No Further Remediation Letter from IEPA. MWG Ex. 611 (CenterPoint Caterpillar Request to place ELUC at the Southwest Area at Joliet 29 Station); 1/30/18 Tr. p. 7:4-10, p. 9:5-18 (Testimony of Race); 6/12/23 Tr., p. 272:24-273:4 (Testimony of Weaver); Appen. A, SOF 136.

767. MWG allowed the owner of the Caterpillar property to establish an Environmental Land Use Control (“ELUC”) on the Southwest Area of Joliet 29, and on August 5, 2010, the ELUC was recorded on the MWG property with the Will County Recorder. MWG Ex. 612 (Joliet 29 Recorded ELUC – Aug. 5, 2010); 1/30/18 Tr. p. 7:24-8:2, 10:8-19 (Testimony of Race); MWG Ex. 901, p. 23 (Seymour Presentation); 6/14/23 Tr., p. 192:6-18 (Testimony of Shealey); MWG Ex. 1702, p. 11 (Weaver Presentation); Appen. A, SOF 139.

768. The ELUC covers the western side of the Joliet 29 station, and under the terms of the ELUC MWG is restricted from using the groundwater and from disturbing or removing any soils from the ELUC area. MWG Ex. 612, p. 2 Joliet 29 Recorded ELUC – Aug. 5, 2010); MWG Ex. 667, p. 6 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. p. 11:16-12:21 (Testimony of Race); MWG Ex. 901, p. 23 (Seymour Presentation); 6/14/23 Tr., p. 192:19-23 (Testimony of Shealey); 6/12/23 Tr., p. 273:8-20 (Testimony of Weaver); MWG Ex. 1702, p. 11 (Weaver Presentation); Appen. A, SOF 140.

769. MWG has not disturbed or removed any soil in the Southwest Area. 6/14/23 Tr., p. 192:24-193:3 (Testimony of Shealey).

770. To MWG’s knowledge, IEPA has not required Caterpillar, nor the current owner, to conduct any additional work related to the contamination that is migrating from the neighboring property onto the Joliet 29 property. 6/14/23 Tr., p. 193:4-15 (Testimony of Shealey).

771. As to the Northwest Area at Joliet 29, in 2005, MWG asked its consultant, KPRG, to determine whether fill material located on the northwest side of the Station (Northwest Area) met the requirements of CCB such that it could be beneficially used. Comp. Ex. 293 (Revised Joliet 29 CCB Report); Appen. A, SOF 141.

772. One of the potential beneficial uses of the fill at Joliet 29 was as a wind break along the former coal storage piles. 10/25/17 Tr. p. 106:9-14 (Testimony of Gnat); 6/12/23 Tr., p. 15:1-6; Appen. A, SOF 143.

773. Neither USEPA nor IEPA have asked MWG to investigate the Northwest Area. 6/14/23 Tr., 191:2-8 (Testimony of Shealey).

774. The samples in the Northwest Area were analyzed using method ASTM D3987-85, which is the analysis required by Illinois state statute. 5/17/23 Tr., p. 103:14-22 (Testimony of Gnat); 415 ILCS 5/3.135.

775. The samples and evaluation concluded with a high degree of statistical certainty that a majority of the material in the Joliet 29 Northwest Area met the criteria established in the Illinois Environmental Protection Act and could be beneficially used. 10/26/17 Morning Tr. p. 39:20-40:7 (Testimony of Gnat); 1/29/18 Tr. p. 210:11-211:15 (Testimony of Race); 2/1/18 Tr. p. 275:5-276:18 (Testimony of Seymour); MWG Ex. 901, p. 9 (Seymour Presentation) 6/14/23 Tr., 190:18-191:1 (Testimony of Shealey); 5/19/23 Tr., p. 214:1-13 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81452 (Weaver Expert Report); MWG Ex. 1702, p. 17 (Weaver Presentation); 6/12/23 Tr., p. 288:3-289:15 (Testimony of Weaver); Appen. A, SOF 145.

776. There were two locations in the Northwest Area that had concentrations of copper and lead at slightly higher values; MWG removed 1,0262 tons of material from those locations and sent it to a landfill. 5/17/23 Tr., p. 96:8-97:16 & 5/19/23 Tr., p. 214:17-215:7 (Testimony of Gnat); Ex. 1329; MWG Ex. 1701, MWG13-15\_81453 (Weaver Expert Report); MWG Ex. 1702, p. 17 (Weaver Presentation); 6/12/23 Tr., p. 289:15-18 (Testimony of Weaver).

### **iii. Investigations at Joliet 29 Station**

#### **a. Investigation Near MW-9**

777. The groundwater results at MW-9, which is near Pond 3 at the Joliet 29 Station, were anomalous and unlike the results from the other monitoring wells because the pH in the water was very low. 6/14/23 Tr., p. 183:17-23 (Testimony of Shealey); Ex. 1503 (Fig. of boring locations nears MW-9 at Joliet 29); 5/17/23 Tr., p. 92:6-9, 5/19/23 Tr., p. 159:13-160:5 (Testimony of Gnat); 6/12/23 Tr., p. 306:10-16 (Testimony of Weaver); MWG Ex. 1701, MWG13-15\_81454 (Weaver Expert Report); MWG Ex. 1702, p. 21 (Weaver Presentation).

778. Because the pH results were different than the other groundwater results at Joliet 29, and because Pond 3 did not contain CCR, MWG initiated an investigation around MW-9. 6/14/23 Tr., p. 184:22-24 (Testimony of Shealey); 5/17/23 Tr., p. 91:24-92:9, 5/19/23 Tr., p. 158:14-160:12 (Testimony of Gnat); 6/12/23 Tr., p. p. 306:117-20 (Testimony of Weaver).

779. There was no statutory or regulatory requirement to conduct the investigation around MW-9. 6/14/23 Tr., p. 185:5-7 (Testimony of Shealey).

780. KPRG drilled 18 soil borings and collected soil samples for analysis, and also attempted to install two temporary wells near MW-9. 5/19/23 Tr., p. 161:10-24 (Testimony of Gnat); MWG Ex. 1503, 1504, 1505; 5/19/2023 Tr., p. 80:11-18 (Testimony of Shealey); 6/12/23 Tr., p. 306:23-307:2 (Testimony of Weaver); MWG Ex. 1702, p. 21 (Weaver Presentation).

781. KPRG used a Geoprobe to drill the soil borings near Pond 3. 6/12/23 Tr., p. 143:4-12 (Testimony of Gnat).

782. A Geoprobe is a drilling tool that simply hammers down a core barrel with a hydraulic hammer, compared to a hollow stem auger which drills the boring with a rotary spinner. 6/12/23 Tr., p. 143:13-19 (Testimony of Gnat).

783. Because a Geoprobe hammers with a hydraulic hammer, it can be stopped by hitting an obstruction, such as a large cobble that the Geoprobe technology cannot get past, compared to a hollow stem auger. 6/12/23 Tr., p. 143:6-12, 144:21-145:24, 147:8-17 (Testimony of Gnat). Although the Geoprobos in the MW-9 investigation hit obstructions at differing depths, the presence of the obstruction in the boring was not material. 6/12/23 Tr., p. 307:18-308:3 (Weaver Testimony).

784. The soil borings and temporary groundwater wells soil borings showed that there was no CCR in the soil near and around MW-9. MWG Ex. 1504 & 1505; 5/19/23 Tr., p. 164:8-168:12 (Testimony of Gnat); 6/14/23 Tr., p. 185:11-15 (Testimony of Shealey); 5/19/2023 Tr., p. 80:17-18 (Testimony of Shealey); 6/12/23 Tr., p. 307:8-11 (Testimony of Weaver); MWG Ex. 1702, p. 21 (Weaver Presentation).

785. KPRG also attempted to install temporary groundwater wells along with the soil borings, but did not reach groundwater after encountering bedrock at 19 feet. 5/19/23 Tr., p. 168:13-24 (Testimony of Gnat); 6/12/23 Tr., p. p. 307:2-7 (Testimony of Weaver).

786. The temporary groundwater wells were intended to generate groundwater samples near MW-9 for screening purposes, and were meant to be temporary. 5/19/23 Tr., p. 169:1-24 (Testimony of Gnat).

787. As part of the investigation, KPRG sampled water contained in two clarifiers (the east and west clarifiers), which are the two circular buildings located near MW-9 in the figure (MWG Ex. 1503), and are part of an old wastewater treatment plant in the area. MWG Ex. 1506; 5/19/23 Tr., p. 171:21-172:19 (Testimony of Gnat).

788. The samples from the water in the east and west clarifiers showed that all constituents tested were below the Class I standards. MWG Ex. 1506; 5/19/23 Tr., p. 173:9-24 (Testimony of Gnat).

789. KPRG sampled the soil in the temporary well borings at 3 feet, 4 feet, 12 feet and 14 feet. MWG Ex. 1506; 5/19/23 Tr., p. 171:21-172:19 (Testimony of Gnat).

790. The soil samples in the borings for the temporary wells showed that the pH of the soil was fairly neutral, between 7.5 and 8.4. MWG Ex. 1506; 5/19/23 Tr., p. 174:11-23 (Testimony of Gnat).

791. KPRG also sampled the soil in the sixteen soil borings. The pH of the soil in the sixteen borings ranged from 7.4 to 9.1, and KPRG found that the soil was generally in the neutral range. MWG Ex. 1507; 5/19/23 Tr., p. 185:6-12, 186:21-187:1 (Testimony of Gnat).

792. The sporadic constituents found at MW-9 were a result of acidic (low) pH in MW-9 caused by the oxidation of the naturally occurring sulfide minerals in the Silurian dolomite in the soil. MWG Ex. 1701, MWG13-15\_81454 (Weaver Expert Report); MWG Ex. 1702, p. 21 (Weaver Presentation).

b. USACE's Investigation in the Northeast Area

793. In conversations with IDNR, MWG learned that the State of Illinois owns a strip of land along the Des Plaines River in the Northeast Area. 6/14/23 Tr., 189:11-24; (Testimony of Shealey); MWG Ex. 601.

794. USACE collected soil borings from the strip of land owned by the State of Illinois. Mr. Gnat reviewed the soil borings and observed that the soil borings showed fill, gravel and sand, but no CCR material. 5/17/23 Tr., p. 93:23-94:5 (Testimony of Gnat); 5/19/2023 Tr., p. 80:20-81:4 (Testimony of Shealey); *see also* 6/12/23 Tr., p. 278:10-23 314:23-315:6, 6/13/23 Tr., p. 19:16-19 (Testimony of Weaver) (the USACE collected soil borings along the riverbank, and none showed ash in the boring logs).

795. USACE collected sediment samples in the Des Plaines River near the Northeast Area, and the data did not show constituents above a comparison value, other than two lead results. 5/18/23 Tr., p. 109:9-15 (Testimony of Gnat). Weaver compared the sediment samples upgradient and downgradient of Joliet 29 and found higher levels of contaminants, including lead, upgradient of Joliet 29 in the Des Plaines River. 6/12/23 Tr., p. 279:3-7, 6/13/23 Tr., p. 20:16-22:9 (Testimony of Weaver); MWG Ex. 1702, p. 98 (Weaver Presentation).

**B. The Powerton Station**

796. The below information regarding the Powerton Station is in addition to the information provided during the first hearing about the Powerton Station found in SOF 149-251 in Appendix A.

797. A timeline of events for the Powerton Station can be found at MWG Ex. 664 and MWG Ex. 1607, p. 25-31.

798. The Powerton Station began operations as a coal-fired power-plant with four coal-burning units in the late 1920s. MWG Ex. 901, p. 26 (Seymour Presentation); MWG Ex. 664, p. 1 (Powerton Timeline of Events); 1/30/18 Tr. p. 51:21-22 (Testimony of Race); 6/14/23 Tr. p. 219:12-14 (Testimony of Shealey); MWG Ex. 1607, p. 25; MWG Ex. 1702, p. 33 (Weaver Presentation); Appen. A, SOF 152.

799. The Powerton Station is in an industrial and agricultural area, including other industries along Manito Road in Pekin and a prison, and is bordered to the north by the Illinois River. MWG Ex. 901, p. 27 (Seymour Presentation); 1/31/18 Tr. p. 68:5-8 (Testimony of Kelly); MWG Ex. 667, p. 10 (Powerton Timeline of Events); 6/14/23 Tr., 204:7-9 (Testimony of Shealey); 6/13/23 Tr., p. 46:1-9 (Testimony of Weaver); Appen. A, SOF 155.

800. The Powerton Station property includes Powerton Lake, a fish and wildlife area owned by Midwest Generation LLC, which it leases to IDNR for recreational fishing and waterfowl hunting by the public. 6/14/23 Tr., 203:10-204:4; 299:4-301:15 (Testimony of Shealey); MWG Ex. 1607, p. 19.

801. MWG spends a substantial amount of money operating Powerton Lake to support the recreational use. 6/14/23 Tr. p. 300:19-301:1 (Testimony of Shealey).

802. The Powerton Station is zoned I-2, an industrial classification. MWG Ex. 1607, p. 20; 6/14/23 Tr. p. 204:24-205-6. (Testimony of Shealey).

803. **There are no potable wells downgradient of the Powerton ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/30/18 Tr. p. 79:11-20 (Testimony of Race); 2/1/18 Tr. p. 278:13-23 (Testimony of Seymour); 2/2/18 Tr. p. 79:10-13 (Testimony of Seymour); MWG Ex. 621, MWG13-15\_299; 6/13/23 Tr., p. 72:6-10 (Testimony of Weaver); MWG Ex. 1702, p. 44 (Weaver Presentation); MWG Ex. 1701, p. 51 (Weaver Expert Report); Appen. A, SOF 161.

804. **There are two groundwater flow units at the Powerton Station that are distinct and hydraulically connected.** MWG Ex. 901, pp. 34 (Seymour Presentation); 2/2/18 Tr. p. 67:14-68:21 (Testimony of Seymour); MWG Ex. 2600, MWG13-15\_62539-62540 (2Q2017 Powerton Quarterly Monitoring Report); 2/1/18 Tr. p. 129:14-18 (Testimony of Gnat); Ex. 1307; 6/12/23 Tr., p. 18:6-19:9 (Testimony of Gnat); Comp. Ex. 404, p. 17 (Kunkel Report); 10/26/17 Afternoon Tr., p. 93:15-20 (Testimony of Kunkel); 6/13/23 Tr., p. 61:3-62:8 (Testimony of Weavers); MWG Ex. 1701, MWG13-15\_81446 (Weaver Expert Report); MWG Ex. 1702, p. 41 (Weaver Presentation); Appen. A, SOF 157.

805. The first groundwater unit is a silty-clay unit, which underlies the Ash Surge Basin, Service Water Basin, and Metal Cleaning Basin; it is not a continuous unit, and the groundwater flows from east to west. MWG Ex. 901, pp. 34 (Seymour Presentation); 2/2/18 Tr. p. 68:2-7 (Testimony of Seymour); 2/1/18 Tr. p. 129:18-21 (Testimony of Gnat); Ex. 2600, MWG13-15\_62539; MWG Ex. 901, p. 34 (Seymour Presentation); 6/12/23 Tr., p. 18:6-19:14 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81446 (Weaver Expert Report); MWG Ex. 1702, p. 41 (Weaver Presentation); Appen. A, SOF 158.

806. The second unit is a sandy gravel unit, which is larger and generally flows in a northerly direction towards the Illinois River. MWG Ex. 901, pp. 35 (Seymour Presentation); 2/2/18 Tr. p. 68:8-21 (Testimony of Seymour); Comp. Ex. 2600, MWG13-15\_62540 (2Q2017 Powerton Quarterly Monitoring Report); 2/1/18 Tr. pp. 132:19-133:9 (Testimony of Gnat); MWG Ex. 901, p. 35 (Seymour Presentation); 6/12/23 Tr., p. 18:6-19:17 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81446 (Weaver Expert Report); MWG Ex. 1702, p. 41 (Weaver Presentation); Appen. A, SOF 159.

807. The two units were identified based on the boring logs, which showed the silty clay layer where the water table was encountered, and as the boring log continued down into the sand and gravel unit, it is still saturated. 6/12/23 Tr., p. 19:20-20:8 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81446 (Weaver Expert Report); MWG Ex. 1702, p. 41 (Weaver Presentation).

808. By the very nature of being composed of clay, the silty-clay unit does not allow water to percolate down as fast, so the water levels are higher than the sandy gravel unit. 6/12/23 Tr., p. 19:1-6, 20:17-24 (Testimony of Gnat).

809. The two units are hydraulically connected, because there is no perched zone between the silty clay layer and the sandy gravel unit. 6/12/23 Tr., p. 20:12-24 (Testimony of Gnat).



810. IEPA has not disputed that there are two separately mapped groundwater units at the Powerton Station. 6/12/23 Tr., p. 21:1-10 (Testimony of Gnat); 6/13/23 Tr., p. 62:2-8 (Testimony of Weaver).

811. KPRG has observed the groundwater levels at Powerton from 2012 to present. 6/12/23 Tr., p. 21:1-10 (Testimony of Gnat).

812. KPRG has observed the groundwater levels fluctuating depending on the season and precipitation in the groundwater at Powerton Station. 6/12/23 Tr., p. 22:1-4 (Testimony of Gnat).

813. KPRG reviewed groundwater elevations to assess the potential for “mounding” at the Ash Surge Basin. KPRG did not see any effect on the groundwater levels when the Ash Surge Basin was dewatered, which would be expected if there was mounding,. 6/12/23 Tr., p. 22:4-8 (Testimony of Gnat).

814. Similarly, when the Ash Surge Basin was placed back into service, and sluice water was sluiced to the Ash Basin, KPRG did not observe any differences in the groundwater elevations, instead KPRG saw “standard, normal fluctuations in groundwater over the entire construction time.” 6/12/23 Tr., p. 22:9-24 (Testimony of Gnat). Based on this, Mr. Gnat observed that the fluctuations in the groundwater were not associated with mounding in the groundwater. *Id.*

815. KPRG has not sampled sediments in the Illinois River by the Powerton Station because there is no basis to do so. The groundwater monitoring wells located downgradient of the ponds and between the ponds and the Illinois River show sample results that are below the drinking water standards. 5/18/23 Tr., p. 112:16-21 (Testimony of Gnat).

**i. The Powerton Ash Basins**

816. The active ash basins at Powerton were discussed in detail at the first hearing, MWG Ex. 901, p. 28 (Seymour Presentation); Appen A, SOF 167.

817. An updated list and the current status of the Powerton active CCR surface impoundments -- the Ash Surge Basin, the Bypass Basin, the Service Water Basin, and the Metal Cleaning Basin -- is at p. 22 of Ms. Shealey’s Presentation (MWG Ex. 1607, p. 22), and also in a chart prepared by Weaver (“Weaver Chart”) located at the end of the Weaver Presentation (MWG Ex. 1702, p. 97).

818. The Ash Surge Basin and Ash Bypass Basin are federal CCR surface impoundments. 6/14/23 Tr. p. 208:16-22 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

819. **The Ash Surge Basin, Ash Bypass Basin, and the Metal Cleaning Basin at Powerton are CCR surface impoundments as defined in 415 ILCS 5/3.143.** 2022 Joint Stipulation, No. 8; 6/14/23 Tr. p. 225:7-11 (Testimony of Shealey).

820. At the Powerton Station, the majority of ash is captured in hydrobins (a/k/a de-watering bins) and taken offsite for beneficial reuse. The small amount that is not contained in hydrobins is captured in the Ash Surge Basin. 6/14/23 Tr. p. 206:4-10 (Testimony of Shealey).

821. The Ash Surge Basin at Powerton is the primary basin. 1/31/18 Tr. p. 75:20-23 (Testimony of Kelly); Ex. 667, p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 27-28 (Seymour Presentation); 6/14/23 Tr. p. 205:24-206:6. (Testimony of Shealey); Appen. A, SOF 168; MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

822. The Ash Surge Basin is used by the Powerton Station for the overflow from the hydrobins. 6/14/23 Tr. p. 206:2-3 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart); 6/13/23 Tr., p. 47:13-18.

823. Under the federal CCR rule, for its current operation, MWG is relying on an alternative capacity demonstration for the Powerton Station. The alternative capacity demonstration extends the federal CCR rule closure deadlines for those ponds that do not have the required federal liner, and the station demonstrates that it does not have the capacity for its CCR. Comp. 1401, 5/18/23 Tr., p. 201:5-9 & 6/14/23 Tr. p. 206:17-207:5 (Testimony of Shealey); 6/13/23 Tr., p. 50:1-9 (Weaver Testimony); MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

824. **The Powerton Bypass Basin received ash when Powerton emptied the Ash Surge Basin.** Joint Agreed Stipulations No. 30; 6/14/23 Tr. p. 207:9-14 (Testimony of Shealey); Appen. A, SOF 179.

825. The Bypass Basin was emptied of ash and does not contain ash. 6/14/23 Tr., p. 207:24-208:2 (Testimony of Shealey).

826. Because of the federal CCR rule, the Bypass Basin is out of service (*i.e.* – not collecting CCR). 6/14/23 Tr., p. 207:15-23 (Testimony of Shealey); 6/13/23 Tr., p. 47:18-22; MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

827. The Ash Surge Basin, Bypass Basin, and Metal Cleaning Basin will each be retrofitted with a federal and state regulatory compliant liner, including a leachate collection system, as required by the Illinois CCR rule. 6/14/23 Tr., p. 208:3-7; 232:12-16 (Testimony of Shealey).

828. The Powerton Metal Cleaning Basin is not a part of the ash sluice system and instead is used during outages in the facility at the Station as a temporary lay-down area for ash cleaned out of the boiler tubes. 1/31/18 Tr. p. 115:3-14 (Testimony of Kelly); 6/14/23 Tr., p. 208:8-15 (Testimony of Shealey); Appen. A, SOF 200.

829. The Former Ash Basin is an inactive CCR surface impoundment on the north side of the Powerton Station. 1/31/18 Tr. p. 141:19-23 (Testimony of Kelly); MWG Ex. 667, p. 15 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 38 (Seymour Presentation); 6/14/23 Tr. p. 213:18-21 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart); Appen. A, SOF 244.

830. Since MWG began operations at the Powerton Station in 1999, ash was not routed to the Former Ash Basin, and as far as MWG Environmental Director, Ms. Shealey, knows, ash was last sent to the Former Ash Basin in the 1970's. 1/31/18 Tr. p. 142:10-13 (Testimony of Kelly); 6/14/23 Tr. p. 214:2-6 (Testimony of Shealey); Appen. A, SOF 245.

831. **The Former Ash Basin at Powerton is not lined.** 2022 Joint Stipulation, No. 9; 6/14/23 Tr. p. 214:8-19 (Testimony of Shealey).

832. There is no coal in the Former Ash Basin. 6/14/23 Tr. p. 215:10-12 (Testimony of Shealey).

833. KPRG determined that there is no reason to evaluate the presence or absence of seeps to the Illinois River from the Former Ash Basin because the concentrations in monitoring wells located downgradient of the Former Ash Basin are below the Class I standard and because of the significant distance between the Former Ash Basin and the Illinois River. 5/18/23 Tr., p. 110:18-111:15(Gnat testimony).

**ii. Other Areas at Powerton**

834. The Powerton Station has other basins that are unrelated to the current coal ash management at the Station. 1/31/18 Tr. p. 138:5-11 (Testimony of Kelly), MWG Ex. 667 p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); Appen. A, SOF 231. MWG Ex. 1702, pdf. p. 97 (Weaver Chart) . One of these other basins is the Secondary Ash Settling Basin, which is also referred to as the Service Water Basin. 6/12/23 Tr., p. 38:2-6 (Testimony of Gnat).

835. **Since before 1999, the Powerton Secondary Ash Settling Basin had a Hypalon liner.** 2017 Joint Agreed Stipulations No. 22; MWG Ex. 901, p. 28 (Seymour Presentation); 6/14/23 Tr., p. 209:23-210:8 (Testimony of Shealey); Appen. A, SOF 188.

836. The Secondary Ash Settling Basin, aka Service Water Basin, is not a CCR surface impoundment. 6/14/23 Tr., p. 211:17-19 (Testimony of Shealey); MWG Ex. 1606 - *In the Matter of: Petition for Midwest Generation, LLC for Adjusted Standard from 35 Ill. Adm. Code 845.740(a) and Finding of Inapplicability of 35 Ill. Adm. Code 845, PCB21-2, Order* (Feb. 17, 2022); MWG Ex. 1607, p. 22; Appen. A, SOF 199.

837. MWG confirmed that the Secondary Ash Settling Basin, aka Service Water Basin, is not a CCR surface impoundment by conducting a bathymetric survey, sampling the "muck" at the base of the ponds, and confirming that the material was not CCR. 6/14/23 Tr. p. 211:20-212:1 (Testimony of Shealey); 6/12/23 Tr., p. 25:5-19 (Testimony of Gnat).

838. IEPA and the Board agreed that the Powerton Service Water Basin is not a CCR surface impoundment. 6/14/23 Tr. p. 212:23-213:2 (Testimony of Shealey); MWG Ex. 1606.

839. The Powerton Service Water Basin Construction Documentation contained the complete certifications for the installation of the HDPE liner and the as-built drawings and information for the pond liner. MWG Ex. 710 (Construction Documentation of the Service Water Basin).

840. Sheet No. C021 in the Service Water Basin Construction Documentation (MWG13-15\_34265) showed the elevations in feet of the Powerton Service Water Basin relative to mean seal level (“msl”). MWG Ex. 710; 6/12/23 Tr., p. 36:9-37:5 (Testimony of Gnat).

841. The elevation of the base of the interior of the Service Water Basin is at approximately 441 feet msl. MWG Ex. 710, MWG13-15\_34265; 6/12/23 Tr., p. 37:6-10 (Testimony of Gnat).

842. The elevation of the top of the interior of the Service Water Basin is at approximately 459-460 feet msl. MWG Ex. 710, MWG13-15\_34265; 6/12/23 Tr., p. 37:11-16 (Testimony of Gnat).

843. In the Board’s Order, the Board stated that the Illinois River flooded Powerton and water rose 30 feet above the bottom of the Secondary Ash Settling Basin, aka Service Water Basin. Board Order (6/20/2019), p. 39. Mr. Gnat analyzed this claim based on water levels in the Illinois River. 6/12/23 Tr., p. 39 (Testimony of Gnat).

844. For the Illinois River to be 30 feet above the base of the Service Water Basin, the river would have to reach an elevation of 471 feet. 6/12/23 Tr., p. 39:14-18 (Testimony of Gnat); Hearing Ex. 901, p. 32 (MWG Expert Presentation). The Illinois River has not been higher than 456.57 feet since 1943. 6/12/23 Tr., p. 40:19-41-5 (Testimony of Gnat); MWG Ex. 1515.

845. **The NOAA National Weather Service river gage located at the Peoria Lock and Dam is the closest river gauge upstream of the Powerton Station.** 2022 Joint Stipulation, No. 10; 6/12/23 Tr., p. 40:5-7 (Testimony of Gnat); MWG Ex. 1515.

846. The river gages are measured on a daily basis. 6/12/23 Tr., p. 157:22-158:1 (Testimony of Gnat).

847. The range of data of historic crests from the Peoria Lock and Dam river gage in Exhibit 1515 shows the five highest historic crests from 1943 to 2022. 6/12/23 Tr., p. 47:1-9, 158:2-11 (Testimony of Gnat); MWG Ex. 1515.

848. The highest crest recorded at the Peoria Lock and Dam was 456.57 feet msl on April 24, 2013. 6/12/23 Tr., p. 40:19-41-5 (Testimony of Gnat); MWG Ex. 1515.

849. **The NOAA National Weather Service river gage located at the Kingston Mines is the closest river gauge downstream of the Powerton Station.** 2022 Joint Stipulation, No. 11; 6/12/23 Tr., p. 41:8-11 (Testimony of Gnat); MWG Ex. 1516.

850. The range of data of historic crests from the Kingston Mines river gage is from 1943 to present. 6/12/23 Tr., p. 47:1-9 (Testimony of Gnat); MWG Ex. 1516.

851. The Kingston Mines river gage provides the measurement of the river gage itself, and the gauge datum is 428 feet msl. 6/12/23 Tr., p. 45:2-11 (Testimony of Gnat); MWG Ex. 1516.

852. KPRG determined that to calculate the historic crest to msl, it is 428 plus the river gage measurement. 6/12/23 Tr., p. 45:2-11 (Testimony of Gnat); MWG Ex. 1516.

853. The highest crest recorded at the Kingston Mines was 26.54 feet on April 24, 2013, which equates to 454.54 feet msl ( $428+26.54= 454.54$ ). 6/12/23 Tr., p. 45:2-46:3 (Testimony of Gnat); MWG Ex. 1516.

854. Based upon the historic crests at both the Kingston Mines river gage and the Peoria Lock and Dam river gage, the Illinois River did not reach 471 feet, and did not reach 30 feet above the bottom of the Service Water Basin. 6/12/23 Tr., p. 47:10-48:6 (Testimony of Gnat); MWG Ex. 1515 & 1516.

855. Mr. Gnat, and the KPRG crews that routinely visit the site, have never seen water levels that would suggest the Service Water Basin was under water. 6/12/23 Tr., p. 48:12-14, 122:19-23 (Testimony of Gnat).

856. The Powerton East Yard Run-off Basin, located southwest of the Ash Surge Basin, is not a part of the ash sluicing flow system, is not used for ash storage, nor does it receive ash. 1/31/18 Tr. p. 138:5-11 (Testimony of Kelly); MWG Ex. 667 p. 12 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 6/14/23 Tr. p. 217:8-11 (Testimony of Shealey); MWG Ex. 1702, p. 97 (Weaver Chart); Appen. A, SOF 232.

857. **The East Yard Basin at Powerton receives precipitation runoff from the east half of the Powerton Station.** 2022 Joint Stipulation, No. 12; 1/31/18 Tr. p. 138:12-14 (Testimony of Kelly); 6/14/23 Tr. p. 217:4-7 (Testimony of Shealey); 6/12/23 Tr., p. 25:20-26:4 (Testimony of Gnat); Appen A, SOF 233.

858. Under the CCA, MWG sampled and analyzed the water in the East Yard runoff basin on a quarterly basis, nine times, and submitted the samples to the IEPA. 1/31/18 Tr. p. 138:15-139:1 (Testimony of Kelly); 6/12/23 Tr., p. 26:5-27:18 (Testimony of Gnat); Comp. Ex. 2570, MWG13-15\_49867; MWG Ex. 1514, MWG13-15\_48742.

859. The samples from the East Yard runoff basin showed that the basin contains stormwater runoff, and not water that one would encounter in an ash pond. 6/12/23 Tr., p. 27:19-24 (Testimony of Gnat); Comp. Ex. 2570, MWG13-15\_49867; MWG Ex. 1514, MWG13-15\_48742.

860. In 2015, IEPA concluded that the chlorides found in the East Yard Runoff Basin at Powerton were not due to coal ash, but from “deicing agents” applied at the Station. 1/31/18 Tr. p. 139:9-24 (Testimony of Kelly); MWG Ex. 711 (Modification of the Powerton CCA regarding the East Yard Run-off Basin); 6/14/23 Tr. p. 217:15-218:9 (Testimony of Shealey); Appen. A, SOF 234.

861. In other words, the IEPA concluded that there were “no CCR constituents or components” in the East Yard Run-off Basin. 6/14/23 Tr. p. 218:10-14 (Testimony of Shealey).

862. Because IEPA concluded that there were no CCR constituents in the East Yard Run-off Basin, MWG ceased sampling the water in the basin. 6/14/23 Tr. p. 218:15-18 (Testimony of Shealey).

863. The East Yard Run-off Basin is not a federal CCR surface impoundment or state CCR surface impoundment. 6/14/23 Tr. p. 218:19-24 (Testimony of Shealey); MWG Ex. 1702, p. 97 (Weaver Chart).

864. The Powerton Limestone Runoff Basin is a historic basin that is not currently used and has not been used as part of the Station operations since at least 1989. 1/31/18 Tr. p. 144:2-6 (Testimony of Kelly); 6/14/23 Tr. p. 212:23-213:2 (Testimony of Shealey); Appen. A, SOF 237.

865. **The Limestone Basin at Powerton has been empty since 2013.** 2022 Joint Stipulations, No. 13; 1/31/18 Tr. p. 144:7-145:1 (Testimony of Kelly); 6/14/23 Tr. p. 215:19-21 (Testimony of Shealey); 6/14/23; 6/14/23 Tr., p. 96:21-97:5 (Testimony of Weaver), MWG 1702, pdf. p. 97 (Weaver Chart); Appen. A, SOF 243.

866. The Limestone Basin at Powerton is not a federal CCR surface impoundment or Illinois CCR surface impoundment. 6/14/23 Tr. p. 215:22-216:3 (Testimony of Shealey); MWG Ex. 1702, p. 97 (Weaver Chart).

867. Because the Limestone Basin at Powerton does not have material in the basin, contaminants could not leak into the groundwater. 6/14/23 Tr. p. 216:16-217:1 (Testimony of Shealey).

868. There were no instances of ash being placed on the ground outside the ponds at Powerton. 6/14/23 Tr. p. 325:22-326:19 (Testimony of Shealey).

869. There are two intake channels from the Illinois river located on the west side of maps located in Exhibit 1307 (MWG13-15\_118239), with an area between the two channels. 6/12/23 Tr., p. 51:19-5 (Testimony of Gnat); Ex. 1307, MWG13-15\_118239.

870. The material between the two intake channels are river spoils that were placed in the area after it was dredged from the intake channels to maintain the channels. 6/12/23 Tr., p. 50:9-51:4 (Testimony of Gnat).

### **C. The Waukegan Station**

871. The below information regarding the Waukegan Station is in addition to the information provided during the first hearing regarding the Waukegan Station and found in SOF 252-352 in Appendix A.

872. A timeline of events for the Waukegan Station can be found at MWG Ex. 665 and MWG Ex. 1607, 37-44, 49-50.

873. Historical information shows that the Waukegan Station was built in about 1923 and has been a power plant ever since. MWG Ex. 665, p. 1 (Waukegan Power Station Timeline of Events); MWG Ex. 901, p. 44 (Seymour Presentation); 1/30/18 Tr. p. 121:11-15 (Testimony of Race); 6/14/23 Tr. p. 241:10-12 (Testimony of Shealey); MWG Ex. 1607, p. 37 (Shealey Presentation); 6/13/23 Tr., p. 129:18 (Testimony of Weaver); MWG Ex. 1702, p. 71 (Weaver Presentation); Appen. A, SOF 256.

874. The area around the Waukegan Station has historically been dominated by industries since at least the 1930s, including the Johns Manville Company, an active Superfund Site, to the north, the Griess-Pfleger Tannery and the General Boiler Site to the west, and the North Shore Sanitary District to the south. 1/31/18 Tr. p. 223:10-21 (Testimony of Veenbaas); MWG Ex. 667, p. 25 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 6/12/23 Tr., p. 51:18-52:5; 216:23-217:1; 6/13/23 Tr., p. 129:20-130:4 (Testimony of Weaver); MWG Ex. 1702, p. 71 (Weaver Presentation); Appen. A, SOF 258.

875. The former North Shore Gas North Plant, a manufactured gas plant, is located further southwest of Waukegan Station and the Johnson Marine Plant, another active Superfund Site, is located further south. 1/31/18 Tr. p. 223:10-21 (Testimony of Veenbaas); 2/1/18 Tr. p. 162:13-163:8 (Testimony of Gnat); MWG Ex. 667, p. 27 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County) and MWG Ex. 807 (Waukegan Aerial Map of Historic Areas); 6/14/23 Tr. p. 240:9-17 (Testimony of Shealey); Appen. A, SOF 259.

876. The North Shore Sanitary District is adjacent to the south of the Waukegan Station and processes wastewater. When MWG Environmental Director, Ms. Shealey, has visited the south side of the Waukegan Station, she has smelled a “very pungent bad odor that wafts from the sanitary district.” 6/14/23 Tr. p. 239:13-240:8 (Testimony of Shealey).

877. The Waukegan Station is zoned General Industrial. MWG Ex. 1607, p. 34; 6/14/23 Tr. p. 238:1-3 (Testimony of Shealey).

878. **There are no potable wells downgradient of the Waukegan ash ponds.** 10/27/17 Tr. p. 181:4-182:7 (Testimony of Kunkel); 1/30/18 Tr. p. 157:5-19 (Testimony of Race); 2/1/18 Tr. p. 278:13-23, 2/2/18 Tr. p. 105:18-21 (Testimony of Seymour); 6/14/23 Tr. p. 243:7-12 (Testimony of Shealey); 6/13/23 Tr., p. 137:13-15 (Testimony of Weaver); Appen. A, SOF 262.

879. The groundwater at the Waukegan Station generally flows to the east, southeast, but there is some divergence of the groundwater flow that goes towards the north, northwest towards the intake channel of Lake Michigan. MWG Ex. 901, p. 49 (Seymour Presentation); MWG Ex. 813 (Waukegan 2017 Groundwater Flow Map); 2/1/18 Tr. p. 154:22-155:9 (Testimony of Gnat); 6/12/23 Tr., p. 52:8-17 (Testimony of Gnat); Appen. A, SOF 255.

880. To the east of the East Ash Pond, there is a fairly steep slope, with no evidence of seeps visible along the slope, and at the bottom there is a marshy area east of the East Pond. 6/12/23 T., p. 54:8-14 (Testimony of Gnat).

881. Mr. Gnat has walked the shore of Lake Michigan in front of the Waukegan Station, and has not observed any seeps. 5/18/23 Tr., p. 111:22-112:8 (Testimony of Gnat).

882. Because there are no seeps and because the shore of Lake Michigan is over 900 feet from the east side of the East Ash Pond, there is no technical basis to test sediments in Lake Michigan. 5/18/23 Tr., p. 112:9-21 (Testimony of Gnat).

**i. The Griess-Pfleger Tannery Site and General Boiler Property**

883. The Griess-Pfleger Tannery Site and the General Boiler Property are located directly west of the Waukegan Station and are in the IEPA Sites Remediation Program. MWG Ex. 667, p. 25 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 56-57 (Seymour Presentation); MWG Ex. 807 (Waukegan Aerial Map of Historic Areas); 1/30/18 Tr. p. 124:16-125:3 (Testimony of Race); 6/14/23 Tr. p. 238:24-239:4 (Testimony of Shealey); 5/17/23 Tr., p. 51:15-21, 6/12/23 Tr., p. 54:20-55:3 (Testimony of Gnat); MWG Ex. 1702, p. 76 (Weaver Presentation); Appen. A, SOF 263.

884. The Illinois Site Remediation Program (“Illinois SRP”) provides a framework to take an old industrial property through a site investigation, identify the appropriate remedial option, and implement the remedial option. 5/18/23 Tr., p. 117:12-20 (Testimony of Gnat).

885. The Illinois SRP allows for risk-based corrective action type approaches, where an owner can review the property based on risk, property boundaries, nearest receptors, and implement a remedy; remedies could include source control, removal, engineering controls such as an asphalt cap, or institutional controls such as an ELUC. 5/17/23 Tr., p. 51:22-52:6 & 5/18/23 Tr., p. 117:21-118:21 (Testimony of Gnat).

886. A groundwater investigation of the Griess-Pfleger Tannery site showed that groundwater containing arsenic exceeding the Illinois Class I standard was migrating onto the Waukegan Station. MWG Ex. 644, p. MWG13-15\_46627 (Phase II Remedial Investigation Report for the Former Griess-Pfleger Tannery Site); 1/30/18 Tr. pp. 135:23-136:18, 138:3-139:3 (Testimony of Race); 6/14/23 Tr. p. 239:8-12; 242:2-6 (Testimony of Shealey); 5/17/23 Tr., p. 52:7-11; MWG Ex. 1701, MWG13-15\_81458 (Weaver Expert Report), citing 2019 Board Order at 74; MWG Ex. 1702, p. 76 (Weaver Presentation); 6/14/23 Tr., p. 79:22-80:5, 84:17-85:6 (Testimony of Weaver); Appen. A, SOF 269.

887. The Griess-Pfleger Tannery site is a historic source of groundwater contamination, and groundwater contamination from the site will continue to flow onto MWG’s property. 5/18/23 Tr., p. 132:15-23 (Testimony of Gnat); MWG Ex. 1702, p. 76 (Weaver Presentation); 6/14/23 Tr., p. 78:3-85:6 (Weaver Testimony).

888. As part of the risk-based closure that is allowed under the Illinois SRP, the Griess-Pfleger property owners requested that MWG allow for an ELUC on the west side of MWG’s property, and installed approximately six groundwater wells on MWG’s property. 5/17/23 Tr., p. 52:12-18 & 6/12/23 Tr., p. 55:4-15 (Testimony of Gnat).

889. The six groundwater wells are called “ELUC wells” installed by the Griess-Pfleger property owners’ consultant. 5/17/23 Tr., p. 53:4-7 (Testimony of Gnat); Comp. Ex. 1321.

890. MWG samples the ELUC wells on a quarterly basis, despite no requirement. 5/17/23 Tr., p. 53:7-17 (Testimony of Gnat); Comp. Ex. 1321.

891. MWG uses data from certain ELUC wells (such as MW-14) for the federal CCR monitoring well program. 5/17/23 Tr., p. 54:20-55:6 (Testimony of Gnat).



892. Because MWG collects samples from the ELUC wells and uses the wells as part of the groundwater monitoring network, MWG collected soil borings immediately adjacent to the existing ELUC wells to develop the stratigraphy for the wells. 5/18/23 Tr., p. 51:15-24 (Testimony of Gnat).

893. **In 2003, the Griess-Pfleger property owner established an Environmental Land Use Control (“ELUC”) on the western side of the Waukegan Station property.** 2017 Joint Agreed Stipulations No. 38. MWG Exs. 646 (ELUC established on a portion of the Waukegan Station); 667, p. 22 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. p. 142:23-144:4 (Testimony of Race); 6/14/23 Tr. p. 258:18:259:1 (Testimony of Shealey); MWG Ex. 1607, p. 51; MWG Ex. 1702, p. 82 (Weaver Presentation); Appen. A, SOF 274.

**ii. The Waukegan Ash Ponds**

894. There are two ash ponds at the Waukegan Station located on the southern side of the Station – the East Pond and the West Pond. MWG Ex. 901, p. 45, 46 (Seymour Presentation); MWG Ex. 667, p. 20 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); 6/14/23 Tr. p. 240:18-241:3 (Testimony of Shealey); MWG Ex. 1702, p. 71 (Weaver Presentation); Appen. A, SOF 282.

895. A list and description of the Waukegan ash ponds is at p. 46 of the Seymour Presentation and an updated list is at page 36 of Ms. Shealey’s presentation and page 100 of the Weaver presentation. MWG Ex. 901, p. 26 (Seymour Presentation); MWG Ex. 1607, p. 36; MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

896. **The East Ash Pond at Waukegan is a CCR surface impound as defined in 415 ILCS 5/3.143.** 2022 Joint Stipulation, No. 17; 6/14/23 Tr. p. 250:12-15 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

897. **The West Ash Pond at Waukegan is a CCR surface impound as defined in 415 ILCS 5/3.143.** 2022 Joint Stipulation, No. 18; 6/14/23 Tr. p. 250:16-19 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

898. In 2003 and 2004, MWG installed HDPE liners in the East and West Ponds. MWG Ex. 901, p. 46-47 (Seymour Presentation); 10/24/17 Tr. p. 139:4-13 (Testimony of Lux); MWG Ex. 500 (Pond Characterizations for MWG Stations); 6/14/23 Tr. p. 242:13-16 (Testimony of Shealey); Appen. A, SOF 299-302.

899. Under the federal CCR rule, for its current operations and to manage stormwater, MWG is relying on an alternative capacity demonstration for the Waukegan Station. The alternative capacity demonstration extends the federal CCR rule closure deadlines for those ponds that do not have the required federal liner and the Station demonstrates that it does not have the capacity for its CCR. Comp. 1406, MWG13-15\_123865; 5/18/23 Tr., p. 302:12-19 (Testimony of Shealey); MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

**iii. IEPA's Documented Conclusions on the Waukegan Ash Ponds**

900. On July 31, 2013, IEPA held a public hearing for the MWG Waukegan Station NPDES Permit renewal. MWG Ex. 648 (Waukegan NPDES Permit Public Hearing July 31, 2013). 6/14/23 Tr. p. 245:15-21 (Testimony of Shealey); Appen. A, SOF 348.

901. IEPA representatives were present at the public hearing on July 31, 2013, including Mr. Lynn Dunaway, an IEPA groundwater expert, and Darin LeCrone, the head of the permit writers at IEPA. 1/30/18 Tr. p. 166:6-11, 167:2-7 (Testimony of Race); 1/31/18 Tr. p. 242:11-23 (Testimony of Veenbaas); 6/14/23 Tr. p. 246:1-5 (Testimony of Shealey); Appen. A, SOF 350.

902. At the NPDES public hearing, Mr. Dunaway stated that IEPA did not believe the active ash ponds at Waukegan were the source of contamination, and there appeared to be another source. MWG Ex. 648, p. MWG13-15\_29975-29976 (Waukegan NPDES Permit Public Hearing July 31, 2013); 1/30/18 Tr. p. 168:10-169:13 (Testimony of Race); 1/31/18 Tr. p. 242:24-243:9 (Testimony of Veenbaas); 6/14/23 Tr. p. 246:6-11 (Testimony of Shealey); Appen. A, SOF 351.

903. In a January 6, 2015 email, Mr. Dunaway at IEPA again stated that the additional monitoring required by the CCA's indicated that the active ash ponds at Waukegan, for which the VN was issued, were not the likely source of contaminants in the groundwater. MWG Ex. 649 (IEPA Email between J.Rabins and L.Dunaway Jan. 6, 2015); 1/30/18 Tr. p. 174:20-24 (Testimony of Race). 6/14/23 Tr. p. 246:12-247:8 (Testimony of Shealey); Appen. A, SOF 352.

904. In 2021, Darin LeCrone gave a presentation to the City of Waukegan and stated that "continued groundwater monitoring indicated a source other than the East and West Ponds." MWG Ex. 1607, p. 48, and IEPA's Presentation attached (MWG13-15\_124124); 6/14/23 Tr. p. 248:12-249:11 (Testimony of Shealey).

905. Based upon the collective IEPA statements in the NDPEs Permit hearing (MWG Ex. 648), the IEPA email (MWG Ex. 649), and IEPA's statements in the presentation to the City of Waukegan (MWG Ex. 1607), MWG's Environmental Director, Ms. Shealey, understood that IEPA had concluded that the East and West Ponds are not a source of contamination. 6/14/23 Tr. p. 249:12-18 (Testimony of Shealey).

**iv. Other Areas of Alleged Ash at Waukegan Station**

906. The "Alleged Former Slag Placement Area" on the north side of the Waukegan Station is a paved area, including the guard gate and parking lot. 6/14/23 Tr. p. 257:10-258:3 (Testimony of Shealey).

907. The "Alleged Former Slag Placement Area" on the north side of the Waukegan Station the area does not contain or store ash, and presumably contains sand. 6/14/23 Tr. p. 257:10-19; 313:9-22 (Testimony of Shealey).

908. To the west of the West Pond is the Former Slag Area ("FS Area"). 6/14/23 Tr. p. 258:4-7 (Testimony of Shealey); MWG Ex. 1701, MWG13-15\_81437; MWG Ex. 1702, p. 72.

909. MWG has not had any operations in the FS Area, and has not placed ash in the FS Area. 6/14/23 Tr. p. 258:8-14 (Testimony of Shealey).

910. In 2020, KPRG on behalf of MWG, conducted an investigation of the FS Area. 6/14/23 Tr. p. 259:4-6 (Testimony of Shealey); Comp. Ex. 1330; 6/13/23 Tr., p. 138:12-139:13 (Testimony of Weaver); MWG Ex. 1702, p. 80 (Weaver Presentation).

911. KPRG used the grid pattern for the soil borings of the FS Area based upon the Illinois SRP program, which is a conservative program. 5/17/23 Tr., p. 108:18-109:21 (Testimony of Gnat); MWG Ex. 1702, p. 80 (Weaver Presentation).

912. KPRG collected 40 borings of soil in the FS Area in a grid pattern and collected about two soil samples per boring. 5/17/23 Tr., p. 107:19-108:4, 6/12/23 Tr., p. 60:10-61:1 (Testimony of Gnat); Comp. Ex. 1330; 6/13/23 Tr., p. 138:12-17 (Testimony of Weaver); MWG Ex. 1701, p. 41 MWG13-15\_81458-59 (Weaver Expert Report).

913. KPRG collected the borings in a grid pattern because it is a robust approach to sampling. 6/12/23 Tr., p. 62:13-17 (Testimony of Gnat).

914. Based upon the soil sample results, KPRG also analyzed a subset of the soil samples with the leaching environmental framework (“LEAF”) test. 6/12/23 Tr., p. 61:1-10 (Testimony of Gnat); MWG Ex. 1517.

915. In the LEAF test, the lab collects leachate from the soil over a wide range of pH, and also at the neutral pH, and analyze the leachate for the CCR rule parameters. 6/12/23 Tr., p. 61:10-24 (Testimony of Gnat).

916. The purpose of the LEAF test is to get an understanding of how materials might mobilize various constituents under a range of pHs. 6/12/23 Tr., p. 62:1-11 (Testimony of Gnat).

917. The results of the investigation showed that the FS Area contains ash. 6/14/23 Tr. p. 259:9-11 (Testimony of Shealey); 6/13/23 Tr., p. 138:17-20 (Testimony of Weaver); MWG Ex. 1702, p. 80 (Weaver Presentation).

918. The boring logs also showed the moisture conditions, and if encountered the water table. 5/17/23 Tr., p. 110:2-15 (Testimony of Gnat); Comp. Ex. 1330.

919. For example, in log A2, the log shows “wet” at 5 feet, but further down it states “moist” and then “wet” at 10 feet. In comparison, in an adjacent log to the north (log A1), the log shows “wet” at 12-feet. 5/18/23 Tr., p. 125:4-126:4 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79494-79495.

- a. The separation of the “wet” conditions in A1 plus the “wet” condition at 12 feet in A2, indicates that the higher “wet” soil is from infiltration of precipitation, and the water table is at a depth of about 10-12 feet. 5/18/23 Tr., p. 126:4-127:15 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79494-79495.
- b. The definition of water table is that all the soil is saturated. 5/17/23 Tr., p. 110:17-18 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79503.

- c. Because the boring log states “very moist” below “wet,” the “wet” water is perched water, and not the water table. 5/17/23 Tr., p. 110:18-22 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79503. Instead, the perched water is transient water from a wetting front from a precipitation event. 5/17/23 Tr., p. 38:17-39:3 (Testimony of Gnat).

920. In boring log C10, the log does not show “wet” indicating that the water table is deeper than 15 feet. 5/18/23 Tr., p. 127:21-128:5 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79523.

921. Boring log D1, the log does not show “wet” indicating that there is no saturated material and the water table is deeper than 15 feet. 5/18/23 Tr., p. 131:15-132:9 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79524.

922. Also, in log A10, at about 4-feet, the boring log states that the log was “wet”, but further down the log states “very moist”, which indicates that the “wet” at 4-feet is not the water table. 5/17/23 Tr., p. 110:2-16 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79494.

- d. If the “wet” at 4-feet in boring log A10 were the water table, then the log would read “wet” throughout the log. 5/17/23 Tr., p. 110:2-16 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79503.

- e. The water table was not encountered in boring A10. 5/17/23 Tr., p. 110:23-24 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79503.

923. Boring log B9, at about 5.5 feet, the log shows the material was “wet”, but below at 9 feet, it states “moist,” and at about 10.5 to 11 feet the boring states “wet” again, indicating the location of the water table. 5/17/23 Tr., p. 112:1-20 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79512.

- f. The water table in boring B9 was located in native, brown/gray fine to medium sand with some black peat, but no CCR. 5/17/23 Tr., p. 112:13-24, 113:23-114:11 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79512.

- g. Mr. Gnat testified that while B9 did not have a black triangle indicating where the groundwater was located, he would place it at about 10.5 feet. 5/17/23 Tr., p. 119:22-120:8 (Testimony of Gnat); Comp. Ex. 1330, MWG13-15\_79512.

924. Because of the presence of ash in the FS Area, MWG proposed to IEPA to cap the area as part of its petition for adjusted standard and finding of inapplicability to that area. 5/19/23 Tr., p. 8:14-15 & 6/14/23 Tr. p. 259:12-23 (Testimony of Shealey).

#### **D. Will County Station**

925. The below information regarding the Will County Station ash ponds is in addition to the information provided at the first hearing regarding the Will County Station found in SOF 353-407 in Appendix A.

926. A timeline of events for the Will County Station can be found at MWG Ex. 665 and MWG Ex. 1607, 58-64.

927. The Will County Station began operations as a coal-fired power-plant in 1955. MWG Ex. 901, p. 58 (Seymour Presentation); 1/30/18 Tr. p. 189:21-190:3 (Testimony of Race); MWG Ex. 666, p. 1, 4, 6 (Will County Timeline of Events); 6/14/23 Tr. p. 266:14-20 (Testimony of Shealey); MWG Ex. 1607, p. 58 (Shealey Presentation); MWG Ex. 1702, p. 52 (Weaver Presentation); 6/13/23 Tr., p. 90:15-17 (Testimony of Weaver); Appen. SOF 356.

928. The Will County Station is in an industrial area. It is bounded to the north by Romeo Road, to the east by the Chicago Sanitary & Ship Canal, to the south the Hanson Materials, a quarry, and to the west by the Des Plaines River. Across the canal is the Citgo refinery. 1/30/18 Tr. p. 185:2-10 (Testimony of Race); 6/14/23 Tr. p. 246:14-265:4 (Testimony of Shealey); 6/12/23 Tr., p. 65:2-9 (Testimony of Gnat); MWG Ex. 1702, p. 52 (Weaver Presentation); 6/13/23 Tr., p. 91:1-8; Appen. A, SOF 358.

929. The Citgo refinery can be seen from the windows in the Will County Station. 6/14/23 Tr. p. 295:3-5 (Testimony of Shealey).

930. The Will County Station is zoned I-3, an industrial classification. MWG Ex. 1607, p. 55; 6/14/23 Tr. p. 265:5-11. (Testimony of Shealey).

931. **There are no potable wells located downgradient of the Will County ash ponds.** 10/27/17 Tr. p. 181:4-13. (Testimony of Kunkel); MWG Ex. 621, MWG13-15\_298; 1/30/18 Tr. p. 212:11-213:7; 2/2/18 Tr. p. 124:21-125:3 (Testimony of Seymour); 6/14/23 Tr., p. 267:20-24 (Testimony of Shealey); 6/13/23 Tr., p. 100:17-20 (Testimony of Weaver); MWG Ex. 1702, p. 59, 63 (Weaver Presentation); Appen. A, SOF 361.

932. The groundwater flow under the ash ponds at Will County is to the west, towards the Des Plaines River. MWG Ex. 901, p. 63 (Seymour Presentation); 2/1/18 Tr. p. 164:18-22 (Testimony of Gnat); 6/12/23 Tr., p. 65:10-13; MWG Ex. 1702, p. 61 (Weaver Presentation); Appen. A, SOF 363.

933. The area in the southeast of the stations that the Board identified as a potential area of ash was investigated as part of the 1998 Phase II. 6/13/23 Tr., p. 94:20-24. The samples from soil borings in the area showed that concentrations in the soil were below the standards for RCRA metals, and the groundwater sample from the same area were below the Class I standards. 6/13/23 Tr., p. 96:22-97:8 (Testimony of Weaver); MWG Ex. 1701, MWG13-15\_81456 (Weaver Expert Report).

**i. Will County Ash Ponds**

934. There are four ash ponds at the Will County Station: Ponds 1N, 1S, 2S, and 3S. 1/30/18 Tr. p. 191:3-19 (Testimony of Race); MWG Ex. 667, p. 28 (Midwest Generation Maps: Joliet 29, Powerton, Waukegan, and Will County); MWG Ex. 901, p. 59-60 (Seymour Presentation); MWG Ex. 500 (Pond Characterizations for MWG Stations); MWG Ex. 1607, p. 57; 6/14/23 Tr. p. 265:12-22 (Testimony of Shealey); MWG Ex. 1702, p. 53 (Weaver Presentation) and pdf p. 100 (Weaver Chart); Appen. A., SOF 372.

935. Ponds 2S and 3S are regulated under the federal CCR rule, but Ponds 1N and 1S are not. 6/14/23 Tr., p. 269:4-6, 273:1-3 (Testimony of Shealey); MWG Ex. 1702, p. 52 (Weaver Presentation) and pdf p. 100 (Weaver Chart); 6/13/23 Tr., p. 91:21-22.

936. **Will County Ponds 2S and 3S are CCR surface impoundments as defined in 415 ILCS 5/3.143.** 2022 Joint Stipulations, No. 26; 6/14/23 Tr. p. 266:4-6 (Testimony of Shealey).

937. **Will County Ponds 1N and 1S are inactive CCR surface impoundments, citation 35 Ill. Adm. Code 845.120.** 2022 Joint Stipulations, No. 24; 6/14/23 Tr. p. 266:7-10 (Testimony of Shealey).

938. The area to the west of the Will County Ash ponds drops fairly steeply, is well-vegetated, and there is no indication of seeps. 5/18/23 Tr., p. 113:4-14 & 6/12/23 Tr., p. 67:17-68:8 (Testimony of Gnat); 6/13/23 Tr., p. 113:4-10.

939. Because there are no seeps, there is no technical basis to sample sediments in the Des Plaines River near the Will County Station. 5/18/23 Tr., p. 113:15-19 (Testimony of Gnat).

940. Under the federal CCR rule, MWG submitted an alternative capacity demonstration for the Will County Station; however, when the Station ceased burning coal, MWG withdrew the demonstration because it was no longer needed. Comp. 1410, 5/19/23 Tr., p. 31:19-33:22 (Testimony of Shealey); 6/13/23 Tr., p. 93:8-15 (Testimony of Weaver), MWG Ex. 1702, pdf. p. 97 (Weaver Chart).

### **III. MWG'S EVALUATION OF THE STATION IMPOUNDMENTS, RELINING, GROUNDWATER MONITORING AND CCAS**

941. The below information is in addition to the information entered in the first hearing regarding the MWG's Evaluation of the Station Impoundments found in SOF 408-661 in Appendix A.

#### **A. MWG's Evaluation of the Station Impoundments**

942. In about 2002 through 2005, MWG began an assessment of the ash pond liners at the MWG Stations for preventative maintenance of the pond liners. 1/29/18 Tr. p. 214:4-10, 216:1-3 (Testimony of Race); 6/14/23 Tr., p. 146:7-16l; 242:7-12, 266:21-24 (Testimony of Shealey); Ex. 1607, p. 8, 39, 59; Appen. A, SOF 408.

943. The review included locating the drawings for the ponds, and planning including retention of consultants, and site visits. 6/14/23 Tr., p. 146:7-16. (Testimony of Shealey).

944. No Federal or State regulatory agency had asked MWG to evaluate the ash ponds, there was no legal requirement for MWG to conduct the ash pond liner evaluation, and there were no Illinois or Federal regulations related to the storage or use of the coal ash. 1/29/18 Tr. p. 218:3-16 (Testimony of Race); 6/14/23 Tr., p. 146:17-147:3. (Testimony of Shealey); Appen. A, SOF 409.

945. MWG conducted the evaluation of the ash pond liners as good operating practice and environmental stewardship. “They wanted to make sure that the ponds were in good condition.” 6/14/23 Tr., p. 147:7-9. (Testimony of Shealey).

946. MWG’s third party consultant, NRT, conducted an initial evaluation of the impoundments based upon a Pond Characterization Document (MWG Ex. 500), the current liner material, the original liner construction dates and presumed liner conditions. Comp. Ex. 34 (2005 Technical Memorandum Regarding Impoundment Rankings); Appen. A, SOF 414.

947. NRT made a conservative assumption that the poz-o-pac liners were in poor condition based only on the age of the liners. 10/24/17 Tr. p. 12:22-13:3 (Testimony of Race) Appen. A, SOF 416.

948. MWG Director of Federal Environmental Programs, Ms. Race, questioned the basis for NRT’s assumption at the time. 1/29/18 Tr. p. 228:6-23 (Testimony of Race); Appen. A, SOF 430-431.

949. MWG Environmental Director, Ms. Shealey, similarly questioned and disagreed with NRT’s initial statement in its 2005 Technical Memorandum Regarding Impoundment Rankings. 6/14/23 Tr., p. 149:8-24 (Testimony of Shealey); Comp. Ex. 34.

950. MWG Environmental Director, Ms. Shealey, noted that NRT did not look at the liners in the ponds. She stated that for example, NRT described the liner condition of the ponds at Will County poor, but because NRT had not emptied the ponds they could not have made the conclusion. 6/14/23 Tr., p. 150:2-10 (Testimony of Shealey); Comp. Ex. 34.

951. Because NRT did not look at the pond liners in the MWG ponds, Ms. Shealey concluded that NRT’s conclusions were based on incorrect assumptions and were wrong. 6/14/23 Tr., p. 150:11-18 (Testimony of Shealey).

952. Because NRT stated that the poz-o-pac liners were “reportedly in poor condition,” Ms. Shealey understood that to mean that a person stated something that they did not know, and NRT took them at their word for it, instead of doing real engineering work. 6/14/23 Tr. p. 327:17-22, 30:14-20 (Testimony of Shealey); Comp. Ex. 34, MWGI 3-15\_23608.

953. In particular, MWG Environmental Director, Ms. Shealey testified that NRT incorrectly stated that the Service Water Basin (a/k/a Secondary Ash Settling Basin) did not have a liner. 6/14/23 Tr., p. 211:9-23 (Testimony of Shealey), reviewing Ex. 34, MWG13-15\_23615. Instead, based on her discussions with MWG personnel and the 2017 Joint Stipulation Number 188, the Service Water Basin had a liner before 1999. 6/14/23 Tr., p. 209:23-210:23 (Testimony of Shealey).

954. MWG began to execute its plan for the pond relining, noting that the ponds were designed for the removal of ash. 1/29/18 Tr. 228:13-24, 230:6-10 (Testimony of Race); 2/1/18 Tr. p. 262:3-16 (Testimony of Seymour); 6/14/23 Tr., p. 150:19-22 (Testimony of Shealey); Ex. 1607, p. 9; Appen. A, SOF 432.

955. In 2008, MWG issued a “request for proposal” to obtain bids for the relining of the surface impoundments in MWG’s entire fleet. MWG Ex. 1607, p. 9, 26, 41, 60.

956. As Ms. Race similarly testified, relining the ash ponds is no small feat. To begin the relining process, MWG had to conduct the engineering, scheduling and budgeting for the relining product. 6/14/23 Tr., p. 150:19-22 (Testimony of Shealey); Appen. A, SOF 410.

957. To account for the scheduling, MWG had to account for when the ash ponds were needed and not needed, so that they could be taken out of service during an outage. Scheduling also included consideration of equipment availability and scheduling with contractors for the work. 6/14/23 Tr., p. 151:5-17 (Testimony of Shealey); Appen. A, SOF 411.

958. For scheduling, a relining project cannot occur in winter because it is too cold to do the work due to the possibility of freezing. 6/14/23 Tr., p. 152:17-23 (Testimony of Shealey); Appen. A, SOF 411.

959. For engineering the relining project, a licensed professional engineer designs the new liner system, including preparing engineering drawings. 6/14/23 Tr., p. 151:18-152:2; (Testimony of Shealey); Appen. A, SOF 411.

**i. The Joliet 29 Relining**

960. Under the proposed schedule prepared by MWG through its fleet-wide evaluation, the first ash ponds for relining were Ash Ponds 1 and 2 at Joliet 29. MWG Ex. 607 (MWG Initial Schedule of Pond Relining Schedule for all Ash Ponds); 6/14/23 Tr., p. 150:19-22 (Testimony of Shealey); Ex. 1607, p. 9; Appen. A, SOF 433.

961. For the relining project, MWG applied for and IEPA granted an IEPA construction permit for relining Joliet 29 Ash Ponds 1 and 2. Ex. 608, 609; 6/14/23 Tr., p. 152:24-153:6 (Testimony of Shealey); Ex. 1607, p. 9, Appen. A, SOF 434-435.

962. Once MWG emptied the ponds for relining, MWG found that NRT’s assumptions on the condition of the poz-o-pac was incorrect, and that the poz-o-pac in Joliet 29 Ash Ponds 1 and 2 was in good condition. There were no cracks or holes; instead the poz-o-pac was intact and had its full integrity. 6/14/23 Tr., p. 153:7-17 (Testimony of Shealey); Appen. A, SOF 436-437.

**ii. Will County Relining**

963. On July 22, 2008, MWG submitted an application for a construction permit to reline Ash Ponds 2S and 3S at Will County with an HDPE liner. 10/24/17 Tr. p. 282:5-11 (Testimony of Maddox); 1/30/18 Tr. p. 208:8-209:2 (Testimony of Race); MWG Ex. 501 (Application for Construction Permit for Will County South Ash Ponds 2 and 3 liner replacement); 6/14/23 Tr., p. 267:1-4 (Testimony of Shealey); MWG Ex. 1607, p. 60; Appen. A, SOF 447.

964. The first liner to be replaced was Will County Pond 3S. 1/30/18 Tr. p. 206:14-18 (Testimony of Race); MWG Ex. 666, p. 3 (Will County Timeline of Events); 6/14/23 Tr., p. 267:5-8 (Testimony of Shealey); MWG Ex. 1607, p. 60; Appen. A, SOF 449.



965. When Pond 3S was relined, MWG found that the poz-o-pac was not cracked or failing, and instead was good and had integrity. 6/14/23 Tr., p. 267:9-14 (Testimony of Shealey); Appen. SOF 453-457.

**B. The Hydrogeologic Assessments and Groundwater Monitoring of Areas Around the Ash Ponds**

966. In December 2008, TVA had a large impoundment dam failure at its Kingston Mine in Tennessee that released a large quantity of fly ash over a large area. 6/14/23 Tr., p. 153:18-21 (Testimony of Shealey); Ex. 1607, p. 9; Appen. A, SOF 471.

967. Following the TVA spill, IEPA contacted MWG and requested that MWG conduct a hydrogeological assessment, which included an evaluation of the groundwater and a potable water survey. 6/14/23 Tr., p. 153:22-154:20 (Testimony of Shealey); Ex. 1607, p. 9; Appen. A, SOF 474.

968. MWG voluntarily agreed to IEPA's request, despite the absence of any regulatory requirement to conduct the assessment. 6/14/23 Tr., p. 154:21-155:8 & 267:15-19 (Testimony of Shealey); Ex. 1607, p. 9; Appen. A, SOF 474-478.

969. The hydrogeological assessment concluded that there were no potable wells that would be impacted by the MWG ash ponds. 6/14/23 Tr., p. 155:17-156:4 & 267:20-24 (Testimony of Shealey); MWG Ex. 1607, p. 9; Appen. A, SOF 484-485.

970. In January 2010, USEPA announced its intent to propose regulations regarding CCR impoundments. 6/14/23 Tr., p. 156:7-11 (Testimony of Shealey); MWG Ex. 1607, p. 10; 75 C.F.R. 35128, 35210 (June 21, 2010).

971. Following USEPA's announcement, MWG paused its relining project because MWG wanted to wait until the rule was final to avoid conflicts with the rule and unnecessary work. 6/14/23 Tr., p. 156:23-157:4 (Testimony of Shealey); MWG Ex. 1607, p. 10; Appen. A, SOF 488.

972. After MWG submitted the 2009 Hydrogeologic Assessment, IEPA asked MWG to install groundwater monitoring wells directly upgradient and downgradient of the of the MWG ash ponds at Joliet #29, Powerton, Waukegan, and Will County. 1/29/18 Tr. p. 245:6-9 (Testimony of Race); 6/14/23 Tr., p. 157:5-12 (Testimony of Shealey); MWG Ex. 1607, p. 10; Appen. A, SOF 489.

973. IEPA's request was not based upon a court order, or any order from another governmental body. 6/14/23 Tr., p. 157:13-18 (Testimony of Shealey).

974. MWG voluntarily agreed to IEPA's request to install groundwater monitoring wells around the ash ponds at the MWG Stations to sample the groundwater near and downgradient from the ash ponds. 1/29/18 Tr. p. 246:8-10 (Testimony of Race); 1/30/18 Tr. p. 157:23-158:3, 213:10-14 (Testimony of Race); 6/14/23 Tr., p. 157:19-24, 221:10-13. 268:1-5 (Testimony of Shealey); Appen. A, SOF 490-493.

975. In voluntarily agreeing to install the groundwater monitoring wells, MWG's intent was to cooperate with IEPA's request. 6/14/23 Tr., p. 276:11-22 (Testimony of Shealey).

976. In 2010, MWG submitted to IEPA Hydrogeologic Assessment Plans to conduct groundwater monitoring and characterize the subsurface hydrogeology near the ash ponds at the four MWG Stations. MWG Exs. 613-616 (Hydrogeologic Assessment Plans for Joliet #29, Powerton, Waukegan, and Will County); 1/29/18 Tr. p. 248:16-249:11 (Testimony of Race); 6/14/23 Tr., p. 158:1-18 (Testimony of Shealey); MWG Ex. 1607, p. 10; Appen. A, SOF 494

977. On September 24, 2010, IEPA approved MWG's Hydrogeologic Assessment Plans. MWG Exs. 617-620 (IEPA's Approval of the Hydrogeologic Assessment Plans for Joliet #29, Powerton, Waukegan, and Will County); 6/14/23 Tr., p. 158:22-24 (Testimony of Shealey); MWG Ex. 1607, p. 10; Appen. A, SOF 496.

978. Following approval of the Hydrogeologic Assessment Plans, MWG installed the monitoring wells and began sampling. 1/30/18 Tr. p. 13:4-8 (Testimony of Race); MWG Ex. 901, p. 19, 33, 48, 62; 6/14/23 Tr., p. 159:1-2 (Testimony of Shealey); MWG Ex. 1607, p. 10; 5/19/23 Tr., p. 5-10 (Testimony of Gnat); Appen. A, SOF 497.

979. **MWG began sampling the groundwater at Waukegan in October 2010 and at Joliet 29, Powerton, and Will County in December 2010.** 2022 Joint Stipulation, No. 4, 20, 14, 28; 6/14/23 Tr., p. 159:4-6, 221:3-5, 243:20-22, 268:6-8 (Testimony of Shealey); 6/12/23 Tr., p. 23:11-19, 52:18-53:2; 65:14-21 (Testimony of Gnat).

980. MWG agreed to continue groundwater monitoring on a quarterly basis. Comp Exs. 12C-15C, pp. MWG13-15\_6974, 7091, 7158, 7240 (Hydrogeologic Assessment Reports for Joliet #29, Powerton, Waukegan, and Will County); 6/14/23 Tr., p. 159:13-19 (Testimony of Shealey); MWG Ex. 1607, p. 11; 5/17/23 Tr., p. 13:12-20, 16:15-17:3 (Testimony of Gnat); Appen. A, SOF 502.

981. **MWG has submitted the groundwater monitoring results for Joliet 29, Powerton, Waukegan, and Will County to IEPA from 2010 to present.** 2022 Joint Stipulation, Nos. 5, 15, 21, 29; 6/14/23 Tr., p. 159:21-23, 221:14-17, 243:24-2, 268:10-12 (Testimony of Shealey); 5/17/23 Tr., p. 13:12-20; 16:15-17:3, 19:7-19, 21:24-22:18 & 5/19/23 Tr., p. 122:4-8, 124:13-22 (Testimony of Gnat).

982. There was no order, permit, or statutory or regulatory requirement to conduct the quarterly groundwater monitoring in 2010 at the Stations. 6/14/23 Tr., p. 159:24-160:15 (Testimony of Shealey).

983. MWG's decision to conduct the sampling in 2010 and thereafter was voluntary, and was an attempt to be cooperative with the IEPA. 6/14/23 Tr., p. 160:16-161:6, 221:18-21, 276:23-277:8 (Testimony of Shealey).

984. At Joliet 29, Powerton, and Will County Stations there are "CCA Wells," which are the network of wells that was agreed to be sampled on a quarterly basis within the context of the Compliance Commitment Agreement between MWG and IEPA. 2/1/18 Tr. p. 89:19-90:2 (Testimony of Gnat); 5/19/23 Tr., p. 114:11-19 (Testimony of Gnat); Appen. A, SOF 510.

985. At the Waukegan Station, there were “CCA wells” which are now called “permit wells” that are collected on a quarterly basis pursuant to a construction permit to modify the East Berm. 5/17/23 Tr., p. 59:12-20 (Testimony of Gnat).

986. When MWG transitioned from CCA sampling to the permit sampling at Waukegan, the analysis changed to total metals, and the samples ceased to be field filtered. 5/17/23 Tr., p. 65:4-17 (Testimony of Gnat);

987. MWG also collects samples from MW-8 and MW-9, near the FS Area at the Waukegan Station, which was not required by a permit. The results for MW-9 are used for the CCR monitoring network under the Illinois CCR rule and federal CCR rule. 5/17/23 Tr., p. 59:12-60:6 (Testimony of Gnat).

988. At all four of the MWG Stations there are “CCR Wells,” which are wells that are sampled pursuant to the new USEPA CCR rules. 2/1/18 Tr. p. 90:2-7 (Testimony of Gnat); Appen. A, SOF 511.

989. Some of the wells at the four MWG Stations may be both CCR wells and CCA wells. 2/1/18 Tr. p. 90:2-7 (Testimony of Gnat); Appen. A, SOF 512.

990. Often the CCR wells and the CCA wells are collected on the same day. 10/26/17 Morning Tr. p. 11:5-9 (Testimony of Gnat); 5/19/23 Tr., p. 121:1-18 (Testimony of Gnat); Appen. A, SOF 513.

991. **The CCA wells are sampled for dissolved metals.** (10/26/17 Afternoon Tr. p. 7:1-8 (Testimony of Gnat); 2/1/18 Tr. p. 91:3-5 (Testimony of Gnat); 10/26/18 Afternoon Tr. p. 71:4-6 (Testimony of Kunkel); 5/19/23 Tr., p. 114:11-19 (Testimony of Gnat); Appen. A, SOF 514.

992. When sampling for dissolved metals, the sample is field filtered before placing the sample in the sample bottle. 5/19/23 Tr., p. 114:21-115:3 (Testimony of Gnat).

993. The Illinois and federal CCR wells are sampled for total metals. 10/26/17 Afternoon Tr. p. 7:12-15 (Testimony of Gnat); 2/1/18 Tr. p. 91:6-8 (Testimony of Gnat); 5/17/23 Tr., p. 64:17-23, 65:21-66:3; Appen. A, SOF 515.

994. When sampling for total metals, the sample is not filtered in the field before collected. 5/19/23 Tr., p. 115:13-17 (Testimony of Gnat).

995. **Complainants’ expert, Kunkel agreed that “the total recoverable and dissolved are the same for all practical purposes.”** 10/26/18 Afternoon Tr. p. 71:10-14 (Testimony of Kunkel); Appen. A, SOF 516; see also 5/17/23 Tr., p. 68:1-7, 5/19/23 Tr., p. 116:17-117:23 (Testimony of Gnat) (in this case, results between the total metals sample results and the dissolved metal sample results are very similar); 6/12/23 Tr., p. 193:2-10 (Testimony of Weaver) (agrees that there is very little difference between the field filtered and non-filtered groundwater results at the four MWG stations); Appen. A, SOF 516.

996. At the Waukegan Station, pursuant to IEPA’s construction permit, beginning in first quarter of 2017, the CCA Wells and the CCR Wells are analyzed for total metals and are not

field filtered. 2/1/18 Tr. p. 146:11-147:5 (Testimony of Gnat); 5/19/23 Tr., p. 122:21-12:15 (Testimony of Gnat); Appen., SOF 519.

997. The Illinois CCR rule has the same set of sampling parameters (total metals) as the federal CCR rule, with the addition of turbidity. 5/19/23 Tr., p. 115:23-116:9 (Testimony of Gnat).

998. In urban environments, particularly northern urban environments, salt is typically spread on roads in the winter which adds chlorides, and the other components of road salt. 5/19/23 Tr., p. 156:13-22 (Testimony of Gnat).

999. Often the road salt dissolves and percolates down into the groundwater, and is a short term (*i.e.*, transient) concentration in the groundwater as the road salt and its associated components flow through the groundwater system. 5/19/23 Tr., p. 156:13-22 (Testimony of Gnat).

1000. Because a transient source in the groundwater is generally temporary, immediate action is not required. 5/19/23 Tr., p. 157:8-16 (Testimony of Gnat).

### **C. The Powerton Relining Projects**

1001. In 2009, MWG continued to execute its preventative maintenance plan to reline the ash ponds at the Powerton Station. 1/31/18 Tr. p. 113:17-23 (Testimony of Kelly); MWG Ex. 606 (Nov. 2006 Technical Memo Regarding Liner Upgrade and Cost); MWG Ex. 607 (MWG Initial Schedule of Pond Relining Schedule for all Ash Ponds); 6/14/23 Tr., p. 220:12-20 (Testimony of Shealey); Appen. A, SOF 531.

1002. When the opportunity to conduct preventative maintenance was presented, MWG took it. 1/31/18 Tr. p. 218:7-13 (Testimony of Kelly); Appen. A, SOF 532.

1003. **In 2010, Midwest Generation re-lined the Metal Cleaning Basin with a 60-milliliter HDPE liner.** 2017 JAS No. 26; 6/14/23 Tr., p. 220:9-11 (Testimony of Shealey); Ex. 1607, p. 28; Appen. A, SOF 205.

1004. **In 2010, Midwest Generation re-lined the Bypass Basin with a 60-milliliter HDPE liner.** 2017 2017 Joint Agreed Stipulations No. 29; 6/14/23 Tr., p. 220:6-8 (Testimony of Shealey); Ex. 1607, p. 27; Appen. A, SOF 186.

1005. When MWG emptied the Bypass Basin and the Metal Cleaning Basin to reline the ponds, the poz-o-pac underneath was in good condition. 6/14/23 Tr., p. 220:21-221:2 (Testimony of Shealey); Appen. A, SOF 536, 548.

### **D. Compliance Commitment Agreements**

1006. On June 11, 2012, IEPA issued Violation Notices (“VNs”) to MWG alleging violations of the groundwater quality standards from the ash ponds. Comps Ex. 1A-4A (Violation Notices); 6/14/23 Tr., p. 161:23-162:3, 221:23-222:3, 244:3-7, 268:13-16 (Testimony of Shealey); MWG Ex. 1607, p. 11.

1007. As part of the conversation with IEPA regarding the VNs, MWG expressed its concern that relining the ponds could conflict with the pending federal regulations regarding CCR surface impoundments. 6/14/23 Tr., p. 162:23-162:3 (Testimony of Shealey).

1008. Despite the pending federal regulations for CCR surface impoundments, IEPA asked MWG to resolve the VNs with Compliance Commitment Agreements (“CCAs”) for each MWG Station that included re-lining the remaining active ponds in the fleet with high density polyethylene (“HDPE”) liners. MWG Exs. 626, 636, 647, 656 (CCAs for Joliet 29, Powerton, *Waukegan*, and Will County); 6/14/23 Tr., p. 162:18-23; 222:6-10, 268:17-20 (Testimony of Shealey); MWG Ex. 1607, p. 11.

1009. In 2012, there were no Federal CCR or Illinois specific CCR rules, so MWG and IEPA referred to the original construction documents for the previously MWG relined ponds and concluded that HDPE would be the approved liner. 1/30/18 Tr. p. 31:13-22 (Testimony of Race); 6/14/23 Tr., p. 163:19-22 (Testimony of Shealey); Appen. A, SOF 564.

1010. In 2012, it cost approximately \$10 million to reline the additional ponds pursuant to the CCAs. 6/14/23 Tr., p. 163:23-164:4 (Testimony of Shealey).

1011. Pursuant to the CCA for Joliet 29, MWG relined Pond 3 and continued the groundwater monitoring. 6/14/23 Tr., p. 163:23-164:4 (Testimony of Shealey); MWG Ex. 1607, p. 12; Appen. A, SOF 565-576.

1012. Under the CCA for the Powerton Station, MWG agreed to reline the Ash Surge Basin and the Secondary Basin. MWG Ex. 636 (Powerton CCA); 6/14/23 Tr., p. 163:23-164:4 (Testimony of Shealey); Appen. A, SOF 577-617.

1013. When the MWG ponds were relined, the contractors did not leave anything to use as a cushion underneath the liner. 6/14/23 Tr., p. 222:17-24 (Testimony of Shealey).

1014. As the MWG Environmental Director, Ms. Shealey would be made aware of any installation flaws in the liners in the MWG ponds, including the ash ponds. 6/14/23 Tr., p. 223:4-6 (Testimony of Shealey).

1015. MWG Environmental Director, Ms. Shealey, is not aware of any installation flaws in the liners at the Powerton ponds. 6/14/23 Tr., p. 223:7-10 (Testimony of Shealey).

1016. Any tears in the Powerton pond liners are discovered by inspections and repaired by qualified contractors certified to install and repair HDPE liners. 6/14/23 Tr., p. 223:11-224:4 (Testimony of Shealey).

1017. As part of the CCA agreement, MWG relined Pond 2S at Will County. 1/30/18 Tr. p. 215:23-24 (Testimony of Race); MWG Ex. 656 (Will County CCA); 6/14/23 Tr., p. 268:21-269:3 (Testimony of Shealey); MWG Ex. 1607, p. 63; Appen. A, SOF 618.

**i. Groundwater Management Zones and ELUCs**

1018. In the CCAs, MWG agreed to establish a groundwater management zone (“GMZ”) pursuant to 35 Ill. Adm. Code 620.250 at the Powerton, Will County and Joliet 29 Stations. Comp. Exs. 242, 254, 276P (MWG Applications for the GMZ at Joliet 29, Powerton, and Will County); MWG Exs. 626, 636, 656 (CCAs for Joliet 29, Powerton, and Will County); MWG Ex. 627, 638, 658 (Illinois Approval of GMZs at Joliet 29, Powerton and Will County); 1/30/18 Tr. p. 216:5-7 (Testimony of Race); 5/19/23 Tr., p. 125:2-7 (Testimony of Gnat); Appen. A, SOF 636.

1019. A GMZ is a zone of groundwater approved by the Agency on a property that is being managed through a remedial program, to allow for the groundwater to remediate over time. 6/12/23 Tr., p. 199:23-201:5 (Testimony of Weaver).

1020. GMZ’s are commonly used at solid and hazardous waste landfills in Illinois, in addition to installing a cap over the landfilled material. 6/12/23 Tr., p. 202:5-15 (Testimony of Weaver).

1021. Monitored natural attenuation (“MNA”) is a process that can be a part of a GMZ. 6/12/23 Tr., p. 202:23-203:5 (Testimony of Weaver).

1022. USEPA states that MNA is an appropriate strategy if the contaminants are likely to be effectively addressed by natural attenuation processes, the groundwater contaminant plume is stable and has low potential for migration, and there is no potential for unacceptable risks to human health or environmental resources by the contamination.” Comp. Ex. 1104, Comp\_67366; 6/12/23 Tr., p. 247:18-248:11 (Testimony of Weaver).

1023. USEPA also states that “sites where contaminant plumes are no longer increasing in extent, or are shrinking, would be the most appropriate candidates for MNA remedies.” Comp. Ex. 1104, Comp\_67366; 6/12/23 Tr., p. 248:21-24 (Testimony of Weavers).

1024. MNA is regularly used in Illinois regulatory programs, is commonly accepted, and IEPA acknowledges it as a remedial strategy. 6/12/2023 Tr., p. 242:21-24 (Testimony of Weaver).

1025. IEPA and the Board also recognize that MNA takes time, which is why groundwater monitoring continues. 2020 Board Order, p. 13 (“the process of monitored natural attenuation can be by its nature a long one. And can last for many years.”) 6/12/2023 Tr., p. 243:1-10, 6/14/23 Tr., p. 103:9-104:3; (Testimony of Weaver).

1026. MNA and the absence of risk as a whole are two common Illinois strategies to manage groundwater conditions. 6/12/2023 Tr., p. 242:11-13 (Testimony of Weaver).

1027. MNA may also be used if a portion of the waste is in contact with groundwater, such as historic landfill sites, historic industrial process byproducts like slag and foundry sand, and plating tailings. 6/12/2023 Tr., p. 242:14-24 (Testimony of Weaver).

1028. Upon establishment of the GMZs at the Stations, otherwise applicable groundwater standards are not applicable to the groundwater within the GMZ area at the Stations. 1/30/18 Tr.

p. 36:16-18 (Testimony of Race); 2/1/18 Tr. p. 107:9-17, 166:24-167:6 (Testimony of Gnat); Appen. A, SOF 637.

1029. The GMZs at Joliet 29, Will County, and Powerton are still in effect. 5/19/23 Tr., p. 125:12-13, 6/12/23 Tr., p. 24:7-10, 67:8-10 (Testimony of Gnat).

1030. IEPA has not revoked the GMZs or provided any indication of issues with the GMZs. 5/19/23 Tr., p. 125:14-16, 126:2-10 (Testimony of Gnat).

1031. MWG also established Environmental Land Use Controls (“ELUCs”) as corrective actions pursuant to 35 Ill. Adm. Code 742.1010 at Powerton, Will County, and Waukegan. Comp. Ex. 253, 263 and MWG Ex. 659 (Applications for ELUC for Powerton, Waukegan and Will County; MWG Exs. 639, 650, 660 (IEPA’s approval of ELUCs at Powerton, Waukegan and Will County); 1/30/18 Tr. p. 216:8-10 (Testimony of Race); Appen A, SOF 646.

1032. An ELUC is an institutional control tool in which a designated parcel of land has certain use restrictions, such as not allowing the installation of any groundwater or water wells within the defined ELUC area to prevent any human receptor; once it is agreed upon, the ELUC is registered on the deed of the property. 2/1/18 Tr. p. 108:2-14, 167:16-21 (Testimony of Gnat); 6/12/23 Tr., p. 55:16-22 (Testimony of Gnat); Appen. A, SOF 647.

1033. **At Waukegan, MWG applied for an ELUC that covers the remaining Waukegan Station property that was not already included in the existing Former Tannery Site ELUC, including the ash ponds.** Joint Agreed Stipulation No. 63; Comp. Ex. 263, MWG Ex. 667, pp. 21-22; 6/12/23 Tr., p. 55:23-56:14 (Testimony of Gnat); MWG Ex. 1702, p. 82 (Weaver Presentation); Appen. A, SOF 651.

**ii. CCA Certifications**

1034. **In October 2013, MWG submitted to IEPA its certification that all of the CCA measures for the CCAs for the Stations were successfully completed.** 2017 Joint Agreed Stipulations No. 57, 62, 65, 70; MWG Ex. 630, 637, 651, 661 (CCA Compliance Certifications); Appen. A, SOF 657-660.

1035. In its Compliance Statements, MWG certified that all of the alleged violations in the Violation Notice were addressed and that all CCA measures were completed on time. MWG Exs. 630, 637, 651, and 661 (CCA Compliance Statements for Joliet 29, Powerton, Waukegan, and Will County); 1/30/18 Tr. pp. 45:2-12, 96:21-97:6, 179:17-180:14, 226:13-18 (Testimony of Race); Appen. A, SOF 661.

1036. IEPA has never claimed that MWG has broken the CCAs or made any claims of noncompliance with the CCAs. 5/19/2023 Tr., p. 87:21-88:7 (Testimony of Shealey); 5/19/23 Tr., p. 126:7-10 (Testimony of Gnat).

#### **IV. CCR COMPLIANCE**

##### **A. Compliance with Federal CCR Rule**

1037. The below information is in addition to the information presented at the first hearing regarding CCR Compliance found in SOF 662-670 in Appendix A.

1038. In December 2014, USEPA adopted new CCR Rules. MWG Exs. 663, p. 5 (Joliet 29 Timeline of Events); 664, p. 7 (Powerton Timeline of Events); 665, p. 10 (Waukegan Timeline of Events); 666, p. 6 (Will County Timeline of Events); Comp. Ex. 406 (Federal CCR Rules); Ex. 1607, p. 12; 6/14/23 Tr., p. 165:22-166:2 (Testimony of Shealey); Appen. A, SOF 662.

1039. When the federal CCR rule was adopted, MWG began complying with the rule, including ceasing placement of CCR, finding alternative capacity to keep the stations running to provide reliable electricity, groundwater monitoring, and working towards closure of the surface impoundments. 1/30/18 Tr. p. 48:5-12, 102:13-104:13, 181:2-13, 227:11-16 (Testimony of Race); 6/14/23 Tr., p. 166:13-18, 275:18-276:5 (Testimony of Shealey); MWG Ex. 1607, p. 13; 6/12/23 Tr., p. 56:15-23, 68:9-14 (Testimony of Gnat); Appen. A, SOF 670.

1040. Under the federal CCR rule, there are two monitoring parameters groups: Appendix 3 parameters for detection monitoring and Appendix 4 parameters for assessment monitoring. 5/17/23 Tr., p. 63:16-21 (Testimony of Gnat).

1041. As part of the compliance with the federal CCR rule, KPRG developed prediction limits for the Appendix 3 parameters for each monitoring well. A prediction limit is the statistical calculation for comparison that is based on background evaluation that predicts with a 96 percent probability that the groundwater concentration will be at or below the value. 5/18/23 Tr., p. 115:2-14 (Testimony of Gnat).

1042. The prediction limit is not tied to the Illinois Part 620 groundwater standards and can be substantially lower than a standard. 5/18/23 Tr., p. 115:15-20 (Testimony of Gnat).

1043. Compliance with the federal CCR rule requires years of work because the work cannot be conducted quickly or without thought. 6/14/23 Tr., p. 276:6-10 (Testimony of Shealey).

1044. When the federal CCR rule was first adopted in 2015, the closure plans for the CCR surface impoundments were preliminary, because the closures of the ponds were far in the future and MWG intended to continue operating the ponds. As MWG learned more, the plans were refined. 5/18/23 Tr., p. 315:17-316:7, 5/19/2023 Tr., p. 88:9-18, & 6/14/23 Tr. p. 328:18-20 (Testimony of Shealey).

1045. The preliminary closure plans were about two to six pages. 5/19/2023 Tr., p. 88:13-15 (Testimony of Shealey).

1046. As time passed, from preparation of the preliminary closure plans, MWG learned more, including communicating with USEPA and IEPA on how each agency interpreted the federal and state CCR rules. 5/19/2023 Tr., p. 89:2-21 (Testimony of Shealey).



1047. As MWG learned more about its stations, and how the two regulators interpreted the rules, MWG's closure plans changed, including the technical feasibility and economic reasonableness of the closure plans. 5/19/2023 Tr., p. 89:22-90:10 (Testimony of Shealey).

1048. Following passage of the federal CCR rule, MWG found that its concern that relining the ponds in 2012 for the VNs would conflict with the pending federal regulations were correct. 6/14/23 Tr., p. 167:10-15 (Testimony of Shealey).

1049. The federal CCR rule required a composite liner system, and the HDPE liners in MWG's ponds, approved by IEPA, included one portion of the composite system required by the rule; the HDPE liners did not qualify as lined ponds under the federal rule. 6/14/23 Tr., p. 167:16-168:2 (Testimony of Shealey).

1050. At the Joliet 29, Powerton, Will County, and Waukegan Stations, MWG personnel conduct the weekly inspections required under the CCR rules. 1/30/18 Tr. p. 47:23-48:9, 227:11-16 (Testimony of Race); 1/31/18 Tr. p. 148:19-6 (Testimony of Kelly); 1/31/18 Tr. 237:23-238:12 (Testimony of Veenbaas); 6/14/23 Tr., p. 167:2-4, 249:19-250:11 (Testimony of Shealey); Appen. A, SOF 664-667.

1051. Pursuant to the federal CCR rule, MWG conducted engineering evaluations and certifications (including annual structural stability assessments), prepared the emergency action plans, conducted the groundwater monitoring to establish background levels as well as continued groundwater monitoring, performed annual inspections by a professional engineer, and submitted annual groundwater monitoring and corrective action reports at Joliet 29, Powerton, Waukegan, and Will County. 6/14/23 Tr., p. 166:20-167:6, 224:13-21, 249:19-250:11, 269:7-11 (Testimony of Shealey); MWG Ex. 1607, p. 13, 29-30, 49; 5/19/23 Tr., p. 145:20-146:3, 6/12/23 Tr., p. 28:20-29:10, 56:24-57:11 (Testimony of Gnat); Appen. A, SOF 668-669.

1052. For developing the background groundwater concentration, particularly in industrial areas, it is important to know the concentration of constituents flowing onto the property to help identify whether the regulated unit is a potential source. 5/18/23 Tr., p. 35:14-19 (Transcript of Gnat).

1053. For the Waukegan Station, it was important to consider the upgradient properties, particularly the Griess-Pfleger Tannery that is impacting the groundwater quality at the Waukegan Station with boron and arsenic. 5/18/23 Tr., p. 35:1-12 (Transcript of Gnat).

1054. MWG also posted a Notice of Intent to Close the Powerton Former Ash Basin. 6/14/23 Tr., p. 224:8-12 (Testimony of Shealey); MWG Ex. 1607, p. 29.

1055. At the Waukegan Station, in each annual structural inspection, the professional engineer has not found any potential seeps or failures of the eastern berm. 6/14/23 Tr., p. 252:18-252:4 (Testimony of Shealey).

1056. At the Will County station, MWG installed two additional wells downgradient of Ponds 2S and 3S. 6/12/23 Tr., p. 65:22-66:10 (Testimony of Gnat).

1057. In the 2021 federal annual report for Joliet 29, MWG attached an alternate source demonstration that demonstrated that the sulfate, total dissolved solids, and chloride detected in the upgradient and downgradient wells were due to an alternate source. MWG Ex. 1502; 5/19/23 Tr., p. 150:6-158:3 (Testimony of Gnat).

- a. For the Joliet 29 alternate source demonstration, the prediction limit for sulfate at the Pond 2 groundwater wells are lower than the Class I groundwater standard, and while the groundwater results for sulfate were above the prediction limit, they were below the Class I standard. 5/19/23 Tr., p. 152:19-154:4 (Testimony of Gnat); MWG Ex. 1502, MWG13-15\_114029.
- b. The basis for the conclusion that there was an alternate source was that there are no CCR materials or associated liquids in Pond 2, and the elevated groundwater concentrations were in both the upgradient and downgradient wells; the groundwater concentrations decreased to below the prediction limit in subsequent sampling events. 5/19/23 Tr., p. 155:9-156:7 (Testimony of Gnat).

1058. In the 2020 federal annual report for the Powerton Station, MWG attached an alternate source demonstration that demonstrated that the arsenic, barium, molybdenum, selenium, and thallium detected above the site-specific groundwater protection standards were from an alternate source. Comp. Ex. 1317; 5/17/23 Tr., p. 31:18-32:11 23:11-25:18 (Testimony of Gnat); 6/13/23 Tr., p. 66:5-16 (Testimony of Weavers). The alternate source demonstration evaluated the ash in the Ash Surge Basin and Bypass Basin and concluded that the ash in the basins were not the source of the constituents in the groundwater. Comp. Ex. 1317; MWG Ex. 1701, MWG13-15\_81448 (Weaver Expert Report); 6/13/23 Tr., p. 66:17-67:3 (Testimony of Weavers).

1059. In addition, on March 9, 2020, KPRG conducted an alternate source demonstration of the Former Ash Basin because the concentrations of chloride, fluoride, sulfate and total dissolved solids detected were above the prediction limits calculated for MW-5, which is downgradient of the Former Ash Basin. Comp. Ex. 1315; 5/17/23 Tr., p. 23:11-26:22 (Testimony of Gnat). The alternate source demonstration recommended MWG transition to assessment monitoring. *Id.*

- c. The prediction limit for chloride in MW-5 is 62 mg/l, and chloride was detected at MW-5 at 75 mg/l. Comp. Ex. 1315, MWG13-15\_70544. The Class I groundwater standard for chloride is 200 mg/l. 35 Ill. Adm. Code 620.410.
- d. The prediction limit for fluoride in MW-3 and MW-5 is 0.25 mg/l, and fluoride was detected at MW-3 and MW-5 at 0.26 mg/l. Comp. Ex. 1315, MWG13-15\_70544. The Class I groundwater standard for fluoride is 4 mg/l. 35 Ill. Adm. Code 620.410.
- e. The prediction limit for sulfate in MW-5 is 85 mg/l, and sulfate was detected at MW-5 at 110 mg/l. Comp. Ex. 1315, MWG13-15\_70544. The Class I groundwater standard for sulfate is 400 mg/l. 35 Ill. Adm. Code 620.410. 5/18/23 Tr., p. 116:5-117:2 (Testimony of Gnat).

- f. The prediction limit for total dissolved solids in MW-5 is 609 mg/l, and total dissolved solids was detected at MW-5 at 660 mg/l. Comp. Ex. 1315, MWG13-15\_70544. The Class I groundwater standard for total dissolved solids is 1,200 mg/l. 35 Ill. Adm. Code 620.410.

1060. On April 12, 2018, KPRG completed an alternate source demonstration for the East and West Ash Ponds at the Waukegan Station that concluded that the statistically significant increases in the concentrations of boron, sulfate, and pH at certain wells were from another source. Comp. Ex. 1318; 5/17/23 Tr., p. 43:6-14 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81449 (Weaver Expert Report).

1061. On March 11, 2019, KPRG completed a second alternate source demonstration for calcium and TDS at the East and West Ash Ponds at the Waukegan Station that concluded that the statistically significant increases in the concentrations of calcium and TDS at MW-16 were from another source. Comp. Ex. 1319, /17/23 Tr., p. 79:10-18 (Testimony of Gnat);

1062. On April 12, 2018, KPRG completed an alternate source demonstration for Ponds 2S and 3S at the Will County Station that concluded that statistically significant increases in the concentrations of chloride, fluoride and total dissolved solids at certain wells were from another source. Comp. Ex. 1320; 5/17/23 Tr., p. 48:16-49:8 (Testimony of Gnat); MWG Ex. 1701, MWG13-15\_81448-49 (Weaver Expert Report).

1063. On March 28, 2022, KPRG completed an alternate source demonstration for Ponds 2S and 3S at the Will County Station because of a statistically significant increase in the concentration of chloride in MW-11. Comp. Ex. 1333; 5/17/23 Tr., p. 173:5-16 (Testimony of Gnat).

- g. The alternate source demonstration concluded that Pond 3S was not a source but could not make the same conclusion about Pond 2S. Comp. Ex. 1333; 5/17/23 Tr., p. 175:2-21 (Testimony of Gnat).
- h. The prediction limit for chloride in MW-11 is 110.6 mg/l, and chloride was detected at MW-5 between 130 and 150 mg/l. Comp. Ex. 1333, MWG13-15\_116254. The Class I groundwater standard for chloride is 200 mg/l. 35 Ill. Adm. Code 620.410.

1064. The federal CCR rule does not have a specific requirement to identify the specific alternate source when conducting an alternate source demonstration. 5/17/23 Tr., p. 37:5-10, 44:2-5, 44:16-20, 49:11-17 & 6/12/23 Tr., p. 19-21 (Testimony of Gnat); 6/13/23 Tr., p. 67:7-10 (Testimony of Weaver).

1065. Pursuant to the federal CCR rule, in November 2020 MWG submitted to USEPA a demonstration requesting an alternative deadline to initiate closure of the Powerton Ash Surge Basin. Comp. 1401, 5/18/23 Tr., p. 201:5-9 (Testimony of Shealey).

1066. At the time MWG submitted its demonstration requesting an alternative closure deadline for the Powerton Ash Surge Basin, the plan was to use concrete tanks to manage the CCR

(so the Ash Surge Basin would not be needed) and clean close and repurpose the Bypass basin, after obtaining a construction permit from IEPA. 5/18/23 Tr., p. 207:6-16, (Testimony of Shealey).

1067. At that time, USEPA informed MWG that it would consider the concrete tanks to be CCR surface impoundments; this caused MWG to revisit its plans and instead retrofit the impoundments with compliant liners and compliant leachate collection system. 5/18/23 Tr., p. 258:10-22 (Testimony of Shealey).

1068. Pursuant to the federal CCR rule, in November 2020 MWG submitted an application to USEPA requesting an alternative deadline to initiate closure of the Waukegan East Ash Pond. Comp. 1406, MWG13-15\_123865; 5/18/23 Tr., p. 302:12-19 (Testimony of Shealey).

1069. Pursuant to the federal CCR rule, in November 2020 MWG submitted an application to USEPA requesting an alternative deadline to initiate closure of Will County Pond 2S. Comp. 1410, 5/19/23 Tr., p. 31:19-33:22 (Testimony of Shealey).

1070. At the time, MWG had intended to replace the CCR surface impoundments at Will County with a remote submerged conveyer system to process the CCR. 5/19/23 Tr., p. 34:2-10 (Testimony of Shealey).

1071. MWG subsequently withdrew the request for an alternative deadline to initiate closure for Will County Pond 2S because the Station ceased burning coal. 5/19/23 Tr., p. 34:11-13 (Testimony of Shealey).

#### **B. Compliance with Illinois CCR Statute and Rule**

1072. In January 2019, the Illinois General Assembly introduced Senate Bill 9, a bill to regulate CCR surface impoundments in Illinois. 6/14/23 Tr., p. 168:11-18 (Testimony of Shealey); MWG Ex. 1607, p. 13, 30, 64.

1073. At the same time, MWG was preparing to close several of its CCR surface impoundments, pursuant to the federal CCR rule. 5/19/2023 Tr., p. 91:18-24, 6/14/23 Tr., p. 168:19-169:2, 251:4-12 (Testimony of Shealey).

1074. To close its CCR surface impoundments under the federal CCR rule, MWG was required to obtain an NPDES construction permit from the IEPA. 6/14/23 Tr., p. 169:17-170:2 (Testimony of Shealey).

1075. When Illinois Senate Bill 9 was pending, MWG approached IEPA about closing at least one pond under the federal CCR rule. IEPA informed MWG that, because the proposed bill stated that a CCR surface impoundment could not be closed without a permit from the IEPA, it would not issue an NPDES construction permit and would find MWG in violation if it attempted to close a pond. 5/19/2023 Tr., p. 92:1-21, 6/14/23 Tr., p. 169:3-170:6, 251:4-12, 269:12-16 (Testimony of Shealey).

1076. In other words, when Senate Bill 9 passed, MWG was prohibited from closing its CCR surface impoundments. 5/18/2023 Tr., p. 224:11-18 (Testimony of Shealey).

1077. Specifically, for the Powerton Former Ash Basin, MWG could not complete closure under the federal CCR rule without a permit issued under Part 845 by the IEPA. 6/14/23 Tr., p. 225:2-6 (Testimony of Shealey).

1078. Similarly, MWG cannot close or retrofit any CCR surface impoundment, including the Powerton Bypass Basin, without a permit from the IEPA. 5/18/23 Tr., p. 208:22-209:5 (Testimony of Shealey).

1079. The MWG Environmental Director, Ms. Shealey's, takeaway from the IEPA's statements was that MWG could not close any ponds without IEPA's permission. 6/14/23 Tr., p. 170:7-10, 251:4-12 (Testimony of Shealey).

1080. In 2021, the Board passed rules regulating CCR surface impoundments in Illinois ("Part 845"). 35 Ill. Adm. Code 845; 6/14/23 Tr., p. 170:13-19 (Testimony of Shealey).

1081. Following passage of Part 845, MWG began complying with the rules. 6/14/23 Tr., p. 170:20-23 (Testimony of Shealey); MWG Ex. 1607, p. 14, 30.

1082. Generally, compliance with Part 845 included implementing a modified groundwater monitoring program, conducting engineering certifications such as structural stability analyses, weekly inspections by qualified people, annual inspections by professional engineers, and preparing permit applications. 6/14/23 Tr., p. 171:1-5, 225:12-226:9, 250:20-251:3, 269:20-270:12 (Testimony of Shealey); MWG Ex. 1607, p. 14, 30, 50.

1083. For developing background statistics and concentrations under the Illinois CCR rule, having more data results in a more reliable or robust estimate of the background concentrations. 5/18/23 Tr., p. 59:24-60:6 (Testimony of Gnat).

1084. KPRG used as much of the available CCR and CCA data for the statistical evaluation it prepared pursuant to the Illinois CCR rule as long as the datasets did not have significant variability. 5/18/23 Tr., p. 60:7-61:18 (Testimony of Gnat).

1085. Also, to develop the statistical background concentrations, KPRG evaluated the groundwater trends in a monitoring well over time ("intra-well comparison"). 5/18/23 Tr., p. 62:3-63:24 (Testimony of Gnat).

1086. Because Ponds 1N and 1S at the Will County Station were regulated by the Illinois CCR Rule, MWG installed three additional monitoring wells downgradient of the two ponds. 6/12/23 Tr., p. 66:11-20 (Testimony of Gnat).

1087. Because the area to the west of Will County Ponds 1N and 1S drops fairly steeply, MWG installed pads for the additional groundwater monitoring wells, in order to install the additional groundwater wells required under the Illinois CCR rule. 6/12/23 Tr., p. 67:17-68:3 (Testimony of Gnat).

1088. Under the CCR rules, KPRG (on behalf of MWG) collects the groundwater samples. Unlike the federal CCR rule, the Illinois CCR rule requires sampling for the full set of

metals, and includes sampling for turbidity. 5/17/23 Tr., p. 64:4-8, 5/19/23 Tr., p. 146:4-17 (Testimony of Gnat); 6/12/23 Tr., p. 29:17-23, 68:17-69:7 (Testimony of Gnat).

1089. Under the Illinois CCR rule, MWG submits its quarterly groundwater data to IEPA within 60 days of receipt of the results. 5/17/23 Tr., p. 62:13-63:3, 5/19/23 Tr., p. 147:4-9 & 6/12/23 Tr., p. 30:6-8 (Testimony of Gnat); Comp. Ex. 1323, 1324.

1090. Under the Illinois CCR rule, MWG submits an annual report to IEPA, which includes the inspection reports as well as the groundwater monitoring and correction action supplementary report. 5/19/23 Tr., p. 147:14-148:13 & 6/12/23 Tr., p. 30:2-6 (Testimony of Gnat).

1091. As the MWG Environmental Director, Ms. Shealey reviews the annual inspections of the CCR surface impoundments; each inspection has found that the ponds are structurally sound, without any discharges other than pursuant to the NPDES permit. 6/14/23 Tr., p. 225:23-227:14, 270:21-271:6 (Testimony of Shealey).

1092. MWG's Illinois CCR surface impoundment information, including the permit applications, is on its publicly available website. 6/14/23 Tr., p. 171:6-17; 225:21-22; 228:9-11, 254:16-19 (Testimony of Shealey).

1093. MWG's publicly available websites for CCR are: <https://midwestgenerationllc.com/illinois-ccr-rule-compliance-data-and-information/> and <https://www.nrg.com/legal/coal-combustion-residuals.html>. 2022 Joint Stipulation No. 2.

**i. MWG's Petitions for Regulatory Relief from Part 845**

1094. On May 11, 2021, MWG filed a petition for adjusted standard and finding of inapplicability for the Powerton Station, requesting that the Board find that Part 845 does not apply to the Service Water Basin, and to reuse the liners in the Ash Surge Basin, Bypass Basin, and Metal Cleaning Basin. Comp. 1403; 5/18/23 Tr., p. 247:22-248:22 (Testimony of Shealey).

1095. On November 11, 2021, filed an amended petition for adjusted standard withdrawing its request to reuse the liners in the Ash Surge Basin, Bypass Basin, and Metal Cleaning Basin to use the ponds as low volume waste ponds. 5/18/23 Tr., p. 248:22-24, 263:20-265-4 (Testimony of Shealey); Comp. Ex. 1404. A "low-volume waste pond" is a pond, permitted under the NPDES program, which collects process water (like boiler blowdown water but not CCR) and stormwater, but not CCR. 6/14/23 Tr., p. 177:1-13; *see also* 40 CFR §423.11(b).

1096. On February 17, 2022, the Board held that the Service Water Basin is not a CCR surface impoundment. 6/14/23 Tr., p. 211:17-19 (Testimony of Shealey); MWG Ex. 1606 - *In the Matter of: Petition for Midwest Generation, LLC for Adjusted Standard from 35 Ill. Adm. Code 845.740(a) and Finding of Inapplicability of 35 Ill. Adm. Code 845*, PCB21-2, Order (Feb. 17, 2022).

1097. On May 11, 2021, MWG filed a petition for adjusted standard and finding of inapplicability for the Waukegan Station, requesting that the Board find that Part 845 does not apply to the area west of the West Ash Pond, and to reuse the liner in the East Ash Pond. Comp. Ex. 1406; 5/18/23 Tr., p. 300:15-301:6 (Testimony of Shealey).

1098. On September 17, 2021, MWG filed an amended petition for adjusted standard and finding of inapplicability for the Waukegan Station, requesting that the Board find that Part 845 does not apply to the area west of the West Ash Pond, and to reuse the liner in the West Ash Pond. 5/18/23 Tr., p. 301:20-24 (Testimony of Shealey); Comp. Ex. 1407.

1099. As part of MWG's discussions with IEPA related to the Waukegan petition for adjusted standard, MWG offered to IEPA a mitigation plan for the area west of the West Ash Pond that included a cap of the FS Area. 5/19/23 Tr., p. 8:14-15 (Testimony of Shealey).

1100. MWG cannot take action at the FS Area west of the West Ash Pond without IEPA's agreement. 5/19/23 Tr., p. 11:8-10 (Testimony of Shealey).

1101. On May 11, 2021, MWG filed a petition for adjusted standard and finding of inapplicability for the Joliet 29 station, requesting that the Board find that Part 845 does not apply to Ponds 1 and 3, and to reuse the liner in Pond 2 to use the pond as a low volume waste pond. 5/18/23 Tr., p. 300:15-301:6 & 6/14/23 Tr., p. 178:10-17 (Testimony of Shealey); MWG Ex. 1501.

1102. On March 24, 2022, MWG filed its Response to IEPA's Recommendation regarding Joliet Pond 2, in which MWG stated that there was no evidence of CCR in or under Pond 2 and that MWG should be able to decontaminate the liner and reuse the pond for "low-volume waste." 6/14/23 Tr., p. 180:13-19 (Testimony of Shealey); Ex. 1605 (MWG's Response in PCB 21-1).

1103. In support of MWG's Response for Joliet Pond 2, MWG attached three expert opinions: (1) an opinion by Michael Maxwell, Weaver Consultants Group, stating that Pond 2 is not a source of groundwater contamination and (2) an opinion by Dr. Mateusz Redlinski that the poz-o-pac material at the base of Pond 2 is not CCR material, and (3) an opinion by Mr. Tom Dehlin, Sargent & Lundy, that CCR was not used to build Pond 2 and the liner could be decontaminated. 6/14/23 Tr., p. 180:20-182:14 (Testimony of Shealey); Ex. 1605; MWG\_122705, 122897, 122914.

1104. On May 18, 2023, the Board found that Ponds 1 and 3 at Joliet 29 are not CCR surface impoundments. Ex. 1604 - *In the Matter of: Petition for Midwest Generation, LLC for Adjusted Standard from 35 Ill. Adm. Code 845.740(a) and Finding of Inapplicability of 35 Ill. Adm. Code 845*, Order (May 18, 2023); 5/19/23 Tr., p. 14:4-7, 6/14/23 Tr. p. 136:3-13. (Testimony of Shealey); MWG Ex. 1607, p. 7.

1105. Because the Metal Cleaning Basin at Powerton is not a federal CCR unit, MWG did not have sufficient information to meet requirements of Part 845, including background groundwater sampling. 6/14/23 Tr., p. 229:13-24 (Testimony of Shealey).

1106. MWG had to begin collecting background groundwater sampling for the Powerton Metal Cleaning Basin, including installing additional monitoring wells and conducting eight rounds of background sampling. 6/12/23 Tr., p. 32:20-33:14 (Testimony of Gnat).

1107. To collect the data and information needed for the Powerton Metal Cleaning Basin, MWG requested and was granted by the Board a variance from the deadlines in Part 845; the

variance allowed MWG additional time to submit the operating permit application for the Metal Cleaning Basin. 6/14/23 Tr., p. 230:1-9 (Testimony of Shealey).

1108. Similarly, because Ponds 1N and 1S at Will County are not federal CCR units, MWG did not have sufficient information, including background groundwater information and groundwater monitoring wells, to meet the requirements under Part 845. 6/14/23 Tr., p. 273:4-21 (Testimony of Shealey).

1109. MWG had to begin collecting background groundwater sampling, including installing additional monitoring wells and conducting eight rounds of background sampling for Ponds 1N and 1S at Will County. 6/12/23 Tr., p. 70:15-71:4 (Testimony of Gnat); 5/17/23 Tr., p. 148:2-12, 164:18-23 (Testimony of Gnat).

1110. To collect the data and information for the Will County ponds, MWG requested and was granted by the Board a variance from the deadlines in Part 845, allowing MWG additional time to submit the operating permit application for Ponds 1N and 1S. 6/14/23 Tr., p. 273:22-274:2 (Testimony of Shealey).

1111. Even before the Board's order granting the variances for extension of time, MWG started collecting the data required for the operating permit applications, including installing additional wells. 6/14/23 Tr., p. 230:10-20 (Testimony of Shealey).

**ii. Operating Permit Applications for the CCR Surface Impoundments**

1112. **On November 1, 2021, MWG submitted an operating permit application to the IEPA for Pond 2 at Joliet 29.** 2022 Joint Stipulation, No. 6; 6/14/23 Tr., p. 171:10-13 (Testimony of Shealey); MWG Ex. 1607, p. 14.

1113. **On November 1, 2021, MWG submitted an operating permit application to the IEPA for the Ash Surge Basin, Ash Bypass Basin, and the Former Ash Basin at Powerton.** 2022 Joint Stipulation, No. 16; 6/14/23 Tr., p. 227:15-19 (Testimony of Shealey); MWG Ex. 1607, p. 30.

1114. **On November 1, 2021, MWG submitted an operating permit application to the IEPA for the East Ash Pond and the West Ash Pond at Waukegan.** 2022 Joint Stipulation, No. 22; 6/14/23 Tr., p. 253:18-22 (Testimony of Shealey); MWG Ex. 1607, p. 50.

1115. **On November 1, 2021, Midwest Generation submitted an operating permit application to IEPA for Ponds 2S and 3S at Will County.** 2022 Joint Stipulation, No. 16; 6/14/23 Tr., p. 271:7-10 (Testimony of Shealey); MWG Ex. 1607, p. 64.

1116. On March 31, 2022, MWG submitted an operating permit application to the IEPA for the Metal Cleaning Basin at Powerton. 6/14/23 Tr., p. 230:21-231:1 (Testimony of Shealey); MWG Ex. 1607, p. 31.

1117. On March 31, 2022, MWG submitted an operating permit application to the IEPA for Ponds 1N and 1S at Will County. 6/14/23 Tr., p. 274:3-7 (Testimony of Shealey); MWG Ex. 1607, p. 64.



1118. The operating permit applications for the CCR surface impoundments at Joliet 29, Powerton, Waukegan, and Will County were hundreds of pages and were prepared by various consultants. 6/14/23 Tr., p. 172:4-10; 229:12-23; 231:2-6, 253:23-254:5, 271:11-17, 274:8-9 (Testimony of Shealey); 6/12/23 Tr., p. 16:8-12, 32:3-5, 58:8-12, 70:1-4, 71:14-17 (Testimony of Gnat).

1119. For example, the Waukegan operating permit application was approximately 640 pages. 5/17/23 Tr., p. 177:14-17 (Testimony of Gnat).

1120. MWG had about six months to prepare the operating permit applications, which was a substantial effort, and was a full-time job for several MWG consultants and employees. 6/14/23 Tr., p. 172:14-20; 229:3-6; 231:7-15, 254:6-15, 271:18-272:24 (Testimony of Shealey).

1121. For KPRG alone, it took many hundreds of hours to prepare the operating permit application for the Joliet 29, Powerton, Waukegan, and Will County Stations. 6/12/23 Tr., p. 16:8-12, 32:6-17, 58:17-21, 70:7-9 (Testimony of Gnat).

1122. It was an even greater effort to prepare the operating permit applications for the Metal Cleaning Basin at Powerton and Ponds 1N and 1S at Will County, in part because there was not a similar baseline of information for those ponds. 6/14/23 Tr., p. 274:10-22 (Testimony of Shealey); MWG Ex. 1607, p. 64.

1123. For KPRG alone, it was about 1,000 hours to prepare each of the operating permit applications (i.e., ~2,000 hours total) for the Powerton Metal Cleaning Basin, and Will County Ponds 1N and 1S, including installing the new wells and eight rounds of sampling. 6/12/23 Tr., p. 34:8-15, 71:20-72:3 (Testimony of Gnat).

1124. Generally, the operating permit applications for the CCR surface impoundments at the four stations contained an evaluation of the location restrictions, hazard potential classifications, structural stability evaluations, liner certifications, hazard potential classification, preliminary closure plans, the groundwater monitoring network, preliminary groundwater results, and the proposed groundwater protection standards. 6/14/23 Tr., p. 171:20-172:3; 227:20-228:8, 254:6-15 (Testimony of Shealey); MWG Ex. 1607, p. 14, 30, 31, 50, 64.

1125. For example, the Waukegan operating permit application included a chart of local well stratigraphy that described the stratigraphy of wells near the Station that were not on MWG's property, in addition to the wells on MWG's property. 5/18/23 Tr., p. 48:5-23, 135:18-136:20; Comp. Ex. 1331, MWG13-15\_110856.

- B. The boring logs for Well Count numbers 2, 3, 4, 5, 6, 7, 8, 9, 12, 13, 23, 56, and 59 (which are not on Waukegan Station property) found that those off-property wells contain cinders and fly ash. 5/18/23 Tr., p. 136:12-137:22; Comp. Ex. 1331, MWG13-15\_110856-1108659.
- C. The offsite borings containing cinders and ash demonstrate the ubiquitous presence of industrial-generated fills in the area around the MWG Station. 5/18/23 Tr., p. 137:23-138:3; Comp. Ex. 1331, MWG13-15\_110856-1108659.

1126. As of June 14, 2023, IEPA had not issued an operating permit for MWG's ponds. 6/14/23 Tr., p. 173:5-8, 254:20-255:1, 275:3-7 (Testimony of Shealey).

1127. As of June 14, 2023, IEPA had not posted on its CCR surface impoundment website a public notice that it had issued an operating permit to MWG or any other owner or operation of a CCR surface impoundment in Illinois. 6/14/23 Tr., p. 173:9-174:11; 231:20-232:7 (Testimony of Shealey).

**iii. Construction Permit Applications for the CCR Surface Impoundments**

1128. **On February 1, 2021, MWG submitted a construction permit application to the IEPA for the closure of Pond 2 at Joliet 29.** 2022 Joint Stipulation, No. 7; 6/14/23 Tr., p. 174:12-15 (Testimony of Shealey); MWG Ex. 1607, p. 7, 14.

1129. As of June 14, 2023, the proposed closure method of Joliet Pond 2 was closure by removal and reuse of the liner system for a low-volume (non-CCR) waste pond. 6/14/23 Tr., p. 174:16-20 (Testimony of Shealey).

1130. To close Joliet Pond 2, MWG will remove the limestone layer and sand layer that remains in the pond. There is no CCR in the pond. 6/14/23 Tr., p. 174:21-175:2 (Testimony of Shealey).

1131. The construction permit application to close Joliet Pond 2 contained engineering drawings, a description on how the liner would be cleaned and repurposed to ensure there were no CCR constituents left in the pond, the updated groundwater monitoring results, and groundwater modeling. 6/14/23 Tr., p. 175:9-176:6 (Testimony of Shealey).

1132. The construction permit application for Joliet Pond 2 was hundreds of pages. 6/14/23 Tr., p. 176:7-9 (Testimony of Shealey); 6/12/23 Tr., p. 17:13-18 (Testimony of Gnat).

1133. It took significant effort to prepare the Joliet Pond 2 construction permit application, including holding two public meetings regarding the closure plans. 6/14/23 Tr., p. 176:10-17 (Testimony of Shealey).

1134. For KPRG alone, it was in the upper hundreds of hours to prepare the construction permit application for Joliet Pond 2. 6/12/23 Tr., p. 16:17-22, 17:19-23 (Testimony of Gnat)

1135. MWG's plan for the Ash Surge Basin, Bypass Basin, and Metal Cleaning Basin at Powerton is to retrofit the ponds, which allows for decontamination and reuse of the liner as an extra layer of protection in the retrofitted basin. 5/18/23 Tr., p. 249:19-24, 258:15-22, 265:15-18 (Testimony of Shealey).

1136. In 2022, MWG submitted a construction permit application to IEPA to retrofit the Powerton Bypass Basin and close the Former Ash Basin. 6/14/23 Tr., p. 233:17-20; 235:20-24 (Testimony of Shealey); MWG Ex. 1607, p. 31.

1137. To retrofit a pond, MWG will install a composite liner system and leachate collection system in each of the basins. 5/18/23 Tr., p. 265:21-24 (Testimony of Shealey).

1138. The construction permit application to retrofit the Powerton Bypass Basin contained information and data to support the application, including engineering drawings and design of the new liner system, including a leachate collection system, and the updated groundwater monitoring results. 6/14/23 Tr., p. 233:21-6 (Testimony of Shealey).

1139. The construction permit applications for the Powerton Bypass Basin and Former Ash Basin were hundreds of pages. 6/14/23 Tr., p. 233:7-9; 235:15-18 (Testimony of Shealey); 6/12/23 Tr., p. 35:7-10 (Testimony of Gnat).

1140. The Powerton Former Ash Basin is bisected by a rail line. 5/18/23 Tr., p. 242:19-23 (Testimony of Shealey).

1141. The closure plan for the Powerton Former Ash Basin is to remove the CCR from the northern portion of the basin, consolidate it in the southern portion, and close the southern portion in place. 5/18/23 Tr., p. 240:18-20, 242:24-243:3 (Testimony of Shealey).

1142. As of June 14, 2023, MWG had conducted the public meetings for the construction permit application to retrofit the Powerton Metal Cleaning Basin and the Ash Surge Basin, and was planning to submit the applications. 6/14/23 Tr., p. 233:18-234:5 (Testimony of Shealey).

1143. It took significant effort to prepare the construction permit applications for the Powerton Bypass Basin and the Former Ash Basin, and then the construction permit application for the Metal Cleaning Basin and the Ash Surge Basin, including holding four public meetings regarding the closure plans. 6/14/23 Tr., p. 233:10-18; 234:9-19; 235:19-236:1 (Testimony of Shealey)

1144. For KPRG alone, it took hundreds of hours to prepare the construction permit applications for the Powerton CCR surface impoundments. 6/12/23 Tr., p. 35:12-14 (Testimony of Gnat).

1145. **On February 1, 2021, MWG submitted a construction permit application to the IEPA for the closure of the East Ash Pond and the West Ash Pond at Waukegan.** 2022 Joint Stipulation, No. 23; 6/14/23 Tr., p. 255:2-6 (Testimony of Shealey); MWG Ex. 1607, p. 50.

1146. The East Ash Pond will be closed in place, and upon closure MWG will conduct post-closure care. 6/14/23 Tr., p. 256:1-17 (Testimony of Shealey).

1147. As of June 14, 2023, the closure plan for the West Ash Pond was to close the pond by removal of the CCR and reuse the pond as a low-volume waste pond for the Station to manage the stormwater. 6/14/23 Tr., p. 256:18-257:7 (Testimony of Shealey).

1148. The construction permit applications for the Waukegan East Ash Basin and West Ash Basin were hundreds of pages. 6/14/23 Tr., p. 255:7-12 (Testimony of Shealey); 6/12/23 Tr., p. 59:9-12.

1149. It took significant effort to prepare the construction permit applications for the Waukegan East Ash Pond and West Ash Pond, including groundwater modeling, closure

alternatives analysis, and conducting public meetings. 6/14/23 Tr., p. 255:13-20 (Testimony of Shealey).

1150. For KPRG alone, it took hundreds of hours to prepare the construction permit applications for East Ash Pond and West Ash Pond at the Waukegan Station. 6/12/23 Tr., p. 59:13-15 (Testimony of Gnat).

1151. As of June 14, 2023, IEPA had not issued a construction permit for MWG's ponds. 6/14/23 Tr., p. 173:5-8; 236:2-7 (Testimony of Shealey).

1152. MWG conducted a public meeting for the construction permit applications for the Will County ponds the week before June 2023 hearing, and as of June 12, 2023 the Will County construction permit applications were in the process of being completed and finalized. 6/12/23 Tr., p. 72:4-15 (Testimony of Gnat).

1153. MWG was prepared to submit the construction permit applications for Will County Ponds 1N, 1S, 2S, and 3S to IEPA in 2023. MWG Ex. 1607, p. 64.

1154. The closure plan for Will County Ponds 1N, 1S, 2S and 3S is to close in place. 5/19/2023 Tr., p. 34:20-35:9, 36:8-19 (Testimony of Shealey); 6/13/23 Tr. 93:8-9 (Testimony of Weaver).

1155. The final construction permit applications for the Will County Ponds are hundreds of pages long and took many hundreds of hours to prepare. 6/12/23 Tr., p. 72:23-73:8 (Testimony of Gnat).

1156. As of June 14, 2023, IEPA had not issued a permit to MWG or any other owner or operation of a CCR surface impoundment. 6/14/23 Tr., p. 173:9-174:11 (Testimony of Shealey).

1157. Closure in place of a CCR surface impoundment involves an engineered cap engineered by a professional engineer, pursuant to the federal and state CCR rule. 5/19/2023 Tr., p. 79:8-19 (Testimony of Shealey).

1158. Because MWG is required to collect groundwater data under many different programs --the CCA program, the Waukegan permit program, the federal CCR rule, and the Illinois CCR rule -- MWG serves "various masters." 5/17/23 Tr., p. 67:13-17 & 5/18/23 Tr. p. 120:3-121:24 (Testimony of Gnat).

1159. For example, in some instances MWG samples the same well with multiple separate sample bottles on the same day. 5/18/23 Tr. p. 122:8-123:10 (Testimony of Gnat) ("But the fact of the matter is it's the same well that was basically sampled on the same day over the period of time that it takes to fill all those sample bottles. So you are basically looking at the same sample from the same well on the same day then being compared against three different programs.").

1160. MWG used some information from the various groundwater wells to better understand the groundwater quality in the areas of the Stations. 5/17/23 Tr., p. 67:22-68:1 (Testimony of Gnat).

1161. The federal rules related to CCR and CCR surface impoundments have been modified and have not been consistent since originally promulgated. 5/19/2023 Tr., p. 95:21-24 (Testimony of Shealey); *see e.g.*, 83 Fed. Reg. 36456 (July 30, 2018); 85 Fed. Reg. 72543 (Nov. 12, 2020). This required a significant amount of work. *Id.*

#### **V. PROPOSED RULES FOR HISTORIC COAL ASH AREAS**

1162. On May 18, 2023, USEPA proposed rules for legacy surface impoundments and CCR management units (“CCRMUs”), which are areas of ash at a power plant that are not a CCR impoundment or landfill. 5/19/2023 Tr., p. 95:1-14, 6/14/23 Tr., p. 193:21-194:1,196:24-197:7 (Testimony of Shealey); MWG Ex. 1607, p. 16-17 *citing* 88 Fed. Reg. 3192 (May 18, 2023).

1163. The USEPA proposed rules were based upon a consent decree published in the federal register and in response to the “USWAG Decision” from 2018. 6/14/23 Tr., p. 194:7-195:2 (Testimony of Shealey); Ex. 1607, p. 16, *citing* *USWAG et al. v. EPA*, 901 F.3d 414 (D.C.Cir. 2018).

1164. MWG Environmental Director, Ms. Shealey, testified that the proposed rules for CCRMUs appear to apply to MWG’s historic areas of ash. 6/14/23 Tr., p. 197:8-17 (Testimony of Shealey).

1165. As part of her job, Ms. Shealey reviewed the docket for the USEPA proposed rule. 6/14/23 Tr., p. 260:3-6 (Testimony of Shealey).

1166. In support of its proposal, the USEPA created a spreadsheet called the Potential CCR Management Unit Universe, which is a list of the areas in the United States that USEPA believes could qualify as CCRMUs under the proposed rules. 6/14/23 Tr., p. 260:7-23 (Testimony of Shealey); MWG Ex. 1607, p. 52.

1167. In the list of Potential CCR Management Units, USEPA identified an Old Pond at the Waukegan Station, which Ms. Shealey understands to be the FS Area to the west of the West Pond. 6/14/23 Tr. p. 261:6-17 (Testimony of Shealey); MWG Ex. 1607, p. 52.

1168. Also in the list of Potential CCR Management Units, USEPA identified “Historic Fill,” which Ms. Shealey understands to refer to ash under the West Pond and East Pond at Waukegan. 6/14/23 Tr. p. 261:18-262:2 (Testimony of Shealey); MWG Ex. 1607, p. 52.

1169. Based upon USEPA’s list of Potential CCR Management Units, MWG Environmental Director, Ms. Shealey, anticipates that the FS Area and ash under the Waukegan ponds will be defined as CCRMUs, and will be regulated under the proposed rule, which she understood would be finalized by May 2024. 6/14/23 Tr. p. 262:15-24 (Testimony of Shealey); MWG Ex. 1607, p. 52.

1170. The Illinois Pollution Control Board (“Board”) opened a subdocket in the CCR rulemaking (PCB R20-19A), which also proposed regulating areas of historic ash. 6/14/23 Tr., p. 197:18-198:3 (Testimony of Shealey); *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed new 35 Ill. Adm. Code 845 (Sub Docket A) PCB20-19(A)*.

1171. According to MWG Environmental Director, Ms. Shealey, regulatory certainty is necessary for a company to be able to act, as well as getting the IEPA's agreement on an action. 6/14/23 Tr., p. 195:8-9, 201:7-11 (Testimony of Shealey).

1172. MWG Environmental Director, Ms. Shealey, has been aware of the pendency of the historic ash rules since at least 2019. 5/19/23 Tr., p. 95:19-24 (Testimony of Shealey).

1173. Because of the pendency of the federal CCRMU regulations and because MWG had previously acted when federal rules were pending (*i.e.* – relining the ponds pursuant to the CCAs when the federal CCR rules were pending), MWG was cautious of its next steps as it relates to the historic ash areas. 6/14/23 Tr., p. 195:3-19, 293:16-24 (Testimony of Shealey).

1174. The pending lawsuit, *Sierra Club et. al. v. Midwest Generation, LLC*, PCB13-15 caused MWG to not conduct any additional work at the historic areas at the Joliet 29 station. According to MWG Environmental Director, Ms. Shealey, similar to the relining projects under the CCAs, MWG did not want to “run the risk of wasted work or having to redo work.” 6/14/23 Tr., p. 200:12-20 (Testimony of Shealey).

1175. MWG was cautious in its approach to the historic ash areas at Joliet 29 because of MWG's relining of its ash ponds pursuant to the CCAs in 2012 (which was approximately \$10 million), and yet the new pond liners ended up not compliant with the 2015 federal CCR rule, rendering the new liners regulatorily worthless. 6/14/23 Tr., p. 195:20-196:2; 200:21-23 (Testimony of Shealey).

1176. MWG also sought to avoid wasting its personnel's time and resources to potentially address the historic ash areas when there is no regulatory certainty for the federal or state rules related to historic areas at its stations. 6/14/23 Tr., p. 196:2-9 (Testimony of Shealey).

1177. The MWG Environmental Director, Ms. Shealey, is not aware of any issues that have arisen at the Northwest Area, Northeast Area, or Southwest Area at the Joliet 29 Station, other than IDNR's interest in purchasing the Northeast Area. 6/14/23 Tr., p. 199:24-200:6 (Testimony of Shealey).

## **APPENDIX C**

# **CHART OF PONDS AND IMPOUNDMENTS**

Station	Unit	Still Rec CCR?	CCR Reg Status	Electronic Filing: Received	Current Closure/OP Plans*	Comments	GW Mon Program	ASD	
<b>Joliet 29</b> (not burned coal since 2016) (possible cease burning nat gas 2023)	Pond 1	N	NA	Poz 1978	HDPE 2008 protection, warning layers	NA	CCR removed before Oct 2015 2020 study: no CCR present, IPCB affirmed inapplicability	CCA	NA
	Pond 2	N	Fed and State	Poz 1978	HDPE 2008 protection, warning layers	Pond Closure: Decon liner and repurpose pond for stormwater	CCR removed by Nov 2019 Adj Std Ap Pending before IPCB	Detection (CCR) and CCA	2021 (Cl, TDS, SO4)
	Pond 3	N	NA	Poz 1978	HDPE 2013 protection, warning layers	NA	Never rec'd CCR 2020 study: no CCR present, IPCB affirmed inapplicability	CCA	NA
<b>Powerton</b>	Ash Surge Basin	Y (ACD)	Fed and State	Poz bottom, hypalon sides, 1978	HDPE 2013 protection, warning layers	Retrofit dual liner/leachate collection system	Primary basin used for CCR mgmt.	Assessment (CCR) and CCA	2018 (Ap III) 2019 (As, Ba, Mo, Se, Th)
	Ash Bypass Basin	N	Fed and State	Poz bottom, hypalon sides, 1978	HDPE 2010 protection, warning layers	Retrofit dual liner/leachate collection system	Only used when ASB emptied	Assessment (CCR) and CCA	2018 (Ap III) 2019 (As, Ba, Mo, Se, Th)
	Metal Cleaning Basin	Limited use for process water - no comingled ash/water	State	Poz bottom, hypalon sides, 1978	HDPE 2010 protection, warning layers	Retrofit dual liner/leachate collection system	Not part of sluice system - used during outages as temp lay-down for dry ash. Occasionally holds process water	CCA/CCR	NA
	Secondary Ash Basin/Service Water Basin	N (Received no ash)	NA	Hypalon, before 1999	HDPE 2013 protection layers	NA	Finishing pond, Underdrain system Not intended to be regularly cleaned 2020 Study: material not CCR	CCA	NA
	Former Ash Basin (FAB)	N	Fed and State	NA	NA	North: closure by removal South: closure in-place	Bifurcated by on-site rail. CCR from north consolidated with south. IPCB found not a source.	Assessment (CCR) and CCA	NA
	Limestone Runoff Basin	N	NA	Poz bottom, hypalon sides, 1978	NA	NA	Not used for CCR since 2013 (unused and empty).	CCA	NA
	East Yard Runoff Basin	N	NA	NA	NA	NA	Used for stormwater runoff from east half of station	CCA	NA
<b>Waukegan</b> (no longer burns coal as of June 2022)	East Pond	N	Fed and State	Hypalon, 1977	HDPE 2003 protection, warning layers	Cap In-Place (35 IAC 845.750 and 257.102)	ACD	Detection (CCR) and modified CCA	2018 (B, pH, SO4)
	West Pond	N	Fed and State	Hypalon, 1977	HDPE 2004 protection, warning layers	Pond Closure: Decon liner and repurpose pond	Adj Std Ap pending before IPCB	Detection (CCR) and modified CCA	2018 (B, pH, SO4)
<b>Will Co.</b> (no longer burns coal as of June 2022)	Pond 1N	N	State	Poz 1977	Dewatering System 2013	Cap In-Place (35 IAC 845.750)	Not used since 2010. System designed to drain surface water-CCA.	CCA/CCR	NA
	Pond 1S	N	State	Poz 1977	Dewatering System 2013	Cap In-Place (35 IAC 845.750)	Not used since 2010. System designed to drain surface water-CCA.	CCA/CCR	NA
	Pond 2S	N	Fed and State	Poz 1977	HDPE 2013 protection, warning layers	Cap In-Place (257.102 and 35 IAC 845.750)	ACD withdrawn	Assessment (CCR) and CCA	2018 (Cl, F, TDS)
	Pond 3S	N	Fed and State	Poz 1977	HDPE 2009 protection, warning layers	Cap In-Place (257.102 and 35 IAC 845.750)		Assessment (CCR) and CCA	2018 (Cl, F, TDS)

\*IEPA Construction Permit needed to perform pond closures. No action from IEPA on Permit Applications to date.

LEAF: Leaching Environmental Assessment Framework

ACD: Alternate Closure Demonstration

Poz: Poz-o-Pac

NLET: Neutral Leaching Extraction Test

CCR: Coal Combustion Residuals

HDPE: High Density Polyethylene

ASD: Alternate Source Demonstration



**APPENDIX D**

**EX. 1702 WEAVER PRESENTATION**



# REMEDY ASSESSMENT

## MIDWEST GENERATION

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**Douglas G. Dorgan, Jr., LPG**

**Michael B. Maxwell, LPG, CHMM**

# General Approach



# General Approach

## 1. Regulatory Framework

- Federal/State CCR Surface Impoundments
- Historic Fill Areas

## 2. Background/site conditions and investigation

- Potential exposures to human and ecological receptors
- Groundwater quality trends through statistical analysis
- Evaluation of downgradient groundwater quality

## 3. Remedial Assessment

- CCR Regulations/Illinois Act
- Risk
- Trend
- Comparisons



# 1. Regulatory Framework

- **CCR Surface Impoundments**

- Federal and State CCR Rules
  - Federal CCR Rules: 40 CFR 257
  - Illinois CCR Rules: 35 IAC 845
- Board Orders
- 2012 CCAs; GMZs/ELUCs
- Ongoing data collection

- **Historic Fill Areas**

- Illinois Groundwater Standards
- Illinois SRP (TACO)
- Board Orders
- Illinois sub docket; Federal proposed fill rules
- Lines of evidence



## 2. Background / Site Conditions

- **Previous investigations**

- Hydrogeologic setting
- Surrounding land use
- Identification of potential receptors
- Groundwater analytical results for historic and ongoing monitoring

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- **Data analysis**

- Evaluate risk
- Evaluate data trends



# Evaluation of Risk to Surface Water

- **Comparison of groundwater data to surface water standards**
  - 35 IAC Part 302 Illinois Water Quality Standards (WQS)
  - Illinois Water Quality Criteria (WQC) for surface water
    - Downgradient data compared to Illinois chronic WQS or if WQS not available, the Illinois chronic WQC
  - Comparisons performed for 40 CFR 257 Appendix III and Appendix IV
  - Average downgradient concentrations calculated
  - Potable well use



# Groundwater Data Evaluation

- **Substantial quantity of groundwater quality data**
  - CCA Groundwater Monitoring
  - CCR Groundwater Monitoring
- **Included 40 CFR 257 Appendix III (detection) and Appendix IV (assessment) constituents**
- **Monitoring well locations**
  - Best represent groundwater quality after natural mechanisms of advection, dispersion, and attenuation
  - Approach consistent with TACO evaluation
  - Conservative evaluation





# Statistical Trend Testing of Groundwater Analytes

- Mann-Kendall Test for Trend
- Referenced in **USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance**, March 2009
- Testing commonly employed to assess effectiveness of a groundwater remedy/corrective action
- Quantitative method of assessing upward/downward trends



## 3. Remedial Assessment Process

- Historic nature of CCR at Stations/mass
- Prior assessments
- CCR regulations for further control of surface impoundments
- Risk-based approach consistent with applicable regulations
- In absence of existing regulatory control for historic fill - risk based approach

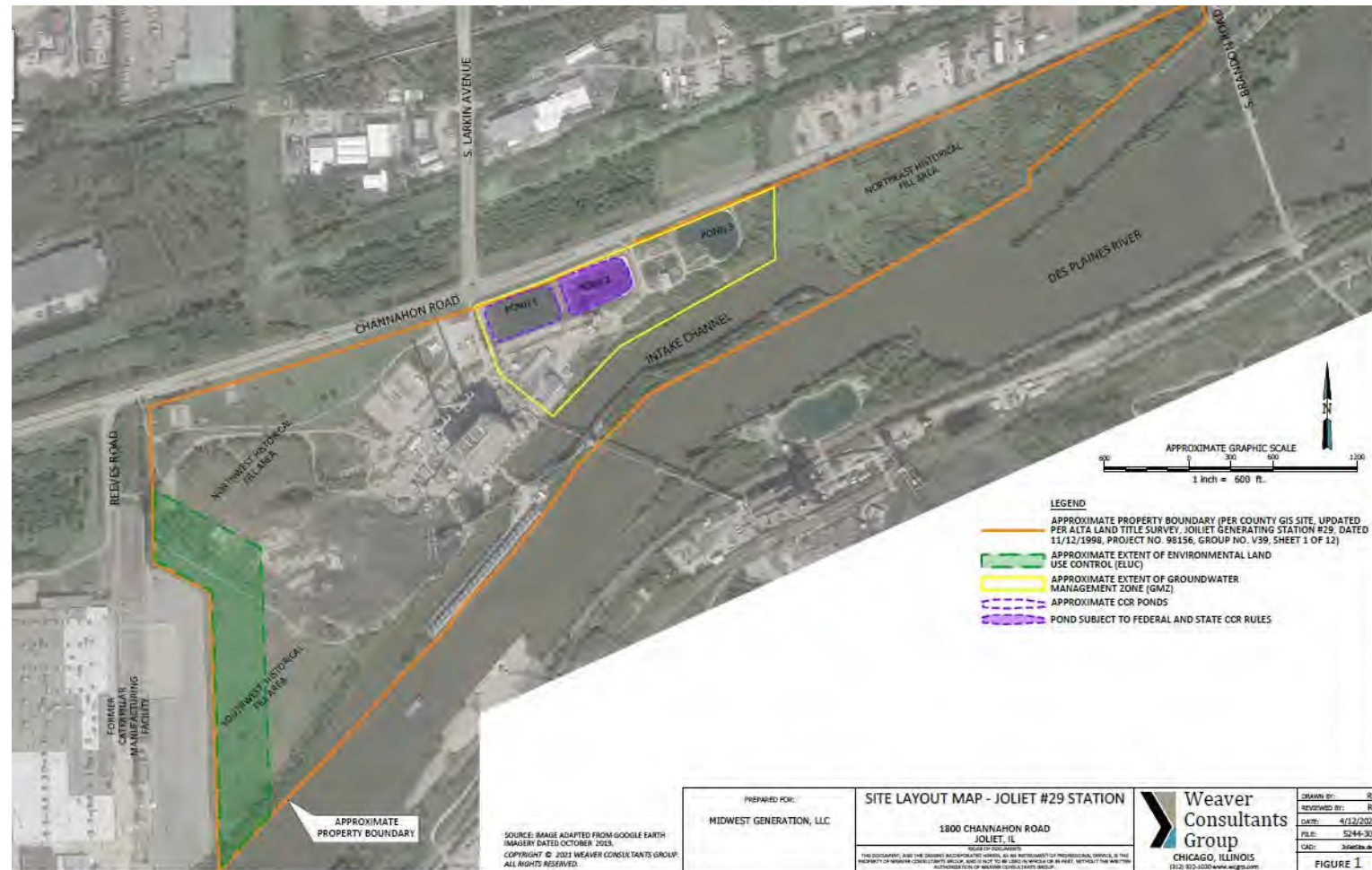


# Joliet 29 Station

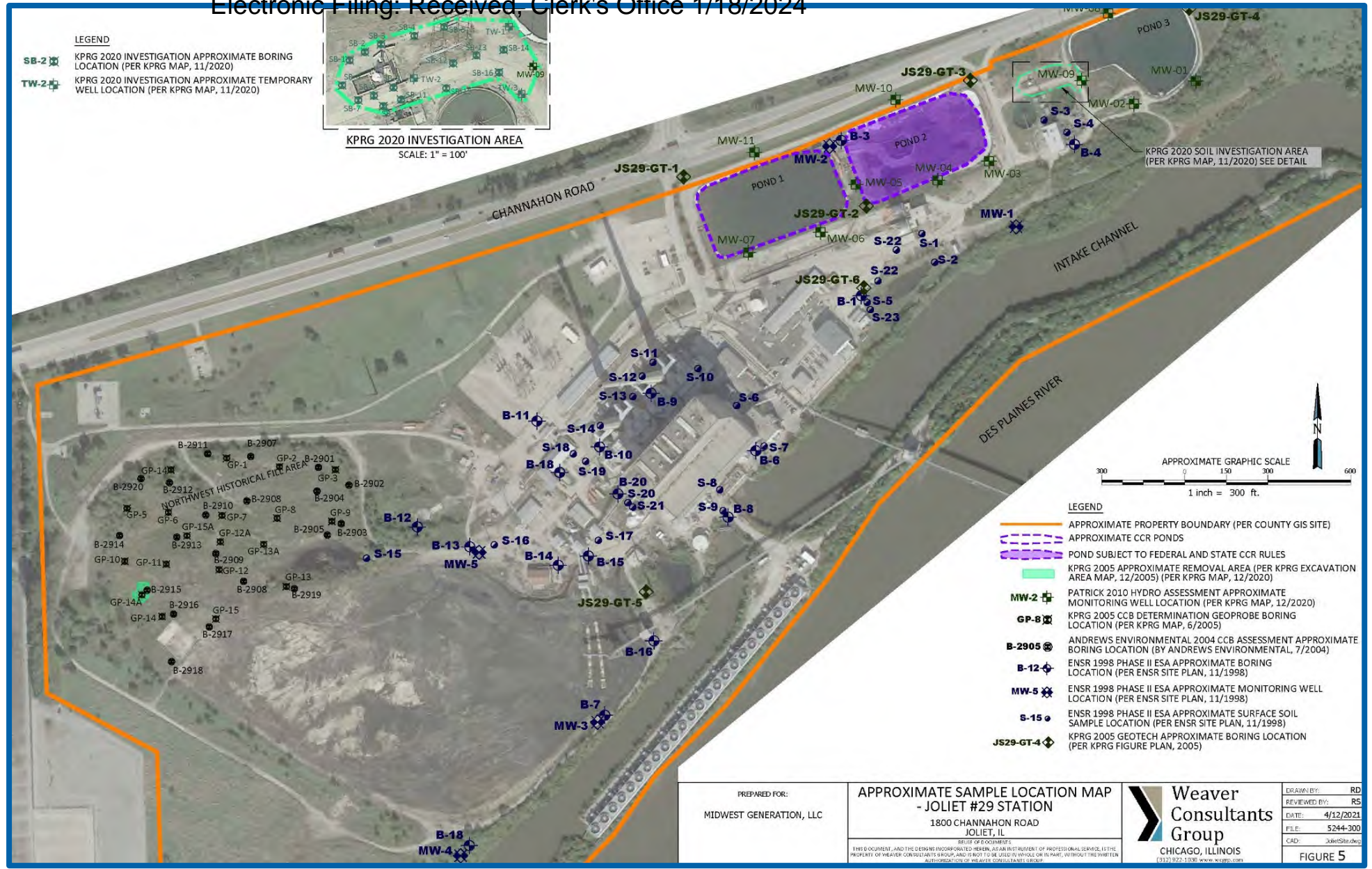


# Joliet 29 - Background and Setting

- Began operating in mid-1960s
- Acquired by MWG in 1999
- Ceased burning coal and moved to natural gas in 2016
- Located in predominantly Industrial Area
- North - Channahon Rd./vacant land/Industrial-Commercial facilities
- South - Des Plaines River and Joliet 9 Generating Station
- East - Brandon Rd. (Lock and Dam on Des Plaines River)
- West - Former Caterpillar Manufacturing (prior SRP Site)
- **Scheduled to cease burning natural gas in 2023**



# Joliet 29 Investigation Locations





# Joliet 29 - Investigations

- **1998** Phase II ESA by ENSR
- **2004** CCB Preliminary Investigation by Andrews
- **2005** Geotechnical Investigation by KPRG
- **2005** Follow-Up CCB Investigation by KPRG
- **2005** Supplemental Delineation and Remediation near GP-14A by KPRG
- **2010** Hydrogeologic Assessment by Patrick Engineering
- **2020** Investigation Near MW-09 by KPRG
- Ongoing groundwater monitoring under CCR Rules/CCA
- Information concerning NE Historic Fill Area
- Des Plaines River assessment

# Joliet 29 – 1998 Phase II ESA

- 17 borings, 5 MWs, 23 surface soil samples, 6 sediment samples collected
- **MW-3 and MW-5:** none of 8 RCRA metals at concentrations above IL Class 1 Groundwater Standards
  - Insufficient groundwater to sample at MW-4

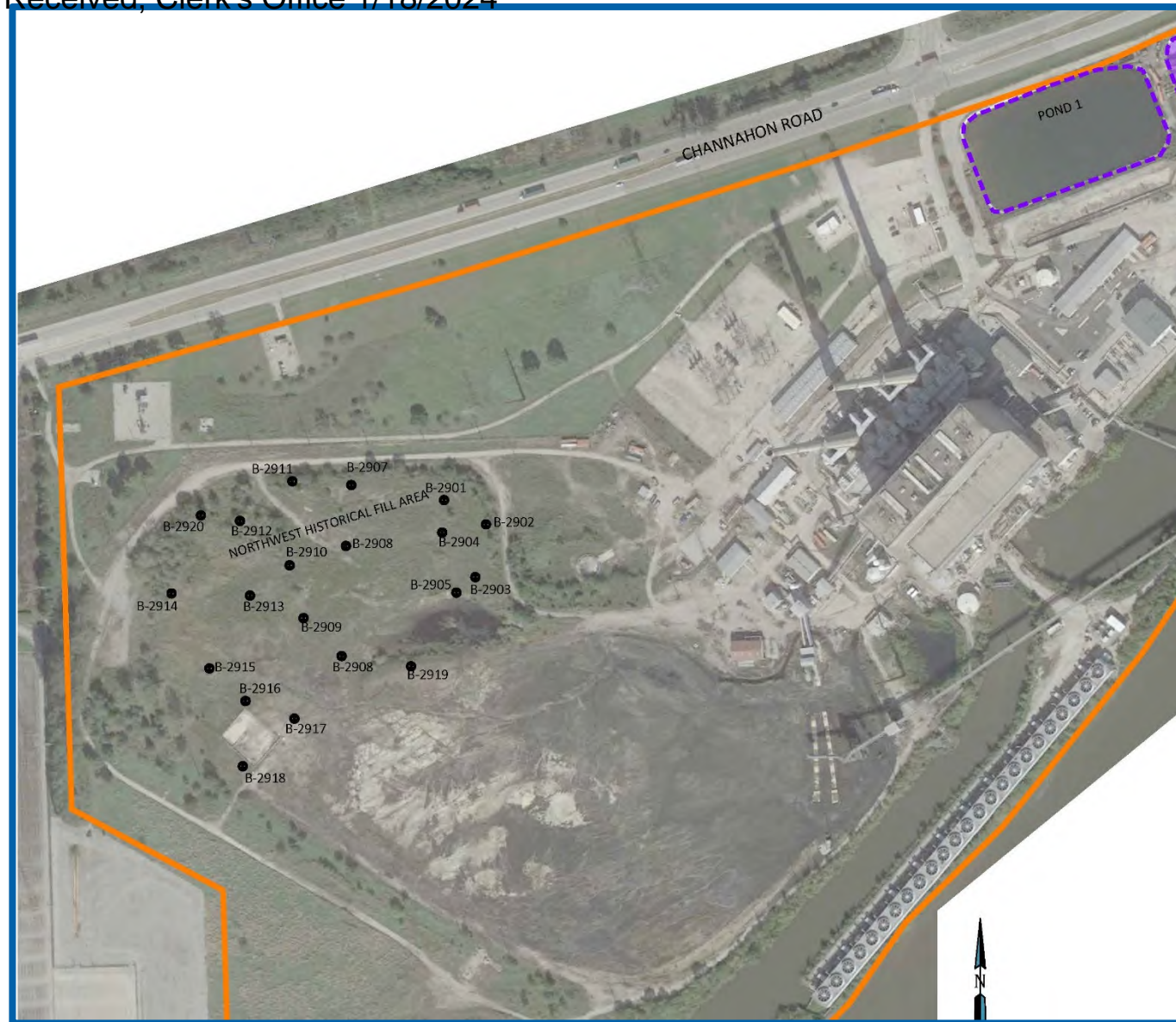
## CONCLUSIONS:

- Groundwater ingestion not a potential exposure pathway
- Based on industrial land use, low potential for human exposure to constituents of concern
- No requirement under Illinois environmental law to further investigate or remediate property



# Joliet 29 – NW Area - 2004 Preliminary CCB Investigation

- **Study feasibility of CCB demonstration - NW Fill Area**
- **Composite sample from 20 grab samples** over approx. 13 ac. area
- **Analyzed for NLET metals and "Code R" parameters** (TCLP metals, VOCs/SVOCs, ignitability, reactive CN and sulfide)
- **No leachable NLET (ASTM D3987-85) metals** concentrations above Class I Groundwater Standards
- **Material characterized as non-hazardous** for disposal purposes
- **CCB classification deemed feasible**





# Joliet 29 – 2005 Geotechnical Investigation

- Provide information on **physical characteristics of soils**
- **Six soil probes**
- **Bedrock encountered** at one boring at 15 ft. below ground surface



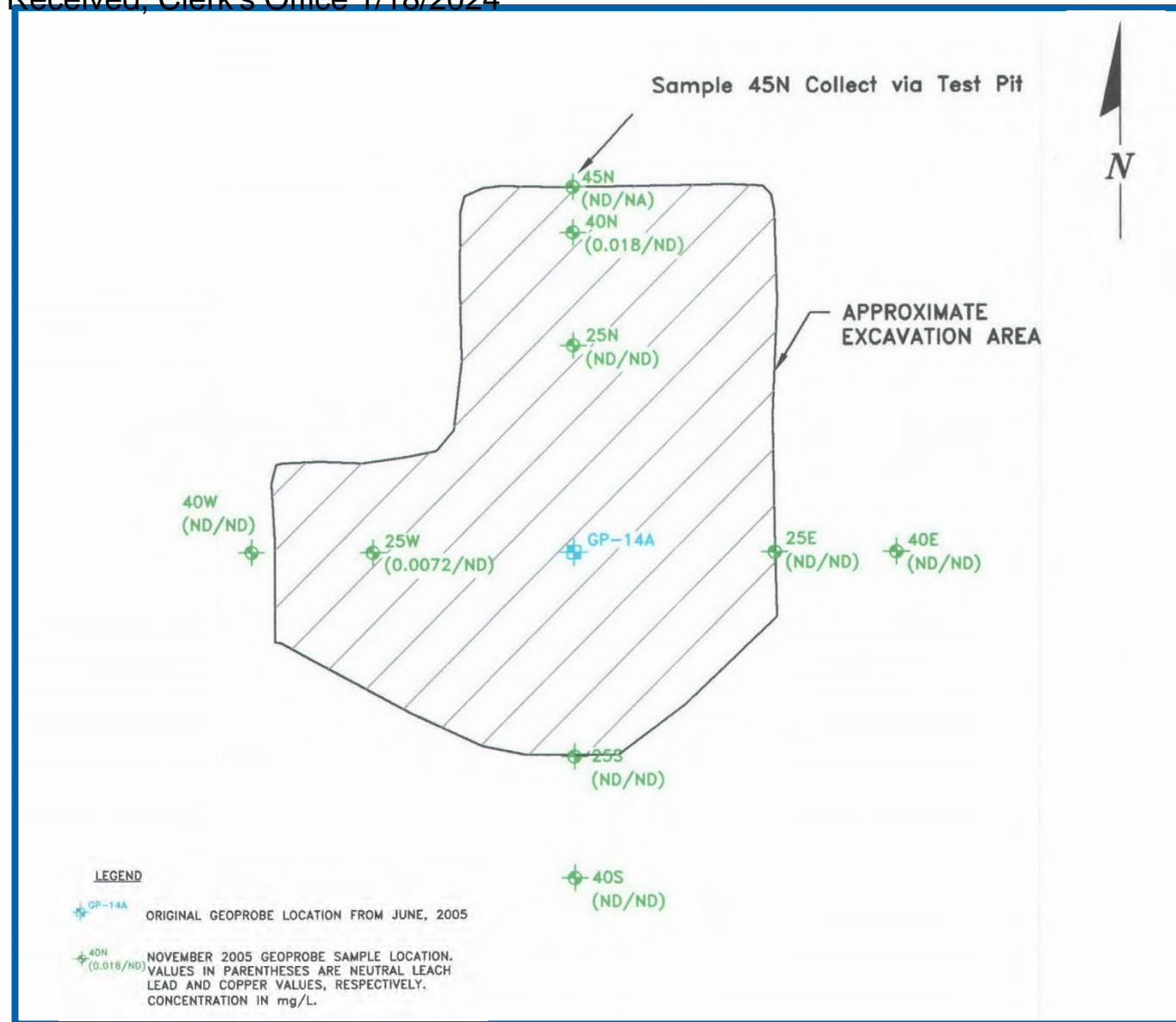
# Joliet 29 NW area - 2005 2nd CCB Investigation

- **15 Geoprobes**
- **Coal ash encountered** consistent/homogeneous, interlayered fly ash/bottom ash
- **Composite samples collected** from vertical profile at each location
- **All but one area considered CCB**, based on statistical analysis of NLET data in comparison to Class I groundwater quality standard (GWQS)
- **NLET concentrations of copper/lead > Class I GWQS** at one location (GP-14A)
- **GP-14A excluded** from beneficial use designation and removed



# Joliet 29- 2005 Remediation of GP-14A Area

- **Additional delineation activities** N-S-E-W of GP-14A
- **Composite samples** from vertical interval submitted for **NLET copper/lead**
- **52 truckloads excavated** hauled to permitted landfill (1,062.88 tons)



# Joliet 29 – 2010 Hydrogeologic Investigation

- **Voluntary investigation,**  
pre-CCR regulations
- **Installation of 11 MWs**
- **Groundwater samples collected**
- **11 potential CCR-related analytes not  
detected**
- **Boron concentrations below Part 620  
Class 1 GWQS**
- **\*Key CCR indicator\***
- **Chloride present upgradient at the  
Class 1 GWQS (200 mg/L)**



# Joliet 29 – 2010 Hydrogeologic Investigation

- **Water well search (2500 ft radius):**
  - No potable wells downgradient of station on north side of Des Plaines River
- **Uppermost groundwater unit at depths ranging from 29 to 34 feet bgs**
- **Direction of groundwater flow towards the Des Plaines River**
  - Some groundwater flow from NE towards river



# Joliet 29 – 2020 Investigation Near MW-09

- 18 soil probes, soil samples analyzed for sulfate, Fe, Mn
- Only area identified by the Board with Class 1 GWQS exceedances
- No coal ash identified in probes
- pH of groundwater at MW-09 is acidic
- CCR materials commonly exhibit basic pH (LEAF data)
- Acidity from oxidation of natural sulfide minerals forms sulfuric acid
  - TDS and sulfate in soil mobilized to the groundwater by this acidity





# **Joliet 29 – Ongoing Groundwater Monitoring**

- **12 monitoring wells installed around ponds**
- **Federal Appendix III (detection) constituents**
- **Federal Appendix IV (assessment) constituents**
- **Constituents required by IL CCR Rules  
(both detection and assessment constituents)**
- **Quarterly monitoring since CCAs implemented in 2012**
- **Sampling/analysis of 34 constituents 4x per year x 12 MWs**



## **Joliet 29 – NE Historic Fill Area**

- **Annual inspections of existing topsoil/vegetative cover performed in accordance with NPDES Permit**
  - If erosional features identified, they are repaired
- **KPRG reports no soil staining or seeps along riverbank,**
- **Heavy vegetation/no stressed vegetation**
- **Groundwater Flow**
- **Des Plaines River assessments**





# Joliet 29 - GMZ and ELUC



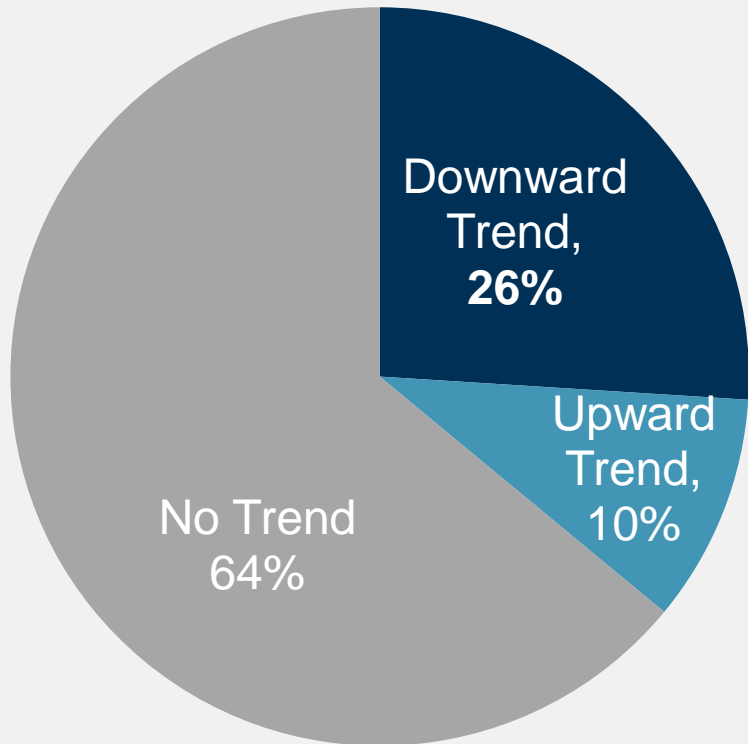


# Joliet 29 - Data Analysis - Potential Receptors

- **Onsite and Surrounding Industrial Land Use**
  - Industrial land use expected onsite into foreseeable future
  - Channahon Rd./industrial facilities to north
  - Former Caterpillar Manufacturing to west (SRP site)
- **No potable use of groundwater downgradient of Station**
  - Potable well search in Patrick report on 2010 Hydrogeologic Investigation (2500 ft radius)
  - City of Joliet in process of converting to Lake Michigan water as potable source
  - On-site potable wells prohibited by ELUC
  - GMZ established
- **Potential ecological receptors**
  - Des Plaines River Downgradient/South/Southeast of Station

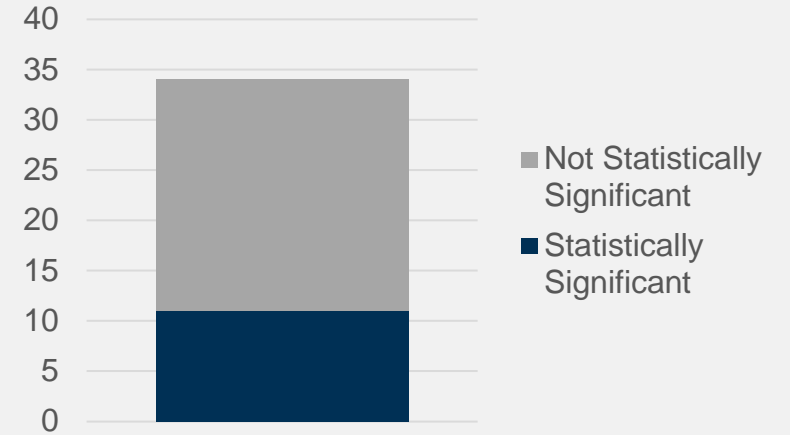


# Joliet 29 - Groundwater Trend Testing

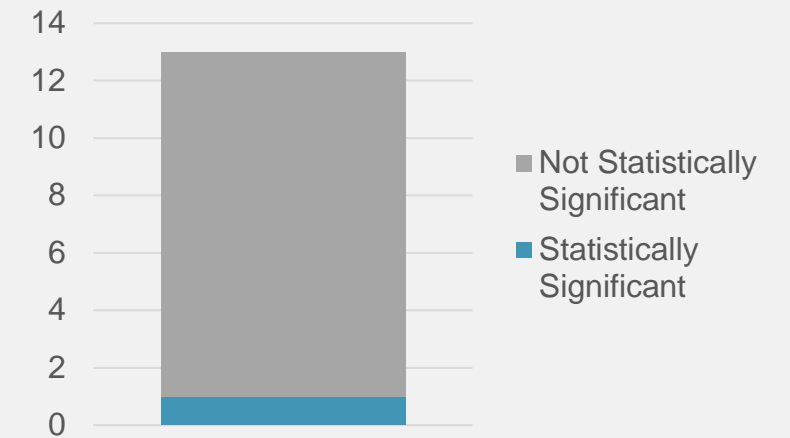


- Trend testing at downgradient MWs indicates improving groundwater quality over long term.
- No well with statistically significant upward trend has ever exceeded a Class I GW standard.

## DOWNWARD TREND



## UPWARD TREND



# Joliet 29

Potential  
Groundwater  
Impact to  
Surface Water  
Analysis

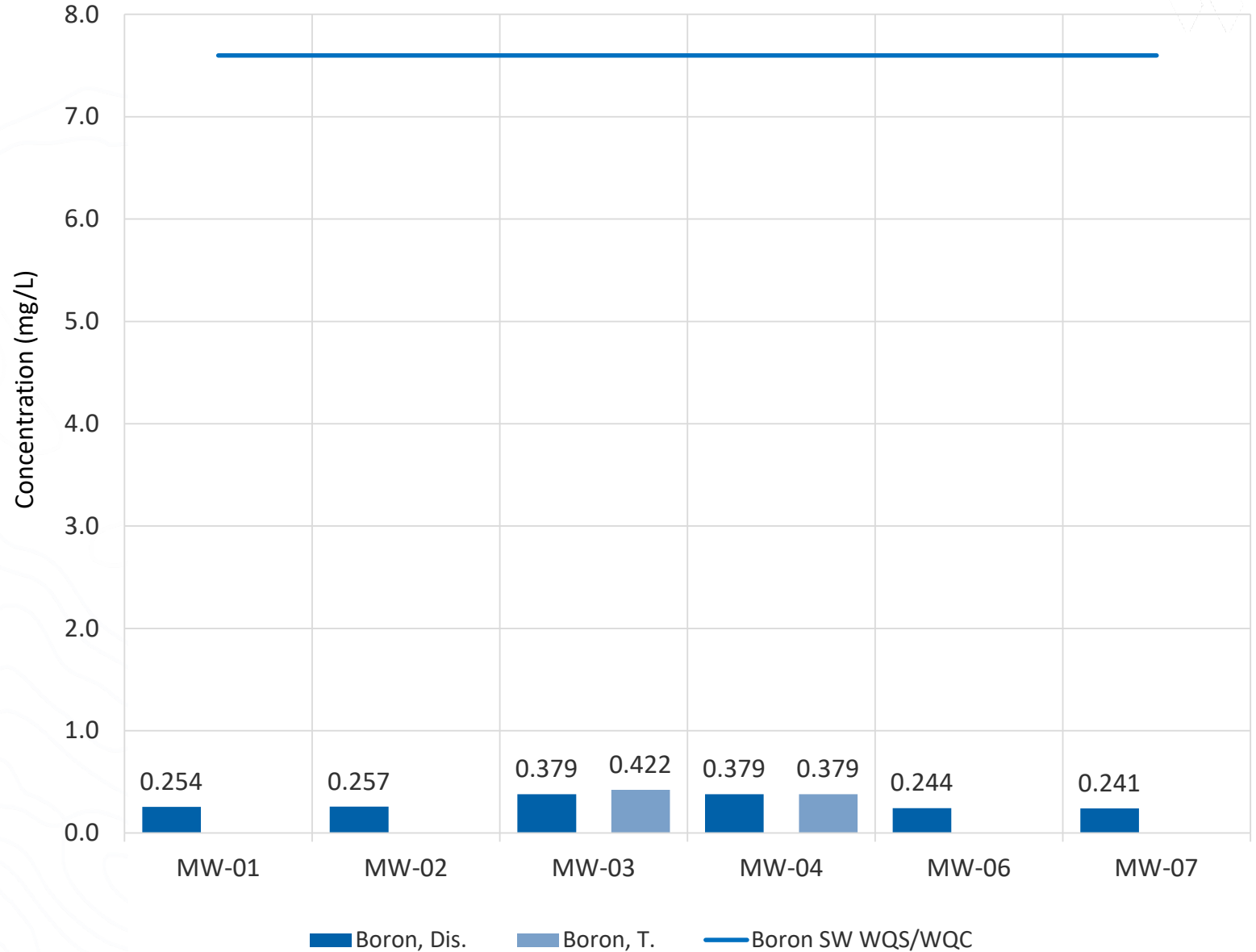




# Joliet 29 - Groundwater to Surface Water Analysis

- **Average groundwater concentrations from December 2010 to Q4 2020 as calculated by Sanitas™ Software**
- **Non detect (ND) 75% or more samples;** reporting limit (RL) presented as average, otherwise RL used in calculations (conservative)
- **CCR constituents from Appendices III and IV to 40 CFR Part 257**
- **Surface Water Standard (SWS)** obtained from the Illinois General Use Water Quality Standards (WQS) as defined in 35 IAC 302, Subpart B or the Illinois Water Quality Criteria (WQC) - if no WQS.
- No groundwater concentrations at downgradient monitoring wells exceeded the IL Water Quality Standard (WQS)/Water Quality Criteria (WQC)

# Joliet 29: Average Boron in Groundwater Compared to Surface Water Standards





# Joliet 29 Station - Summary

- **Ponds not adversely impacting groundwater**
  - No CCR constituents consistently present at concentrations > Class 1 GWQS related to the ponds
- **One identified area (MW-09) investigated**
- **Trend analysis indicates groundwater concentrations decreasing and expected to continue/below Class 1**
- **No unacceptable risk posed to onsite or offsite receptors at Joliet 29 Station**
- **No impacts to adjacent Des Plaines River**
- **Groundwater at depth**
- **NW area meets CCB; SW area monitoring wells**
- **NE area lines of evidence**



# Joliet 29 Station - Summary

- **Continue to follow Federal/State CCR Rules**
- **Continue groundwater monitoring as required by CCR Rules per GMZ**
- **Comply with potential new federal or state regulations for historic fill areas**
- **Close Remaining Impoundment**

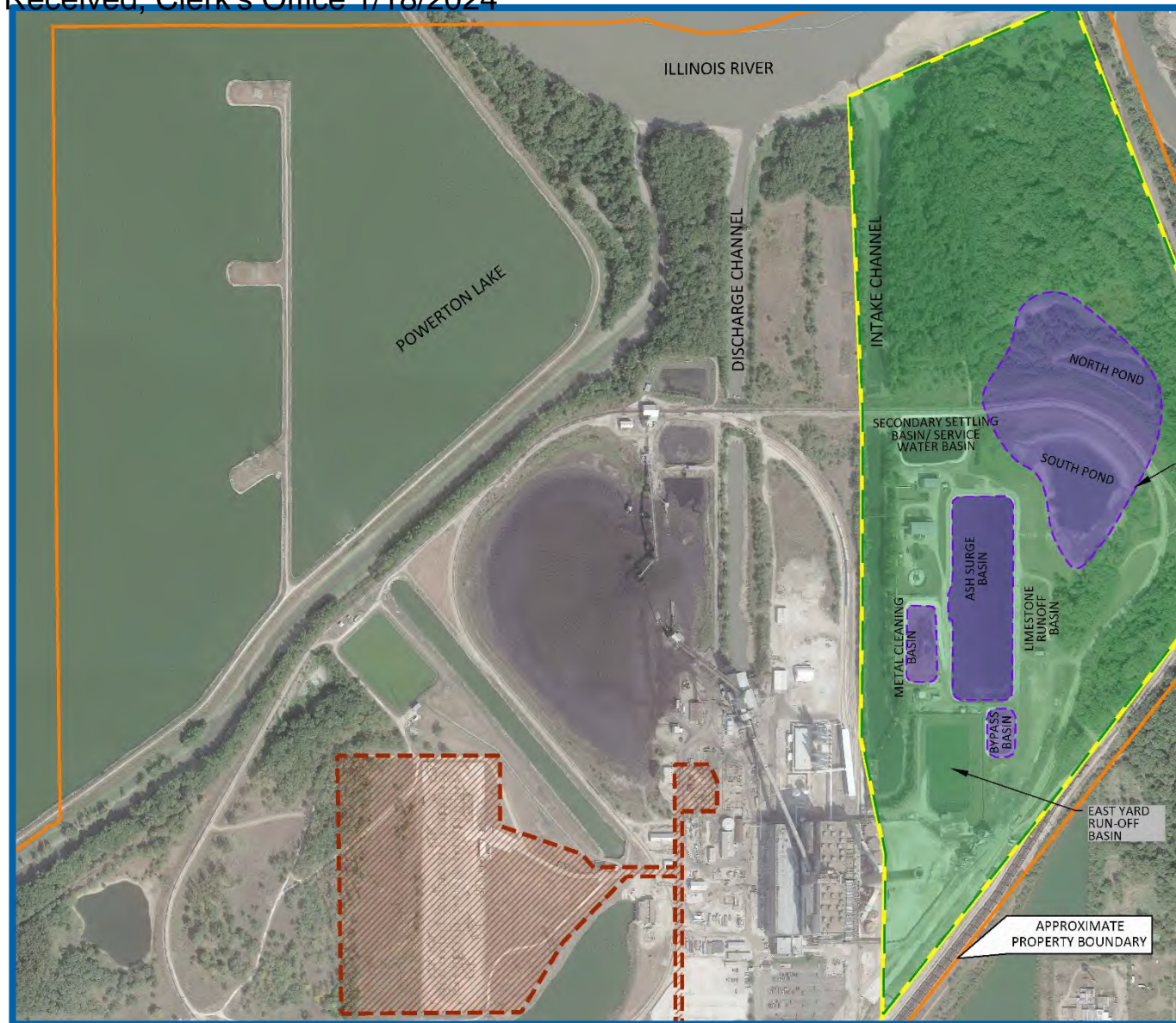




# Powerton Station

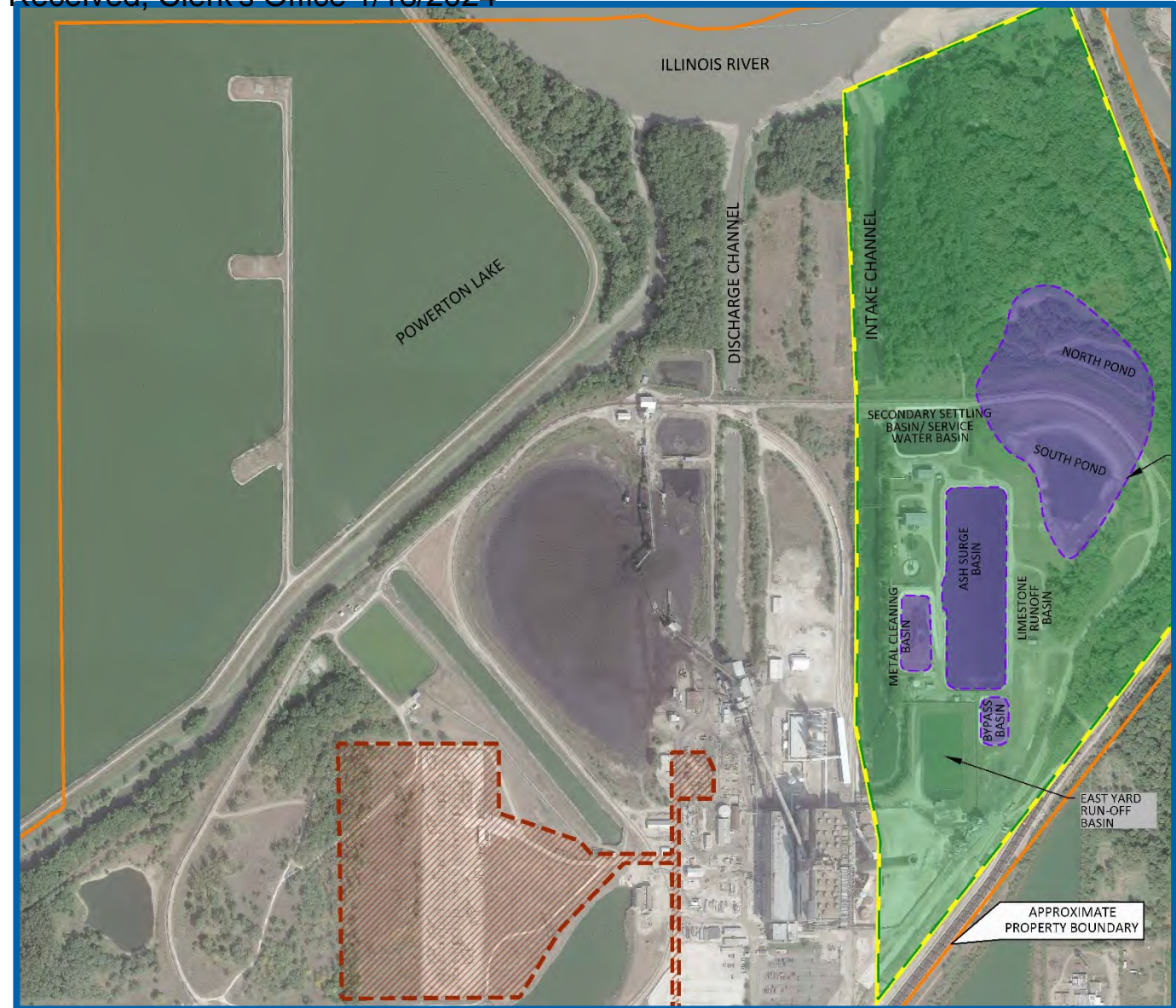
# Powerton Station – Background + Setting

- Began operating in 1920s
- Acquired by MWG in 1999
- Bordered by:
  - North – Illinois River
  - South - Agricultural
  - East – mostly industrial/some residential
  - West - Powerton Lake, & Wildlife Area
- Impoundments:
  - Ash Surge Basin (ASB)
  - Ash Bypass Basin (ABB)
  - Metal Cleaning Basin
  - Secondary Ash Basin/Service Water Basin
  - Former Ash Basin (FAB)
  - East Yard Runoff Basin
  - Limestone Runoff Basin














# Powerton – Historic Fill Area

- Just one area mentioned by the Board
- Area south of Bypass Basin
  - Cinders temporarily stored in the winter
  - Removed by MWG within 2-3 months of placement

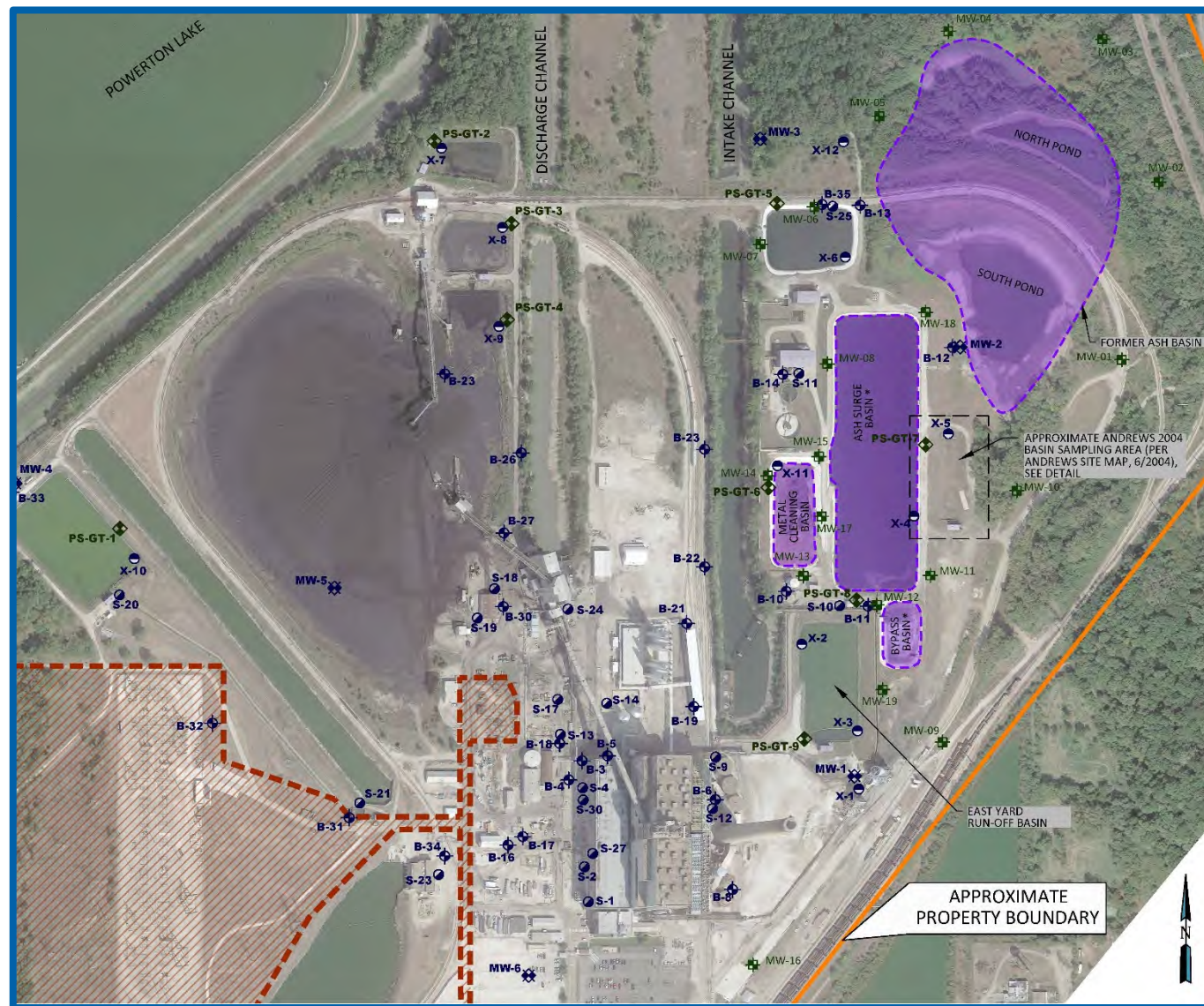


# Powerton - Investigation Locations

- LEGEND**
-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE)
  -  PROPERTY NOT OWNED BY MWG
  -  APPROXIMATE CCR PONDS
  -  POND SUBJECT TO FEDERAL AND/OR STATE CCR RULES
- NOTE:** ASH SURGE BASIN, BYPASS BASIN, AND FORMER ASH BASIN ARE SUBJECT TO FEDERAL AND STATE CCR RULES. METAL CLEANING BASIN IS SUBJECT TO STATE CCR RULES.
-  **MW-2** PATRICK 2010 HYDRO ASSESSMENT/KPRG 2012-2019 CCR APPROXIMATE MONITORING WELL LOCATION (PER KPRG MAP, 12/2020)
  -  **B-12** ENSR 1998 PHASE II ESA APPROXIMATE BORING LOCATION (PER ENSR SITE PLAN, 11/1998)
  -  **MW-5** ENSR 1998 PHASE II ESA APPROXIMATE MONITORING WELL LOCATION (PER ENSR SITE PLAN, 11/1998)
  -  **S-15** ENSR 1998 PHASE II ESA APPROXIMATE SURFACE SOIL SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
  -  **X-8** ENSR 1998 PHASE II ESA APPROXIMATE SEDIMENT SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
  -  ANDREWS 2004 BASIN SAMPLING APPROXIMATE TEST PIT LOCATION (PER ANDREWS SITE MAP, 6/2004)
  -  **PS-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)

**NOTE:**

\* ASH AND WATER SAMPLES COLLECTED FROM THE BYPASS BASIN AND ASH SURGE BASIN IN 2018 AND 2019 AS PART OF 2019 AND 2020 KPRG ASDs.





# Powerton - Investigations

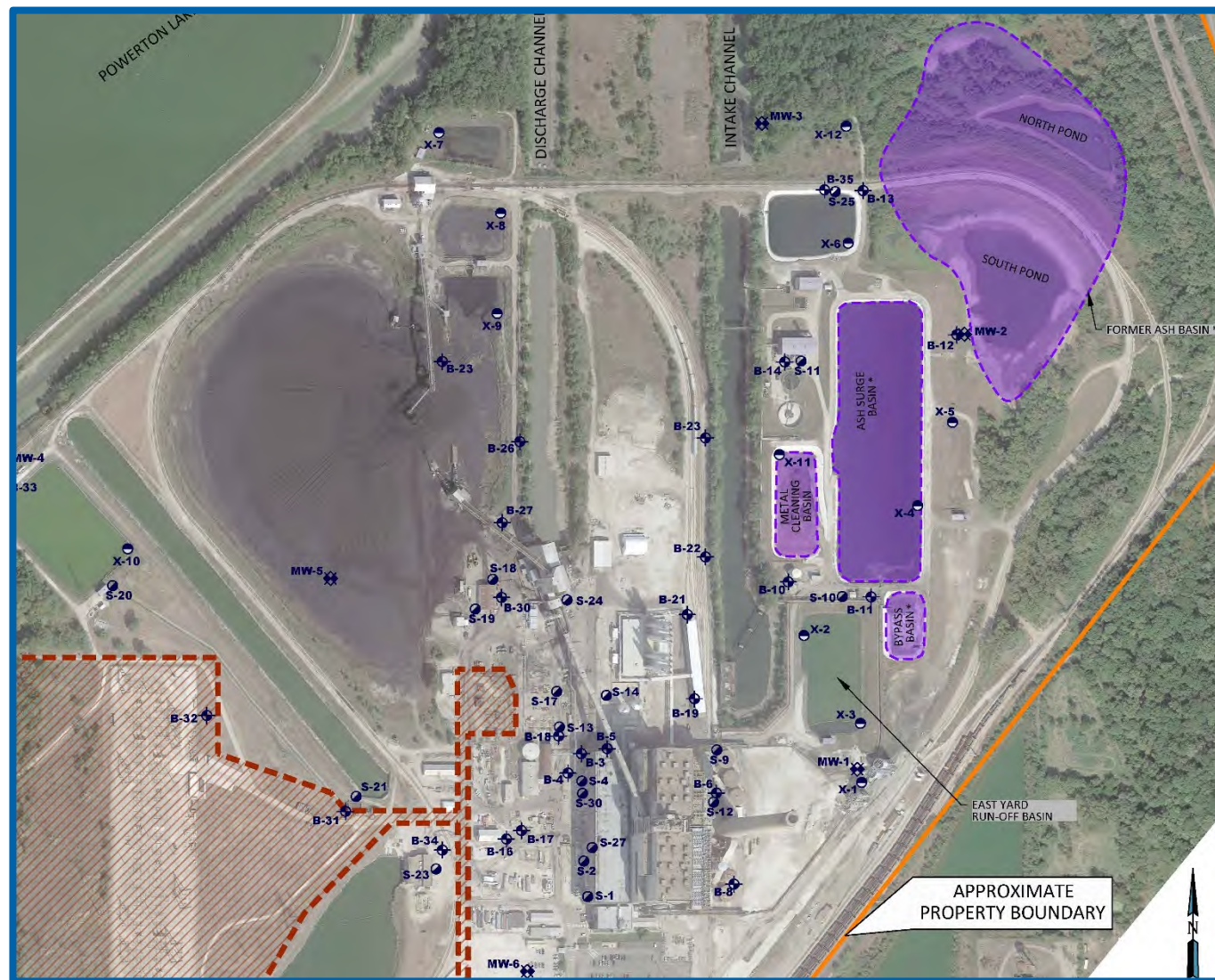
- **1998** Phase II Environmental Site Assessment by ENSR (due diligence, prior to MWG acquisition of station)
- **2005 Geotechnical Investigation by KPRG**
- **2010 Hydrogeologic Assessment by Patrick Engineering**
- **Ongoing groundwater monitoring under CCR Rules and CCA**

# Powerton – 1998 Phase II ESA

- 28 soil borings, 6 MWs, 17 surface soil samples, 12 sediment samples
- MW-1 and MW-2 (near East Yard Runoff Basin and Former Ash Basin): no RCRA Metals above Class I GWQS

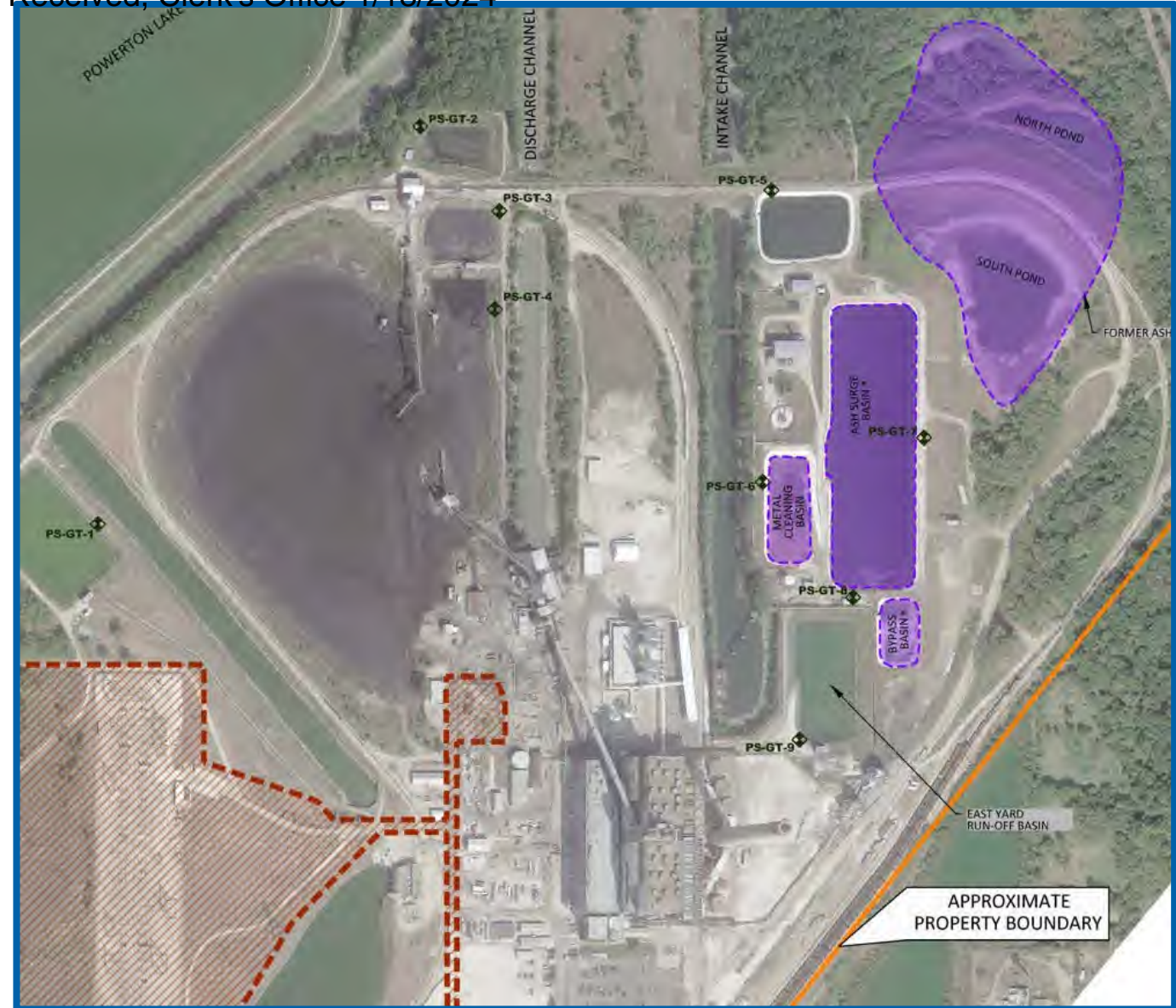
## Conclusions:

- Groundwater ingestion not a potential exposure pathway
- Based on industrial land use/low potential for human exposure
- No requirement under Illinois environmental law to further investigate or remediate this property



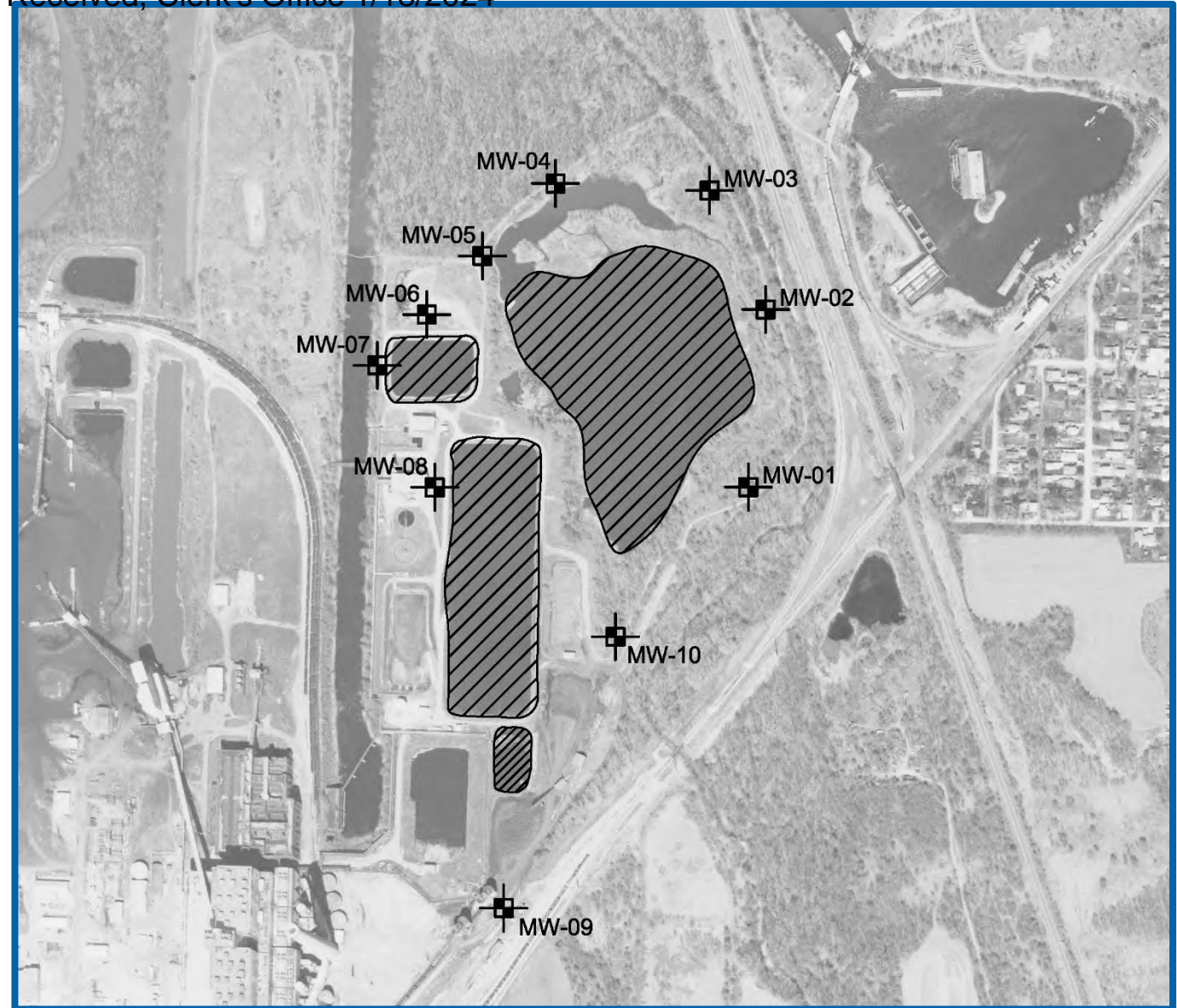
# Powerton – 2005 Geotechnical Investigation

- Provide information on physical characteristics of soils
- Nine soil probes



# Powerton – 2010 Hydrogeologic Investigation

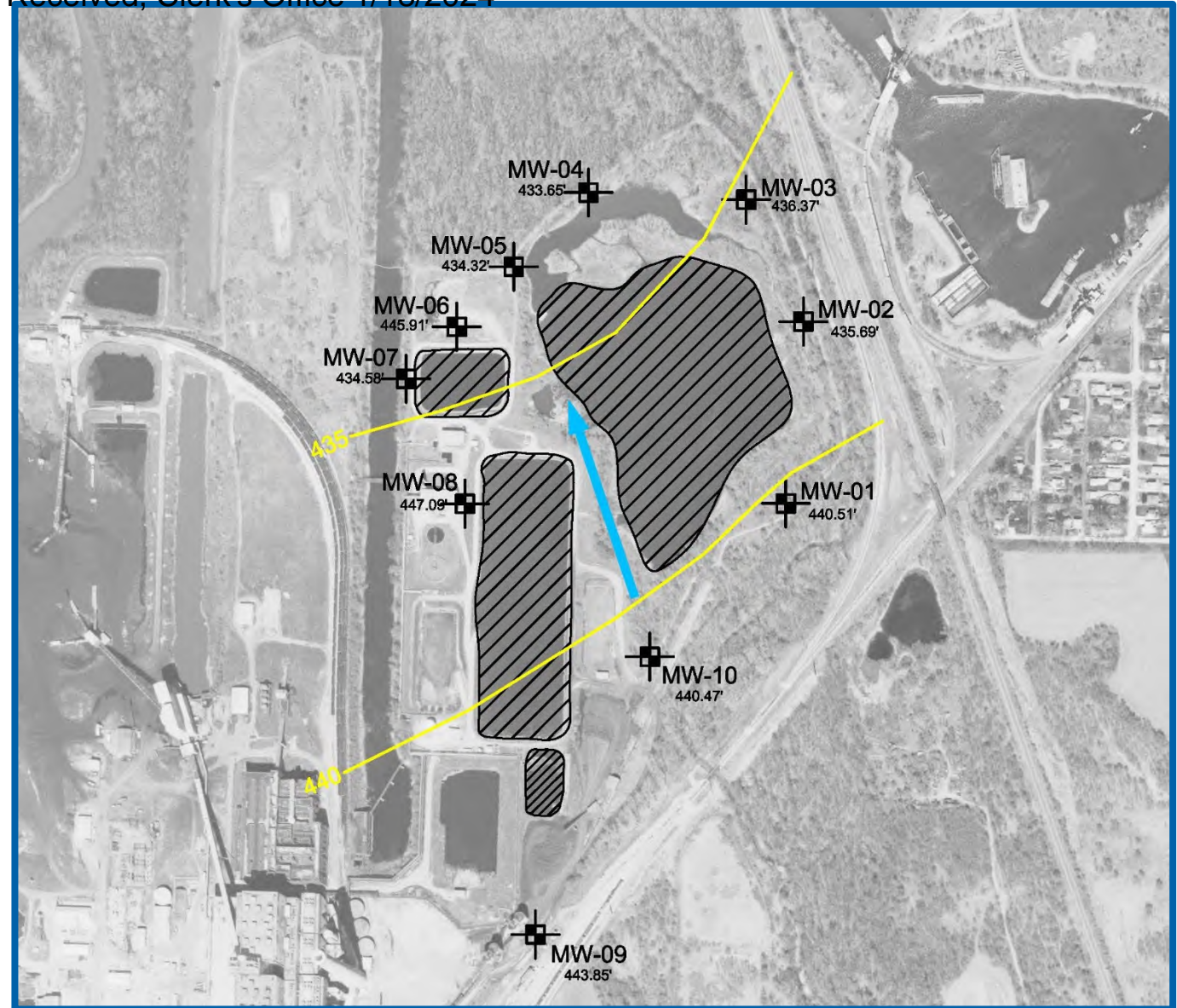
- Voluntary investigation pre-CCR rules
- Installation of 10 MWs
- Groundwater samples collected
- 12 potential CCR-related analytes not detected
- Boron and manganese were detected above Part 620 Class I GWQS upgradient and downgradient of ponds
  - Only one sampling event
- In the case of boron, sole exceedance was identified in an upgradient well





# Powerton – 2010 Hydrogeologic Investigation (cont.)

- Lithology predominantly sand and gravel, with a silt seam running through a portion of the Site
- Groundwater flow initially understood to the north
- Water Well Search
  - No water wells downgradient of the ash ponds (between ponds Illinois River)
  - Two wells supply water to the station (greater than 50 ft. deep and west of intake/discharge channels)



# Powerton – Ongoing Groundwater Monitoring



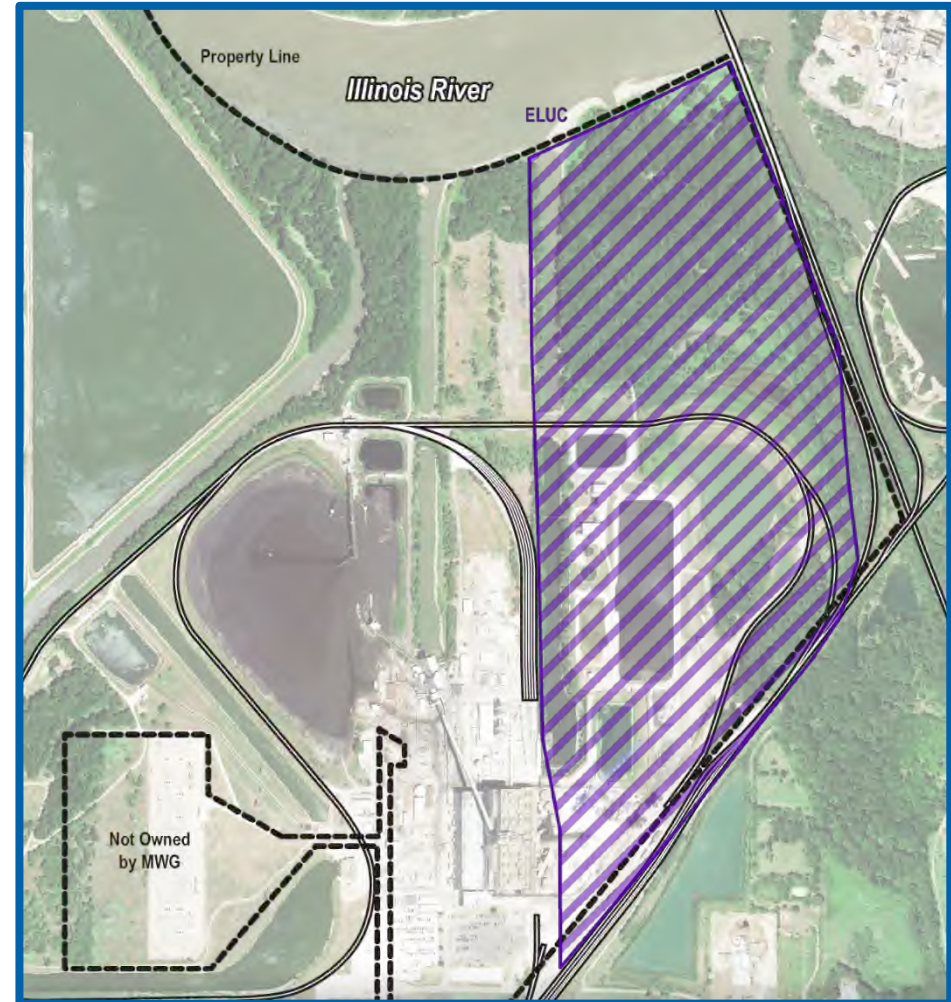
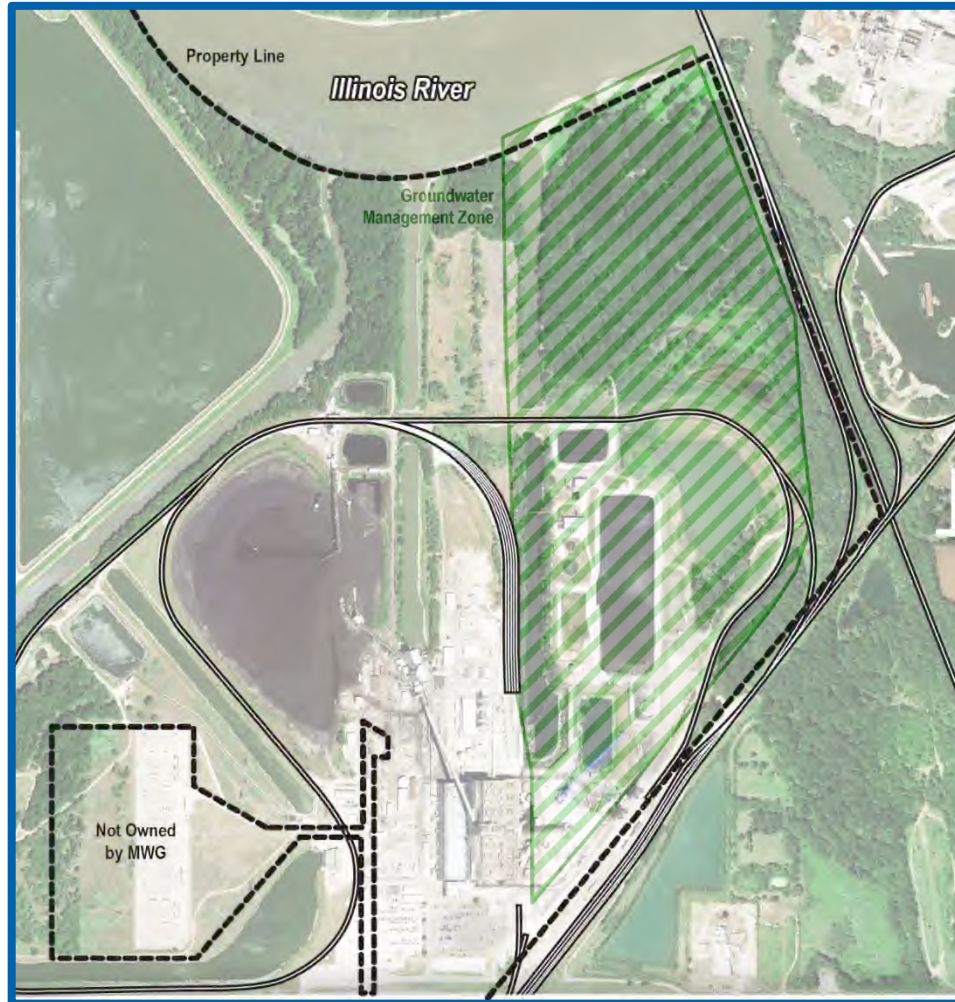


# Powerton - Ongoing Groundwater Monitoring

- **Quarterly sampling of established groundwater monitoring network since CCA implemented in 2012**
  - 12 monitoring wells installed around ponds
- **Also to comply with Federal CCR Rules and IL CCR Rules**
- **Additional MWs installed after 2010 resulted in better understanding of GW flow**
- **Two units identified for development of groundwater elevation contour maps:**
  - Upper Silt/Clay Unit: Flow to the west, towards Powerton Lake
  - Lower Gravely Sand Unit: Flow west, northwest, north, northeast
- **Sampling/analysis of 34 constituents 4x per year**



# Powerton - GMZ and ELUC



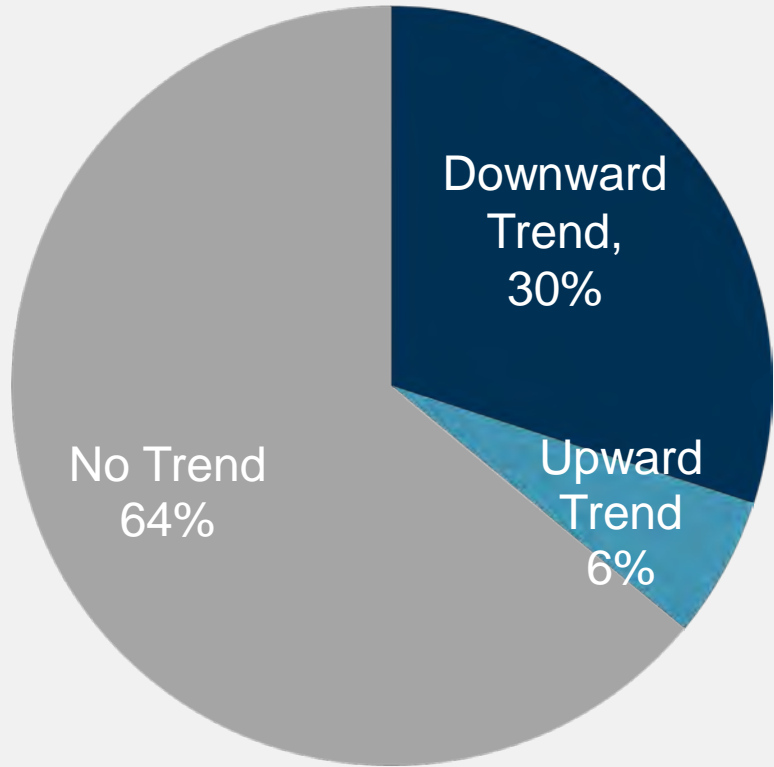


# Powerton - Potential Receptors

- **Onsite and Surrounding Industrial Land Use**
  - Industrial land use expected onsite into foreseeable future
  - Industrial properties to the east
- **No potable use of downgradient groundwater**
  - Based on water well search presented in Patrick Report on 2010 Hydrogeologic Investigation (2500 ft radius)
  - Prohibited by ELUC
  - GMZ established
- **Potential ecological receptors**
  - Illinois River located downgradient, to the North

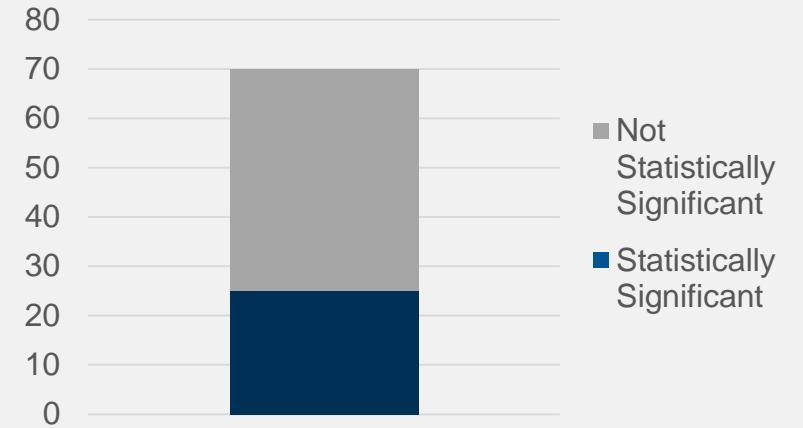


# Powerton - Groundwater Trend Testing

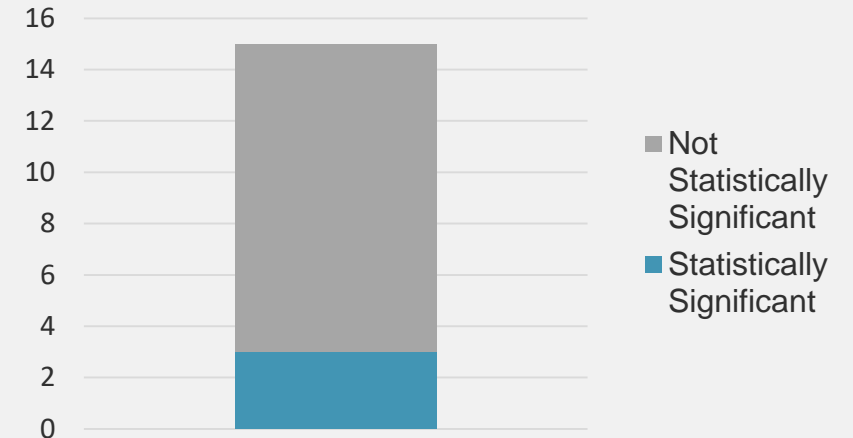


- Two constituents at one well with statistically significant upward trend exhibit concentrations above Class I GW standard (sulfate and TDS at MW-13)

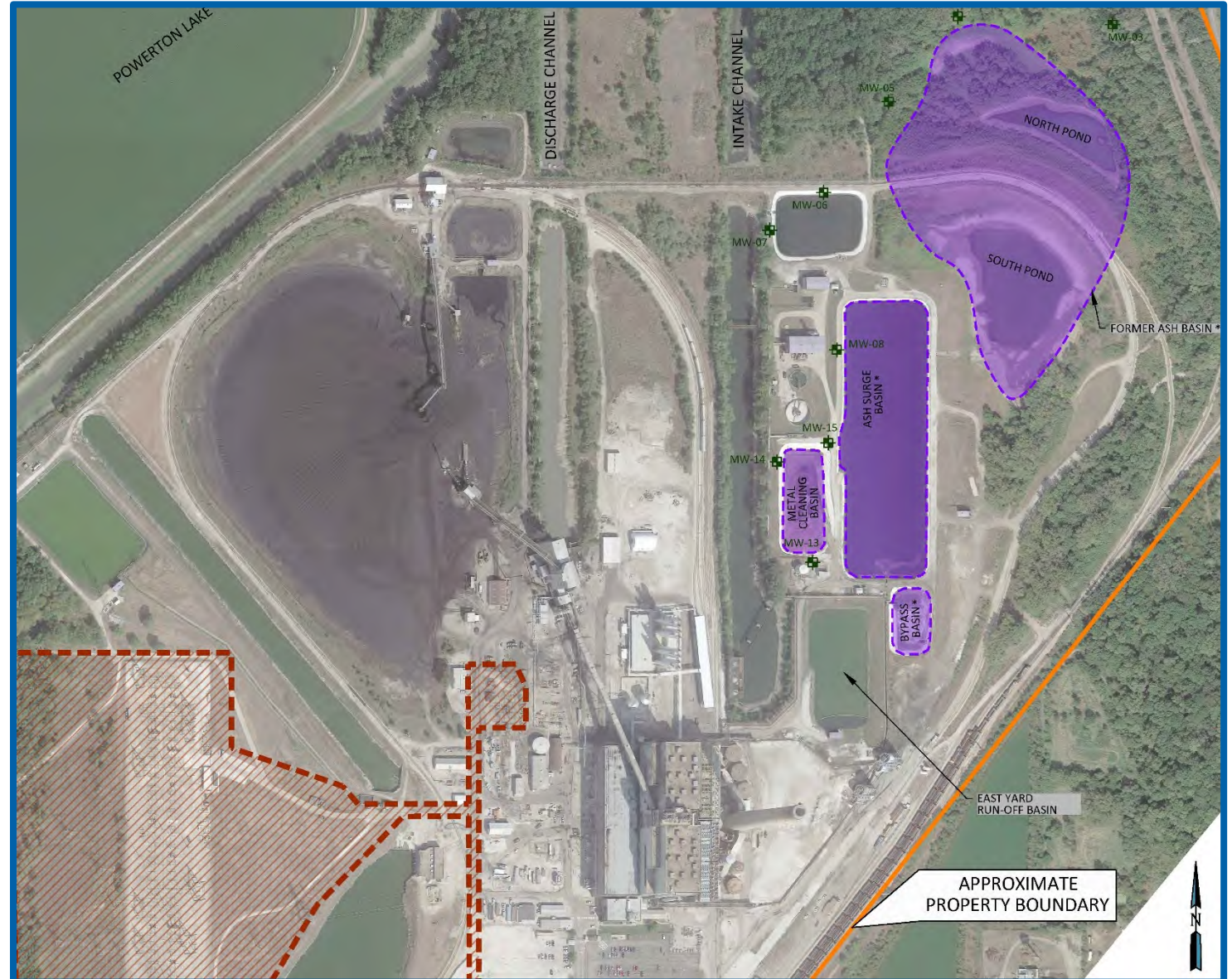
## DOWNWARD TREND



## UPWARD TREND



# Powerton- Groundwater to Surface Water Analysis





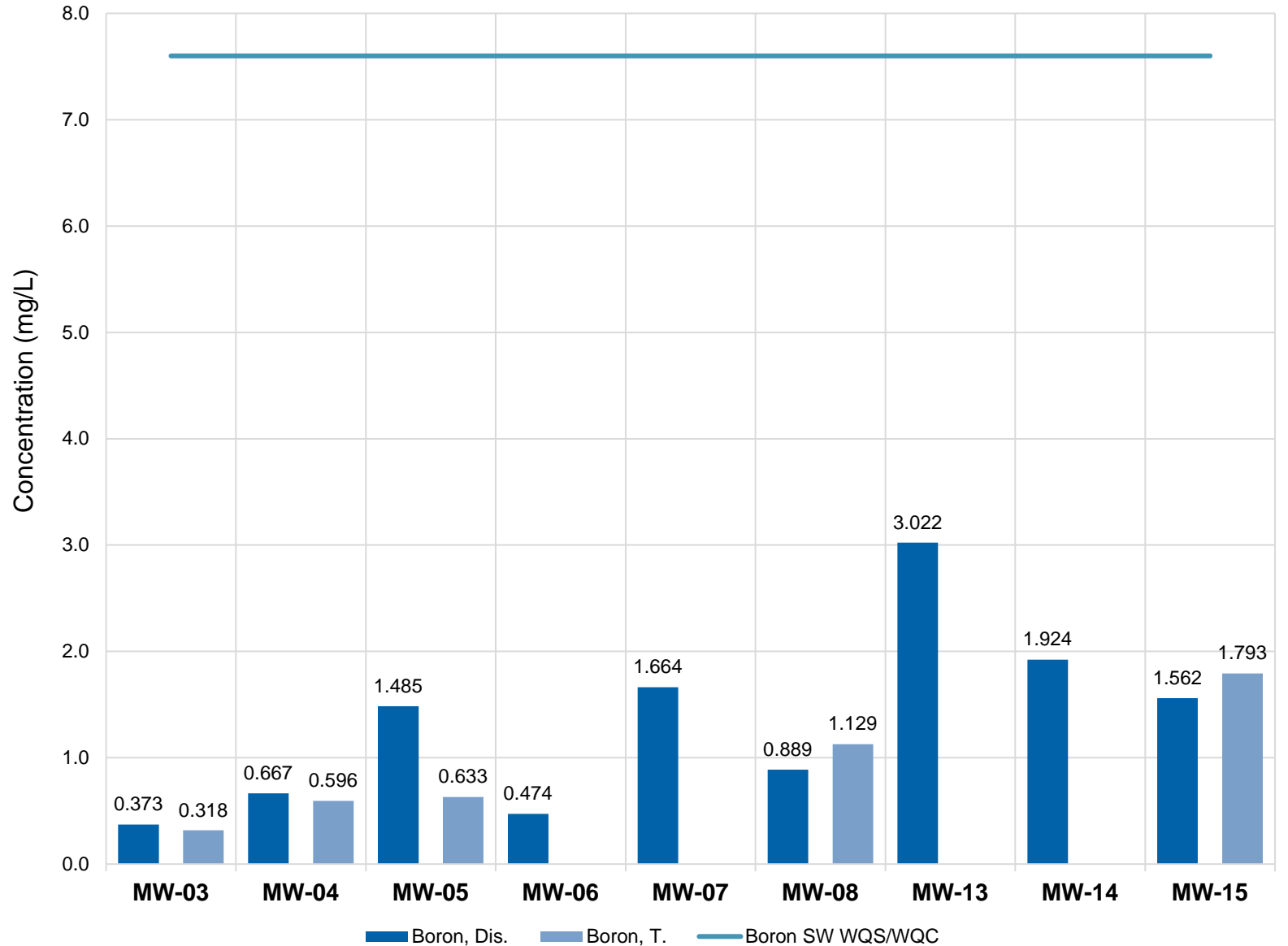
# **Powerton – Groundwater to Surface Water Analysis**

- **Average groundwater concentrations from December 2010 to Q4 2020 as calculated by Sanitas™ Software**
- **Constituent non-detect in 75% or more samples; reporting limit presented as average**
- **Constituents analyzed are CCR constituents from Appendices III and IV to 40 CFR Part 257**
- **Surface Water Standard (SWS) obtained from the Illinois General Use Water Quality Standards (WQS) as defined in 35 IAC 302, Subpart B or the Illinois Water Quality Criteria (WQC) - if no WQS.**





# Powerton: Average Boron in Groundwater Compared to Surface Water Standards





# Powerton - Summary

- **Background data from upgradient wells to assess regulated units**
  - Remaining units to be CCR compliant
  - Regular inspections, notifications
- **Trend testing at downgradient MWs indicates improving groundwater quality over long term**
- **No unacceptable risk posed to onsite or offsite receptors**
  - groundwater concentrations at downgradient monitoring wells did not exceed surface water standards
- **Board determined FAB not a source/closure**
- **One ash placement area/storage for 2 months only and removed**
- **No seeps/distance to Illinois River**



# **Powerton - Summary**

- **Continue to follow the Federal/State CCR surface impoundment rules**
- **Continue regular groundwater monitoring under CCR rules**
  - Assessment Monitoring
  - Corrective Action if GWPS exceeded and attributable to CCR Surface Impoundments
- **Implement closure/retrofits of CCR Surface Impoundments**
- **Comply with potential new Federal/State regulations for historic fill areas**



# Will County Station

# Will County- Background + Setting

- Began operating in 1955
- Four CCR Surface Impoundments
  - Each constructed in 1977
- Ceased burning coal June 2022
- Surrounding land use:
  - Chicago Sanitary and Ship Canal to east
  - Des Plaines River to west
  - Citco refinery to north
  - Hanson Materials/Lafarge to south



# Will County - Location of Impoundments













# Will County – Historic Fill Areas

- Two areas of alleged historic fill placement:
  - Around Surface Impoundments
  - SE Area



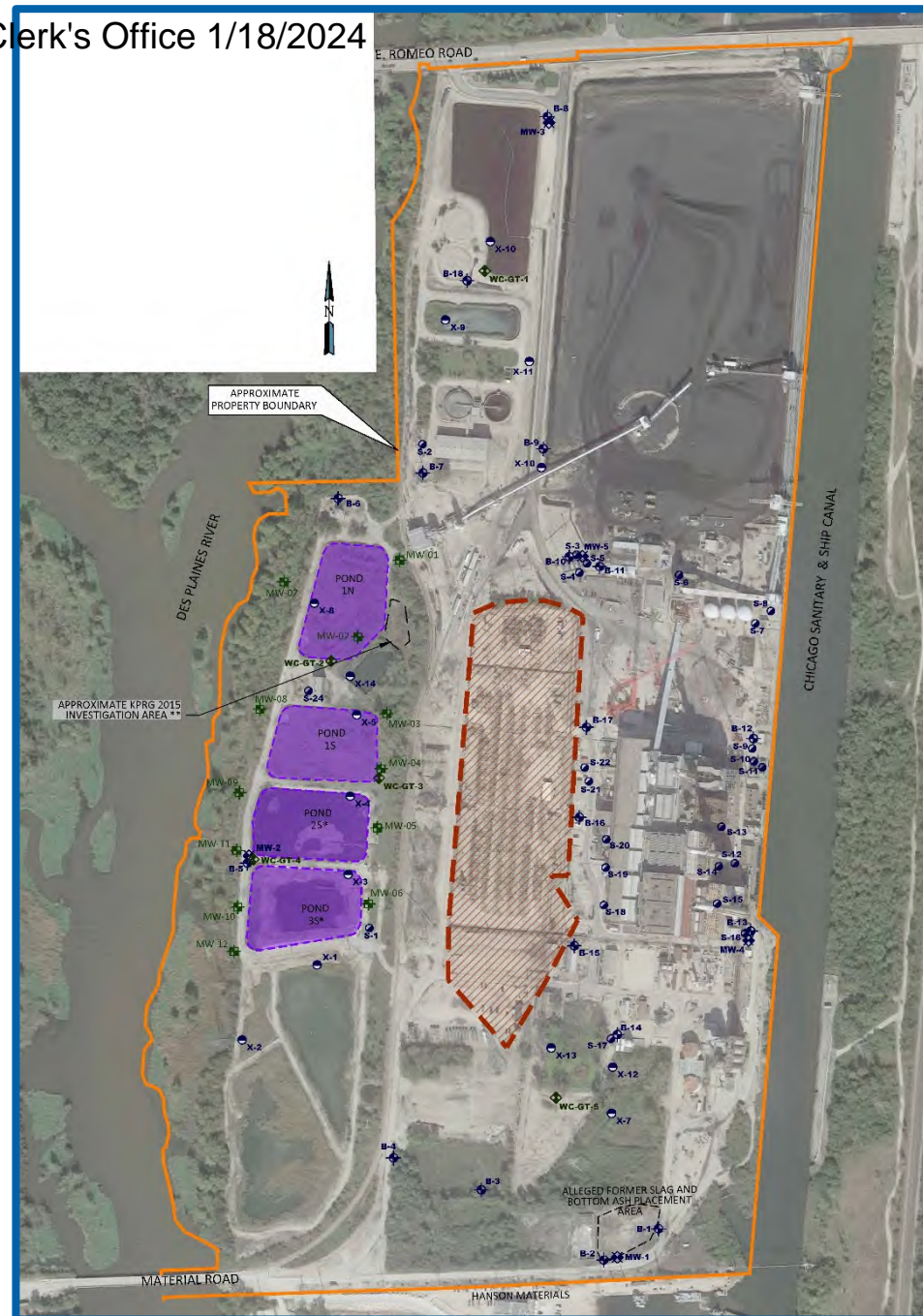
# Will County - Investigation Locations

## LEGEND

-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE)
-  PROPERTY NOT OWNED BY MWG
-  APPROXIMATE CCR PONDS
-  PONDS SUBJECT TO FEDERAL AND/OR STATE CCR RULES
- NOTE: POND 2S AND POND 3S ARE SUBJECT TO FEDERAL AND STATE CCR RULES. POND 1N AND POND 1S ARE SUBJECT TO STATE CCR RULES.
-  **MW-2** PATRICK 2010 HYDRO ASSESSMENT/ KPRG 2015 CCR APPROX. MONITORING WELL LOCATION (PER KPRG MAP, 12/2020)
-  **B-12** ENSR 1998 PHASE II ESA APPROXIMATE BORING LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **MW-5** ENSR 1998 PHASE II ESA APPROXIMATE MONITORING WELL LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **S-15** ENSR 1998 PHASE II ESA APPROXIMATE SURFACE SOIL SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **X-8** ENSR 1998 PHASE II ESA APPROXIMATE SEDIMENT SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **WC-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)

## NOTES:

- \* ASH AND WATER SAMPLES COLLECTED FROM POND 2S AND POND 3S IN 2018 AS PART OF 2019 KPRG ASD.
- \*\* COAL ASH SAMPLES COLLECTED FROM THIS AREA FROM 20 BORINGS (A1 TO D7) AS PART OF 2014 KPRG CCB DETERMINATION







# Will County - Investigations

- **1998** Phase II Environmental Site Assessment by ENSR (due diligence, prior to MWG acquisition of station)
- **2005** Geotechnical Investigation by KPRG
- **2010** Hydrogeologic Assessment by Patrick Engineering
- **2015** CCB Investigation
- Ongoing groundwater monitoring under the CCA and CCR Rules (Federal and IL)

# Will County – 1998 Phase II ESA

- 18 soil borings, 5 MWs, 23 surface soil, 14 sediment samples
- B-1/B-2/MW-1 near SE Fill Area - coal ash mixed with soils
  - RCRA metals in SE Area soil (incl. arsenic) below TACO Tier 1 SRO
- MW-1 groundwater did not exhibit RCRA Metals > Class I Groundwater Standards
- Soil and groundwater concentrations in SE Fill Area do not pose unacceptable risk to human health and the environment
- Groundwater ingestion not a potential exposure pathway
- Based on industrial land use/low potential for human exposure to constituents of concern:
- No requirement under Illinois environmental law to further investigate or remediate property



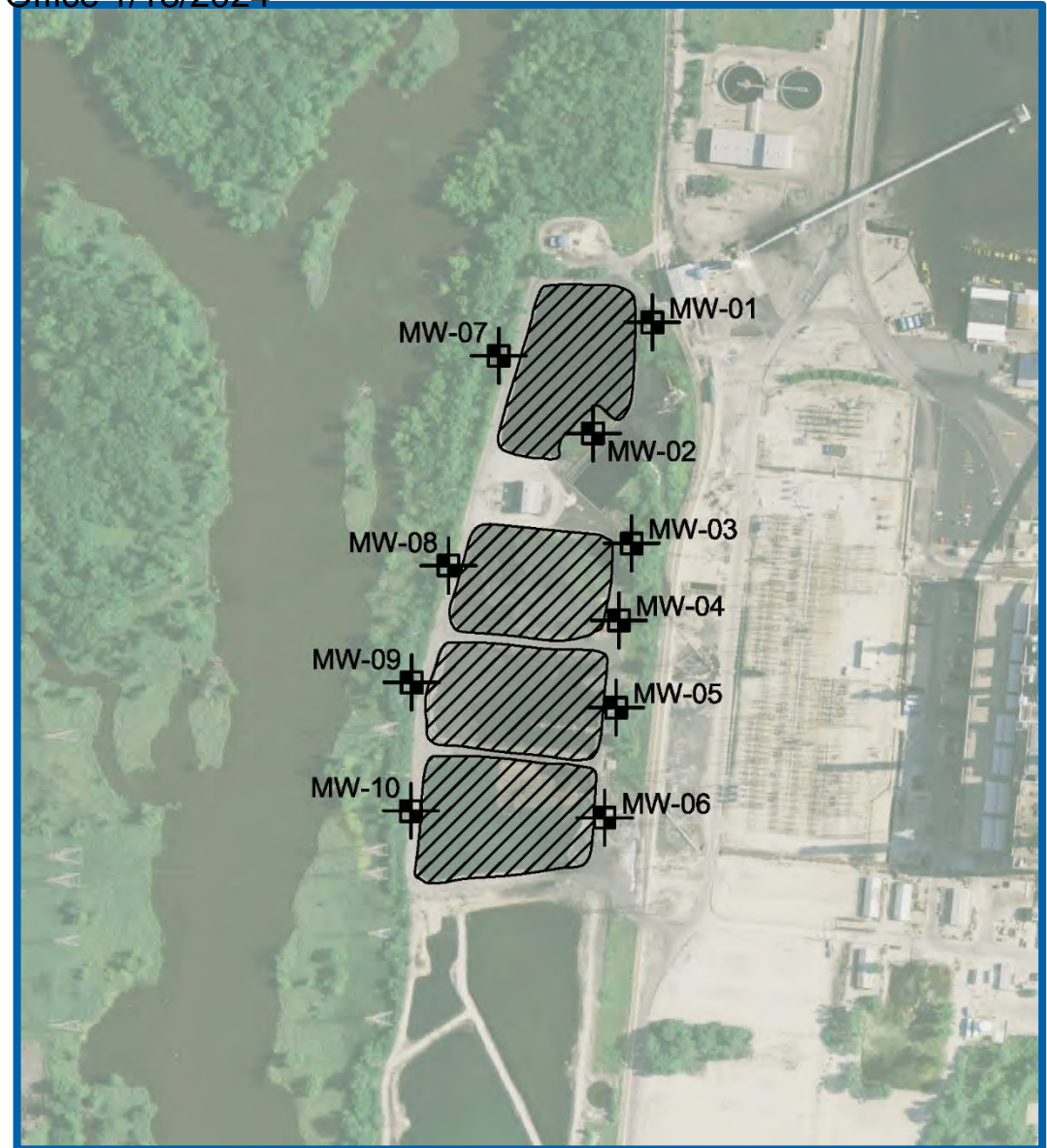
# Will County - 2005 Geotechnical Investigation

- Provide information on physical characteristics of soils
- Five soil probes
- Bedrock encountered in the probes at 3-10 ft. below ground surface



# Will County - 2010 Hydrogeologic Investigation

- **Voluntary investigation pre-CCR regulations**
- **Installation of 10 MWs**
- **Uppermost groundwater unit at depths ranging from 8-11 feet bgs**
- **Groundwater samples collected**
- **12 analytes not detected**
- Manganese, boron, sulfate, and TDS detected above Part 620 Class I GWQS east and west of ponds
  - One sampling event only
- Potable well search (2500 ft radius):
  - No potable well use within the shallow monitored aquifer





# Will County - 2015 CCB Investigation

- 20 Geoprobes east of Pond 1N
- Soils homogeneous bottom ash/slag from coal combustion
- NLET testing of 20 composite samples from vertical profile
  - **Most metals not detected** (Sb, As, Ba, Be, Cd, Cr Co, Pb, Mn, Hg, Mo, Ni, K, Se, Ag, Tl, Zn)
  - **Naturally occurring metals** (B, Fe, Na) **detected** (below Class I GWQS)
  - **Statistical analysis presented to support conclusion that constituents are not present** in the material above Class I groundwater standard
- **KPRG concluded that material meets the 3.135 criteria** and may be considered CCB, and eligible for beneficial uses specified in the Act





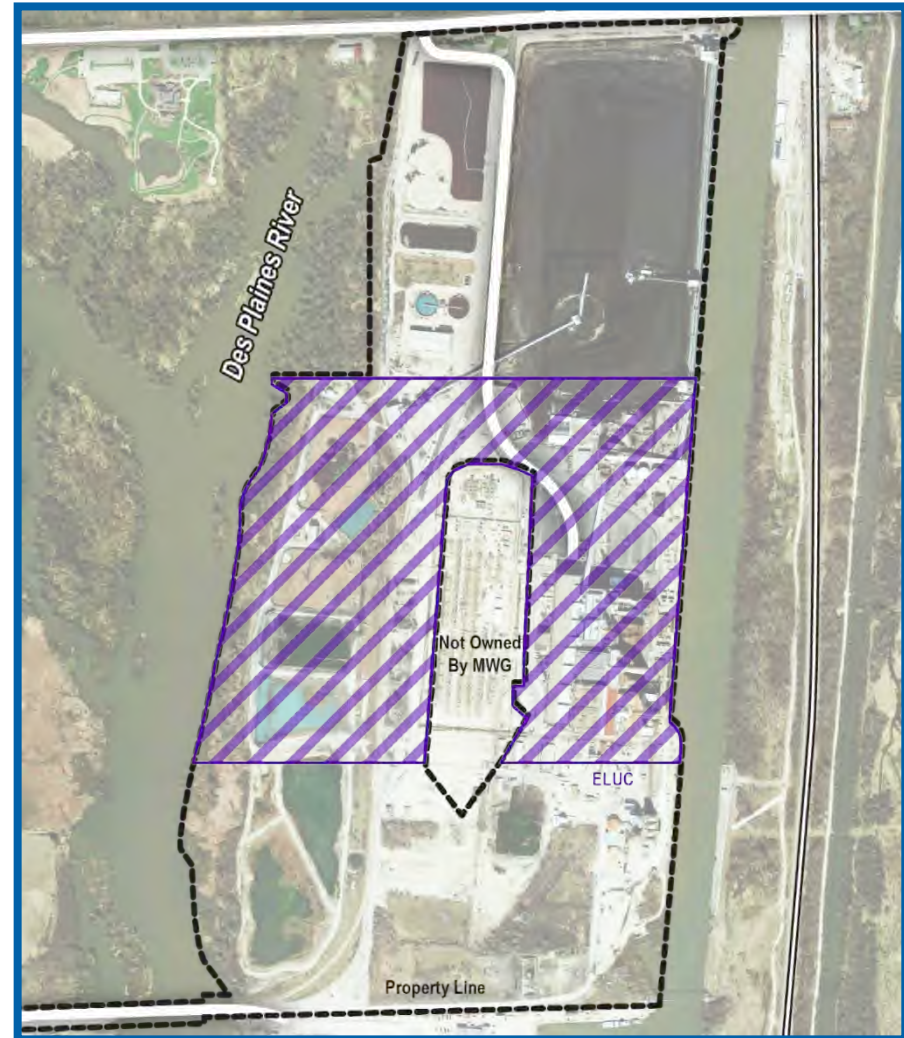
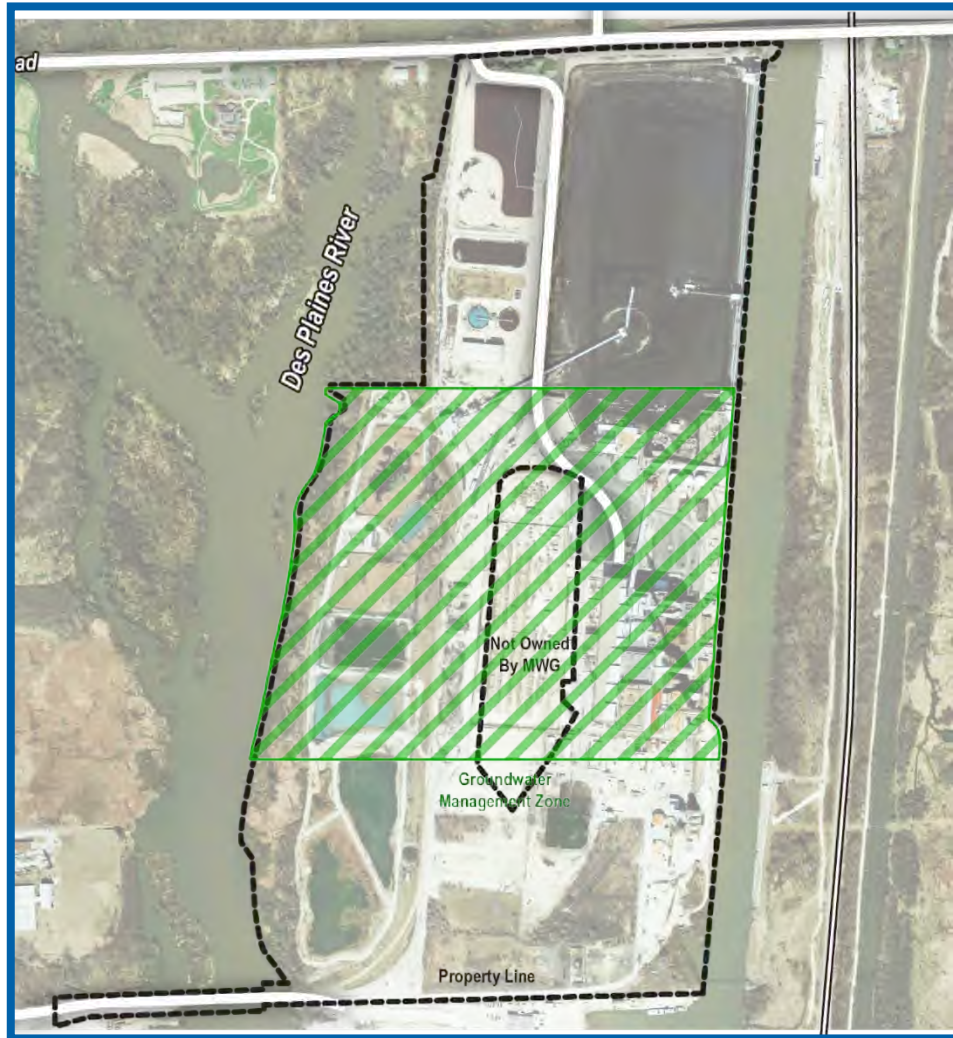
# Will County - Ongoing Groundwater Monitoring

- Quarterly sampling of established groundwater monitoring network since CCA implemented in 2012
- 10 MWs x 34 constituents 4x per year
- Also to comply with Federal CCR Rules and IL CCR Rules
- Groundwater flow predominantly from mid-site to the west, towards Des Plaines River





# Will County - GMZ and ELUC





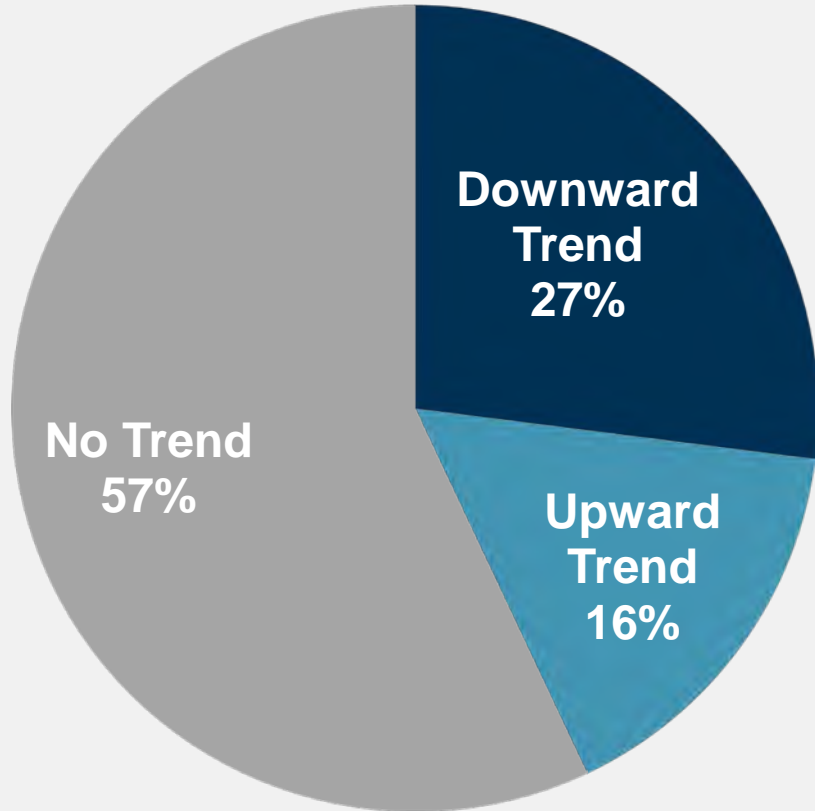
# Will County - Potential Receptors

- **Onsite and Surrounding Industrial Land Use**
  - Industrial land use expected onsite into the foreseeable future
  - Chicago Sanitary and Ship Canal to east
  - Des Plaines River to west
  - Hanson Materials/Lafarge to south
- **No potable use of shallow groundwater**
  - Previous water well search presented in Patrick Report on 2010 Hydrogeologic Investigation (2500 ft radius)
  - Prohibited by ELUC
  - GMZ established
- **Potential ecological receptors**
  - Des Plaines River to west



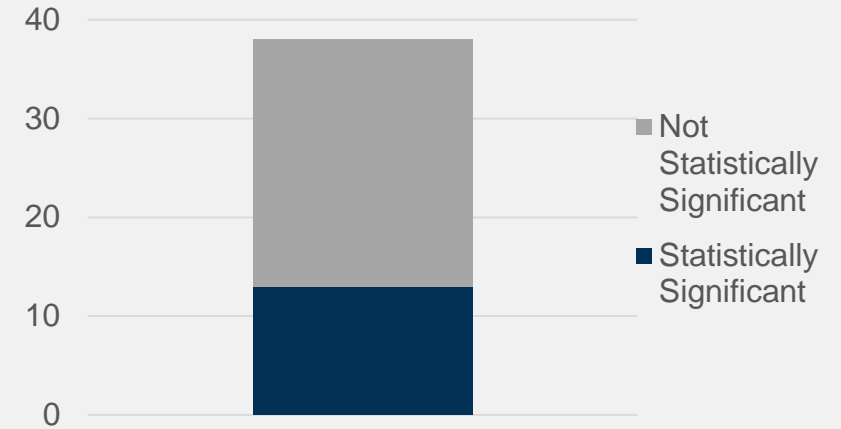


# Will County - Groundwater Trend Testing

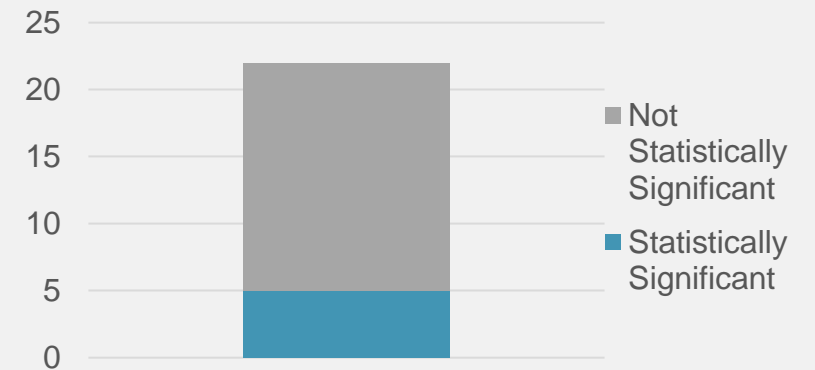


With the exception of chloride at MW-09, no well with stat. sig upward trend has ever exceeded a Class I GW standard.

## DOWNWARD TREND



## UPWARD TREND





# Will County - Groundwater to Surface Water Analysis

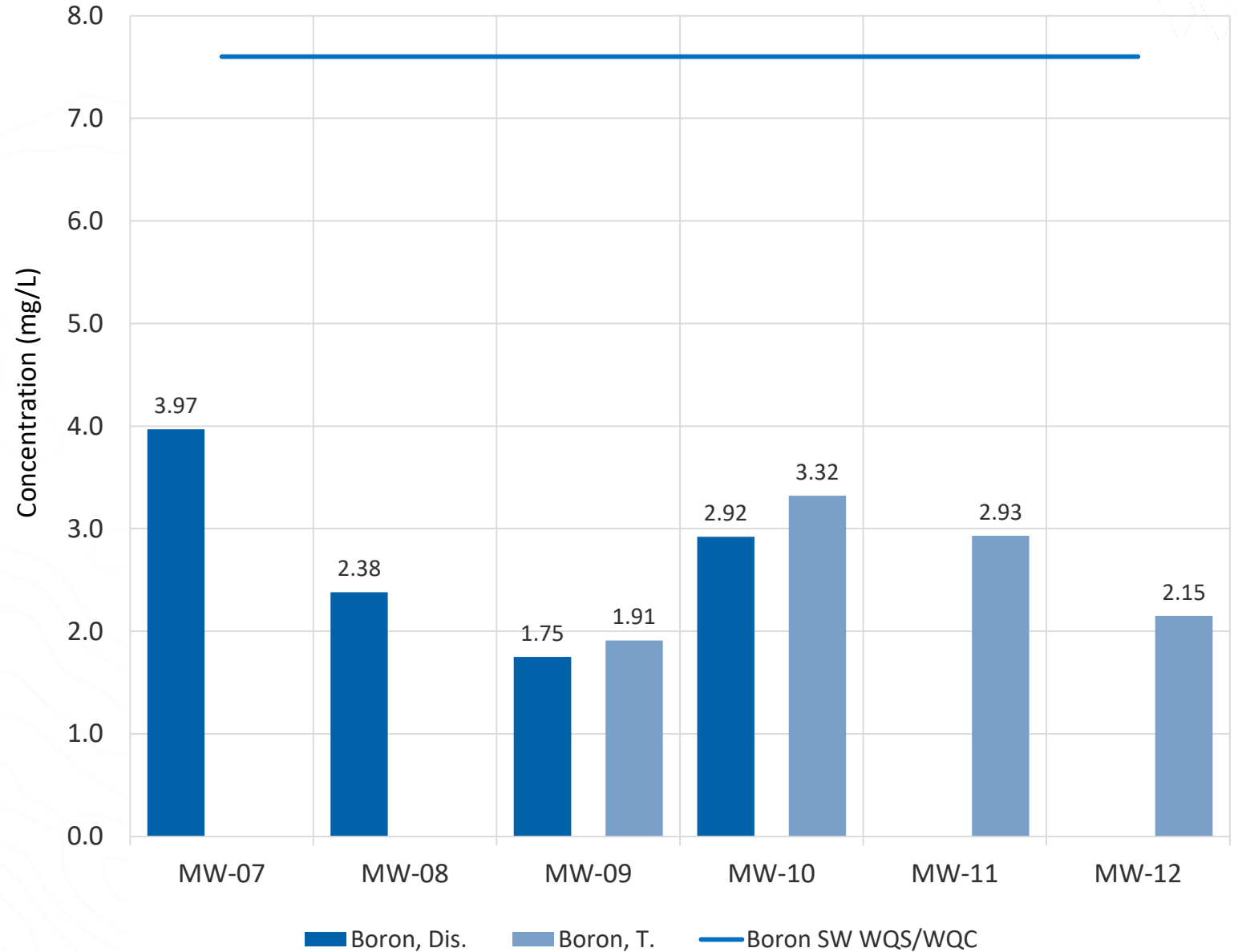




# **Will County - Groundwater to Surface Water Analysis**

- **Average groundwater concentrations from December 2010 to 4th Quarter 2020 as calculated by Sanitas™ Software**
- **Constituent non-detect in 75% or more samples; reporting limit presented as average**
- **CCR constituents from Appendices III and IV to 40 CFR Part 257**
- **Surface Water Standard (SWS) obtained from the Illinois General Use Water Quality Standards (WQS) as defined in 35 IAC 302, Subpart B or the Illinois Water Quality Criteria (WQC) - if no WQS.**

# Will County: Average Boron in Groundwater Compared to Surface Water Standards





# Will County - Summary

- **Background data from upgradient wells to assess regulated units**
  - Regular groundwater elevation contour maps
  - No evidence of groundwater flow from ponds to upgradient wells
  - Units to close
- **Trend testing at downgradient MWs indicates improving groundwater quality over long term**
  - Downward trends expected to continue, given station no longer burns coal and ponds being closed
- **No unacceptable risk to onsite or offsite potential receptors**



# **Will County - Summary**

- **Continue to follow Federal/State CCR Rules**
- **Continue regular groundwater monitoring under CCR rules**
- **Implement closure of CCR Surface Impoundments**
- **Comply with potential new Federal or State regulations for historic fill areas**



# Waukegan Station



# Waukegan - Background + Setting

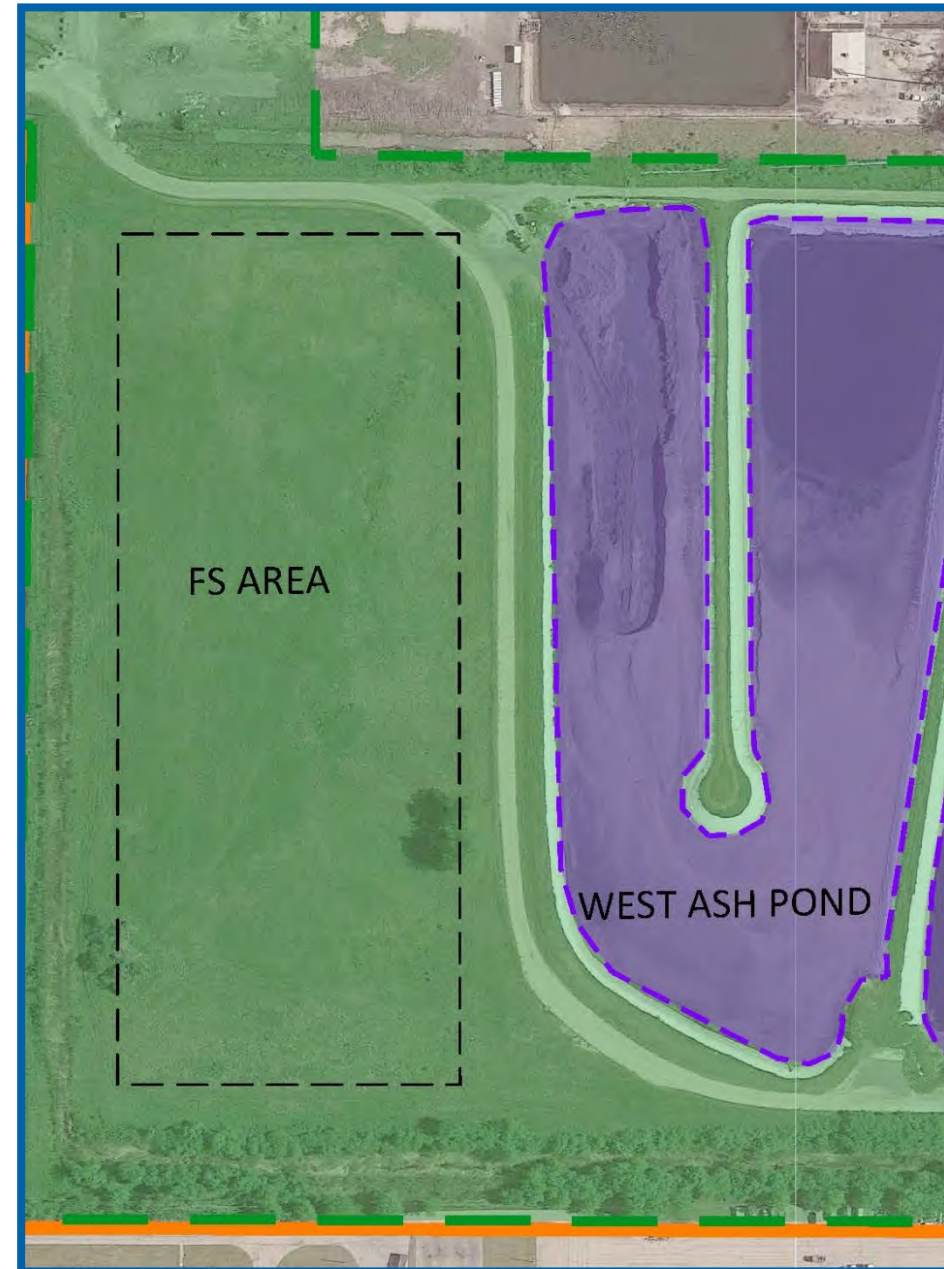
- Began operation in 1923
- MWG acquired in 1999
- Ceased burning coal June 2022
- Surrounding area used for industrial purposes since 1930
  - Superfund site to the north
  - Former Greiss-Pfleger Leather Tanning Facility to the west
  - Sewage plant to the south









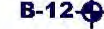

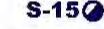





# Waukegan – Alleged Historic Fill Area Former Slag Area (aka FS Area)



# Waukegan County - Investigation Locations

## LEGEND

-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE, IN ADDITION, FOLLOWING CURRENT LAKE SHORE LINE)
-  APPROXIMATE CCR PONDS
-  POND SUBJECT TO FEDERAL AND STATE CCR RULES
-  **MW-2** PATRICK 2010 HYDRO ASSESSMENT/KPRG 2010-2014 CCR APPROX. MONITORING WELL LOCATION (PER KPRG MAP, 11/2020)
-  **B-12** ENSR 1998 PHASE II ESA APPROXIMATE BORING LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **MW-5** ENSR 1998 PHASE II ESA APPROXIMATE MONITORING WELL LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **S-15** ENSR 1998 PHASE II ESA APPROXIMATE SURFACE SOIL SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **X-8** ENSR 1998 PHASE II ESA APPROXIMATE SEDIMENT SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **A4** KPRG 2020 INVESTIGATION APPROXIMATE SAMPLING LOCATION (PER RUETTIGER, TONELLI & ASSOC. INC. PLAN, 11/2020)
-  **WS-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)

## NOTES:

\* ASH AND WATER SAMPLES COLLECTED FROM THE EAST AND WEST ASH PONDS IN 2018 AS PART OF 2019 KPRG ASD. BOTTOM ASH SAMPLES (BOTTOM ASH-1, BOTTOM ASH-2, AND BOTTOM ASH1/2) COLLECTED FROM EAST AND WEST ASH PONDS AS PART OF KPRG 2004 SAMPLING.





# Waukegan - Investigations

- **1998** Phase II Environmental Site Assessment by ENSR (due diligence, prior to MWG acquisition of station)
- **2005** Geotechnical Investigation by KPRG
- **2010** Hydrogeologic Assessment by Patrick Engineering
- **2020** FS Area Investigation by KPRG
- Ongoing groundwater monitoring under CCR Rules and CCA

# Waukegan – 1998 Phase II ESA

- 22 soil borings, 5 MWs, 13 surface soil, 6 sediment samples
- **B-22: northern portion of FS Area (coal/ash):**
  - Other than arsenic, RCRA metals in soil below TACO Tier 1 SRO
  - Arsenic 14 mg/kg (TACO SRO=13 mg/kg)
- **Groundwater ingestion not a concern** (no potable wells)
- **Based on industrial land use/low potential for human exposure to constituents of concern**
- **No requirement under Illinois environmental law to further investigate or remediate this property**



# Waukegan - Upgradient Sources

Former tannery  
and General  
Boiler causing  
GW  
contamination on  
MWG property



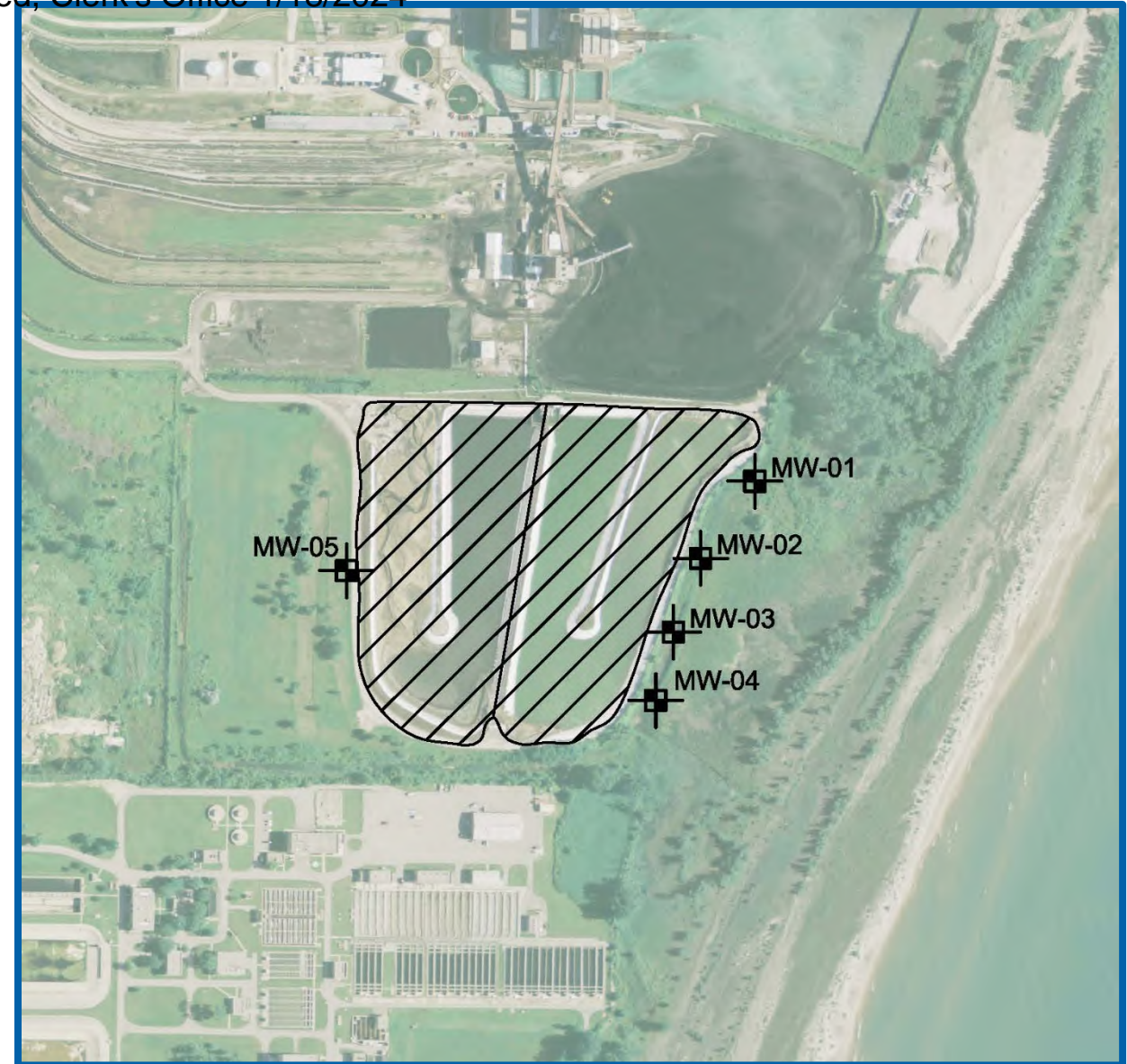
# Waukegan – 2005 Geotechnical Investigation By KPRG

- Provide information on physical characteristics of soils



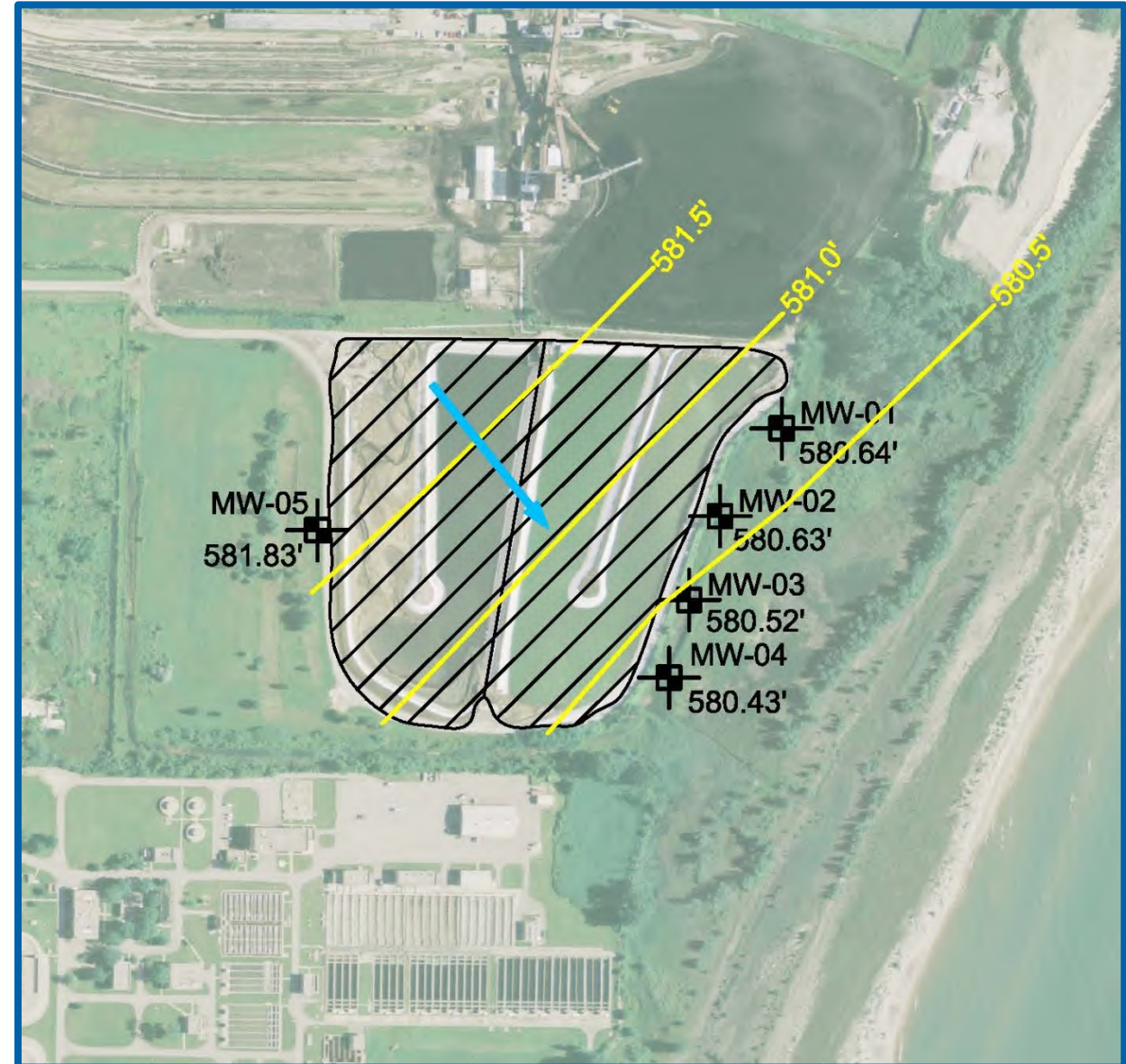
# Waukegan – 2010 Hydrogeologic Investigation

- Voluntary investigation pre-CCR regulations
- Installation of 5 MWs
- Groundwater samples collected
- 14 potential CCR-related analytes not detected
- Antimony, arsenic, boron above Part 620 Class I GWQS downgradient
  - Only one sampling event
- Upgradient concentrations > Class I GWQS
  - B, Mn, SO<sub>4</sub>, TDS



## Waukegan – 2010 Hydrogeologic Investigation (cont.)

- Lithology predominantly sand and silt underlain by sand and gravel
- Uppermost groundwater unit at depths ranging from 22 to 23 feet bgs
- Direction of groundwater flow: southeast toward Lake Michigan
- Water Well Search (2500 ft radius)
  - No potable wells downgradient of ash ponds (between ponds and L. Michigan)





# Waukegan – 2020 FS Area Investigation

- 40 probes 1,000' x 400' grid
- Coal ash ranging from near ground to 7-17 ft. below ground
- Natural pH LEAF for various metals associated with CCR
- Natural pH LEAF concentrations below Class I GQQS, except:
  - Boron at 3 locations
  - Arsenic at 1 location



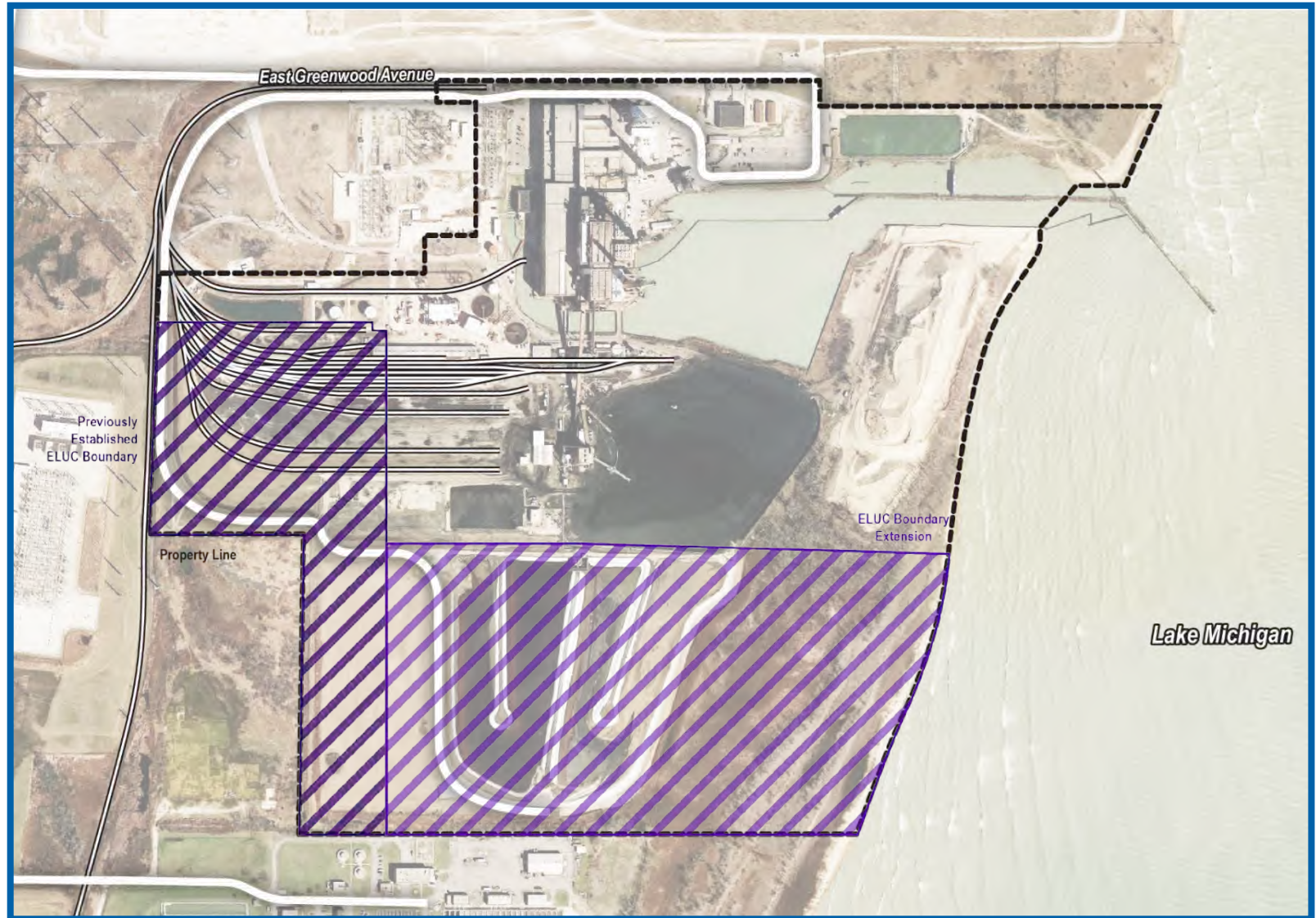


# Waukegan – Ongoing Groundwater Monitoring

- **12 monitoring wells installed around ponds and FS Area**
- **Federal Appendix III (detection) constituents**
- **Federal Appendix IV (assessment) constituents**
- **Constituents required by IL CCR Rules (both detection and assessment constituents)**
- **Quarterly monitoring since CCAs implemented in 2012**
- **Sampling/analysis of 34 constituents 4x per year x 12 MWs**

# Waukegan - ELUC

- ELUC on west side to address off-site groundwater impacts (ComEd Former Tannery)
- ELUC on east side established pursuant to 2012 CCA



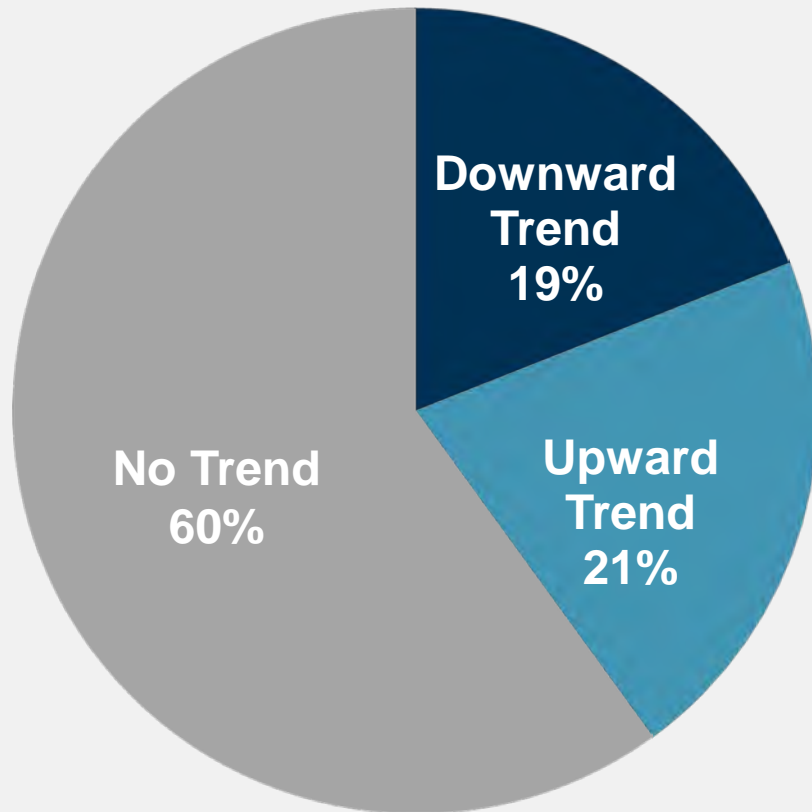


# Waukegan - Potential Receptors

- **Surrounding Industrial Land Use**
  - Superfund site to the north
  - Former Greiss-Pfleger Leather Tanning Facility and General Boiler to the west
  - Known contamination migrating on to Station property
  - Sewage plant to the south
- **No potable use of groundwater**
  - Water well search in Patrick 2010 Hydrogeologic Report
  - Prohibited by ELUC
- **Potential ecological receptors**
  - Lake Michigan located to the East

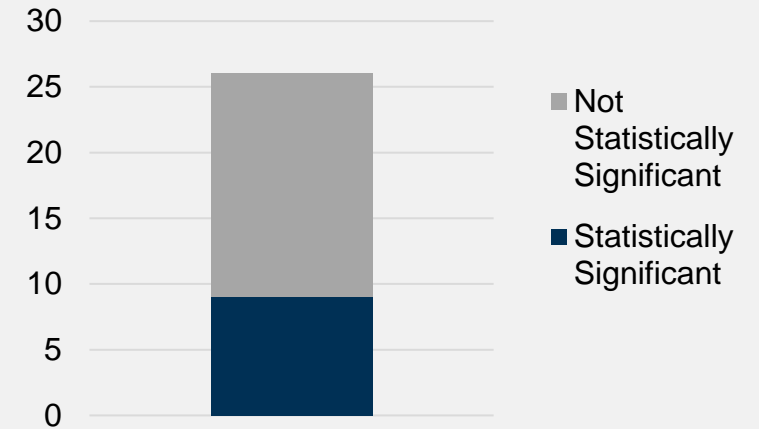


## b. Waukegan - Groundwater Trend Testing

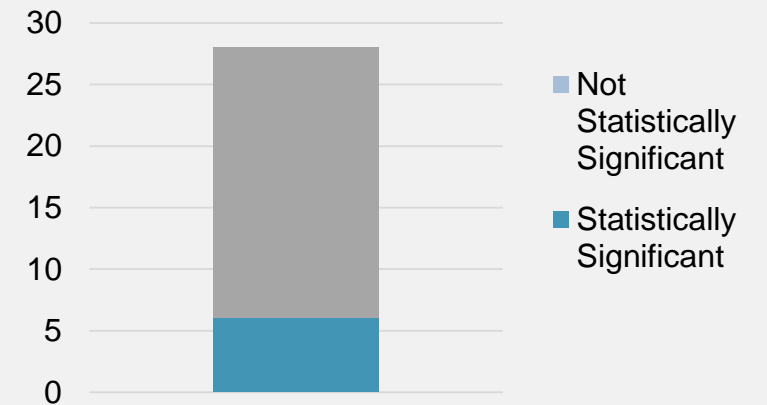


With the exception of boron at MW-2, no well with stat. sig upward trend has ever exceeded Class I GW standard.

### DOWNWARD TREND



### UPWARD TREND



# c. Waukegan - Potential Groundwater Impact to Surface Water Analysis



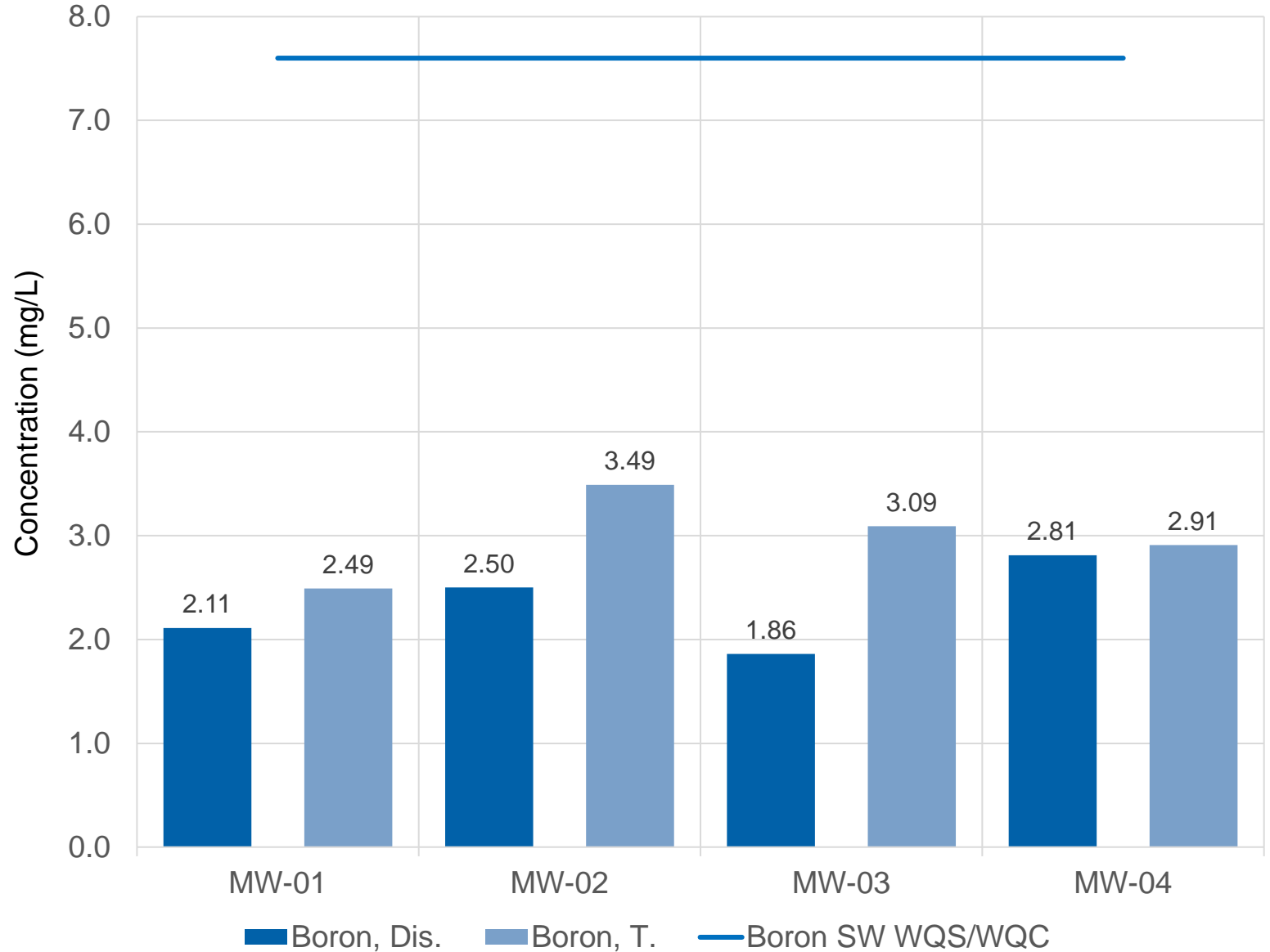


# Waukegan - Groundwater to Surface Water Analysis

- **Average groundwater concentrations from December 2010 to Q4 2020 as calculated by Sanitas™ Software**
- **Constituent non-detect in 75% or more samples; reporting limit presented as average**
- **Constituents analyzed are CCR constituents from Appendices III and IV to 40 CFR Part 257**
- **Surface Water Standard (SWS) obtained from the Illinois General Use Water Quality Standards (WQS) as defined in 35 IAC 302, Subpart B or the Illinois Water Quality Criteria (WQC) - if no WQS.**



# Waukegan: Average Boron in Groundwater Compared to Surface Water Standards







## Waukegan - Summary

- **Background data from upgradient wells appropriate to assess if regulated units impacting groundwater**
  - Regular groundwater elevation contour maps
  - No evidence of groundwater flow from ponds to upgradient wells
  - Units to be closed/repurposed
- **Trend testing of downgradient groundwater quality data indicates slightly more upward trends than downward**
  - Not entirely unexpected, given presence of off-site/upgradient impacts and uncapped FS Area
  - Remedy warranted for FS Area, so that a GMZ can be instituted
- **No unacceptable risk to onsite or offsite potential receptors**



# Waukegan - Summary

- **Continue to follow Federal/State CCR Impoundment Rules**
- **Continue groundwater monitoring**
- **Implement closure/repurpose of surface water impoundments**
- **Presumptive Remedy for FS Area**
- **Comply with potential new Federal/State regulations for historic fill areas**



# Waukegan - Presumptive Remedy: Low Permeability Cap over FS Area

- **Common closure option**
- **Cap will effectively eliminate infiltration through CCR above water table**
  - Hydrologic Evaluation of Landfill Performance (HELP) Model
  - Existing Conditions: 0.4 inches infiltration to groundwater per year
  - Proposed cap: 0.0003 inches infiltration per year (99.9% reduction)
- **Reduce time required for natural attenuation to return groundwater concentrations to Class I Groundwater Standards**
- **Pending State/Federal historic fill area rules**



# Conclusions/Opinions



## **Appropriate Action/Remedy**

- **Continue ongoing groundwater monitoring under Federal/State CCR Rules**
- **Close/retrofit surface impoundments under CCR rules**
- **Continue monitoring under CCAs for GMZs**
- **Continue evaluation of MNA**
- **Maintain institutional controls**
- **Presumptive remedy – Waukegan FS Area**
- **New regulations related to historic fill areas**



# Character/degree injury

- **Longevity and location:**
  - Stations at current locations for decades
    - 50+ years - Joliet 29/Will County
    - 100+ years - Powerton/Waukegan
  - Waukegan Station surrounded by sites with known contamination, including multiple Superfund sites
  - IL SRP site adjoining Joliet 29 Station
  - Aggregate/cement site adjoining Will County Station and CITGO Petroleum Refinery across Romeo Rd. to NE
  - Powerton located in primarily industrial area



# Technical Practicability/Economic Reasonableness

- **Recommended actions are consistent with well-established Illinois TACO Regulations**
  - Typically remedy assessment per IL regulations
  - Trend testing, risk analysis and institutional controls
- **Monitoring and controls per CCR Rules**
- **Alternate remedies considered**
- **Proposed ash fill area rules**



# Subsequent Compliance/Due Diligence

- **MWG voluntarily began investigation shortly after assuming operations**
- **MWG voluntarily agreed to install monitoring wells and conduct hydrogeologic investigation to cooperate with IEPA**
- **MWG voluntarily entered CCAs at each station in 2012**
- **MWG relined ponds prior to CCR rules**
- **Actively complying with CCA monitoring**
- **No enforcement action from Agency since CCAs instituted**





# Duration/Gravity

- **MWG's voluntary work under CCAs led to GMZs to allow MNA**
- **Limited duration**
- **Comparison of groundwater data to surface water standards – no observed risk**
- **ELUCs preclude future exposure**
- **No downgradient receptors for potable groundwater**
- **Section 12(d) violation at Powerton brief duration (2-3 months) during winter months**

Station	Unit	Still Rec CCR?	CCR Reg Status	Electronic Filing: Received	Current Closure/OP Plans*	Comments	GW Mon Program	ASD	
<b>Joliet 29</b> (not burned coal since 2016) (possible cease burning nat gas 2023)	Pond 1	N	NA	Poz 1978	HDPE 2008 protection, warning layers	NA	CCR removed before Oct 2015 2020 study: no CCR present, IPCB affirmed inapplicability	CCA	NA
	Pond 2	N	Fed and State	Poz 1978	HDPE 2008 protection, warning layers	Pond Closure: Decon liner and repurpose pond for stormwater	CCR removed by Nov 2019 Adj Std Ap Pending before IPCB	Detection (CCR) and CCA	2021 (Cl, TDS, SO4)
	Pond 3	N	NA	Poz 1978	HDPE 2013 protection, warning layers	NA	Never rec'd CCR 2020 study: no CCR present, IPCB affirmed inapplicability	CCA	NA
<b>Powerton</b>	Ash Surge Basin	Y (ACD)	Fed and State	Poz bottom, hypalon sides, 1978	HDPE 2013 protection, warning layers	Retrofit dual liner/leachate collection system	Primary basin used for CCR mgmt.	Assessment (CCR) and CCA	2018 (Ap III) 2019 (As, Ba, Mo, Se, Th)
	Ash Bypass Basin	N	Fed and State	Poz bottom, hypalon sides, 1978	HDPE 2010 protection, warning layers	Retrofit dual liner/leachate collection system	Only used when ASB emptied	Assessment (CCR) and CCA	2018 (Ap III) 2019 (As, Ba, Mo, Se, Th)
	Metal Cleaning Basin	Limited use for process water - no comingled ash/water	State	Poz bottom, hypalon sides, 1978	HDPE 2010 protection, warning layers	Retrofit dual liner/leachate collection system	Not part of sluice system - used during outages as temp lay-down for dry ash. Occasionally holds process water	CCA/CCR	NA
	Secondary Ash Basin/Service Water Basin	N (Received no ash)	NA	Hypalon, before 1999	HDPE 2013 protection layers	NA	Finishing pond, Underdrain system Not intended to be regularly cleaned 2020 Study: material not CCR	CCA	NA
	Former Ash Basin (FAB)	N	Fed and State	NA	NA	North: closure by removal South: closure in-place	Bifurcated by on-site rail. CCR from north consolidated with south. IPCB found not a source.	Assessment (CCR) and CCA	NA
	Limestone Runoff Basin	N	NA	Poz bottom, hypalon sides, 1978	NA	NA	Not used for CCR since 2013 (unused and empty).	CCA	NA
	East Yard Runoff Basin	N	NA	NA	NA	NA	Used for stormwater runoff from east half of station	CCA	NA
<b>Waukegan</b> (no longer burns coal as of June 2022)	East Pond	N	Fed and State	Hypalon, 1977	HDPE 2003 protection, warning layers	Cap In-Place (35 IAC 845.750 and 257.102)	ACD	Detection (CCR) and modified CCA	2018 (B, pH, SO4)
	West Pond	N	Fed and State	Hypalon, 1977	HDPE 2004 protection, warning layers	Pond Closure: Decon liner and repurpose pond	Adj Std Ap pending before IPCB	Detection (CCR) and modified CCA	2018 (B, pH, SO4)
<b>Will Co.</b> (no longer burns coal as of June 2022)	Pond 1N	N	State	Poz 1977	Dewatering System 2013	Cap In-Place (35 IAC 845.750)	Not used since 2010. System designed to drain surface water-CCA.	CCA/CCR	NA
	Pond 1S	N	State	Poz 1977	Dewatering System 2013	Cap In-Place (35 IAC 845.750)	Not used since 2010. System designed to drain surface water-CCA.	CCA/CCR	NA
	Pond 2S	N	Fed and State	Poz 1977	HDPE 2013 protection, warning layers	Cap In-Place (257.102 and 35 IAC 845.750)	ACD withdrawn	Assessment (CCR) and CCA	2018 (Cl, F, TDS)
	Pond 3S	N	Fed and State	Poz 1977	HDPE 2009 protection, warning layers	Cap In-Place (257.102 and 35 IAC 845.750)		Assessment (CCR) and CCA	2018 (Cl, F, TDS)

\*IEPA Construction Permit needed to perform pond closures. No action from IEPA on Permit Applications to date.

LEAF: Leaching Environmental Assessment Framework

ACD: Alternate Closure Demonstration

Poz: Poz-o-Pac

NLET: Neutral Leaching Extraction Test

CCR: Coal Combustion Residuals

HDPE: High Density Polyethylene

ASD: Alternate Source Demonstration

Electronic Filing: Received, Clerk's Office 1/18/2024

2022 Sediment Sampling/Analysis - Des Plaines River

Downstream (nearest ponds)

to

Upstream (towards Brandon Rd.)

	BR-2021-110	BR-2021-109	BR-2021-108	BR-2021-107	BR-2021-106	BR-2021-105	BR-2021-104	BR-2021-103	BR-2021-102	BR-2021-101	BR-2021-100
Arsenic*	<1.33	<1.31	<1.41	<1.27	<1.31	<1.33	<1.14	<1.18	<1.43	<1.32	<1.32
Cadmium*	<0.133	0.624	0.277	0.306	0.216	0.21	0.171	<0.118	<0.143	<0.132	<0.132
Chromium*	2.98	6.52	5.29	5.48	5.86	6.13	3.0	4.78	44.1	3.04	13.5
Copper	<1.33	6.48	6.05	9.68	5.08	7.98	3.83	3.87	4.34	1.36	9.98
Lead*	2.27	23	13.4	14.8	17.9	13.6	5.0	21.3	154	3.51	111
Mercury*	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Nickel	2.8	7.84	6.5	4.22	4.56	4.66	1.95	3.67	3.19	2.03	9.65
Silver	<1.33	<1.31	<1.41	<1.27	<1.31	<1.33	<1.14	<1.18	<1.43	<1.32	<1.32
Zinc	6.89	56.7	28.4	31.9	29.8	41.4	19.1	37.3	28.9	11	46.4

Units: mg/kg

Threshold Effect-Concentration (TEC) and Probable Effect Concentration (PEC)

	TEC	PEC
Arsenic*	9.79	33
Cadmium*	0.99	4.98
Chromium*	43.4	111
Copper	31.6	149
Lead*	35.8	128
Mercury*	0.18	1.06
Nickel	22.7	48.6
Silver	-	-
Zinc	121	459

Source: Table 7A, Appendix C, 2008 Pre-filed Burton Testimony, PCB 02-08

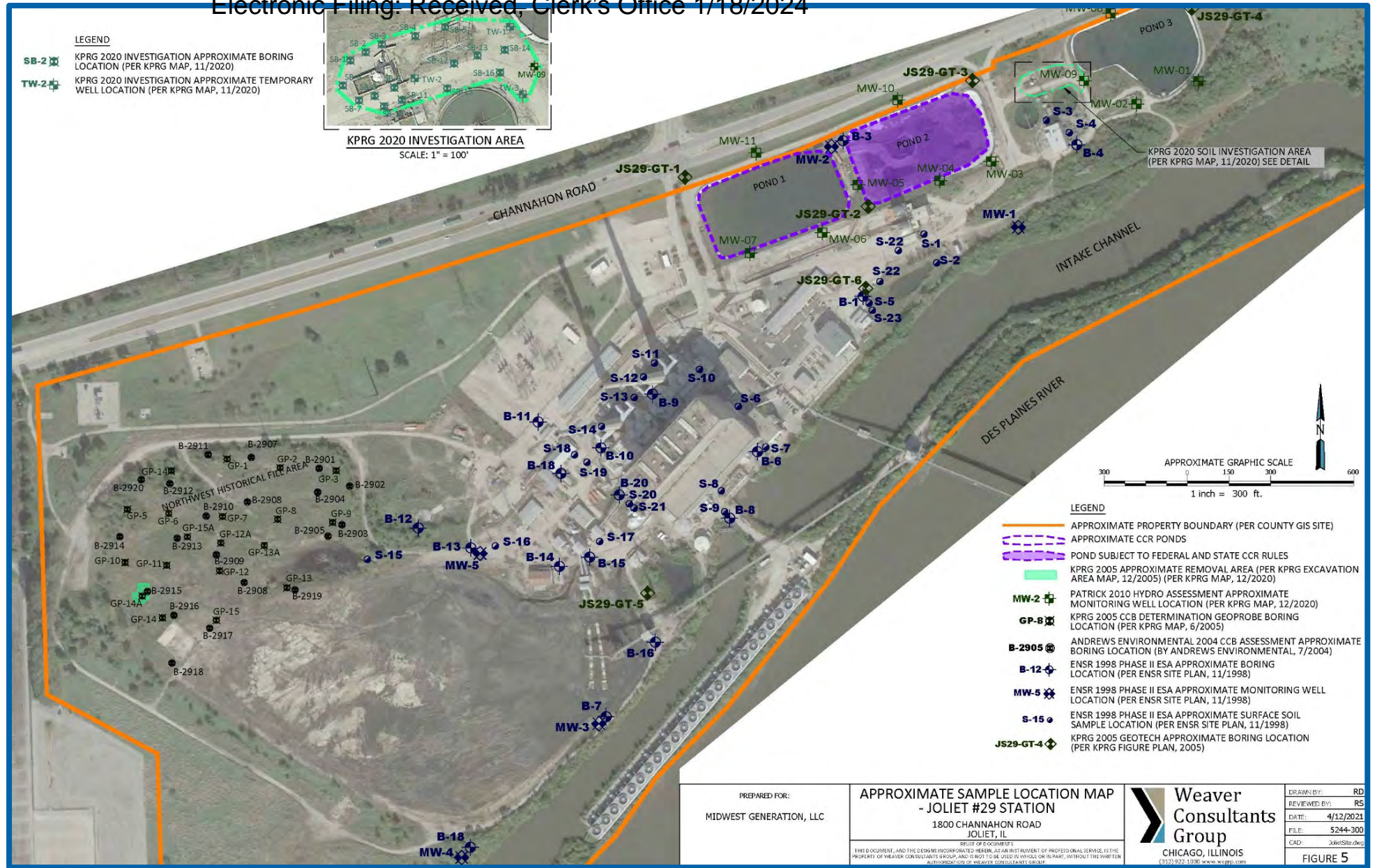
Units: mg/kg

\*CCR constituent under 35 IAC 845.

# **APPENDIX E**





## **SAMPLE LOCATION MAPS**

# Joliet 29 Investigation Locations




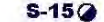





# Powerton - Investigation Locations

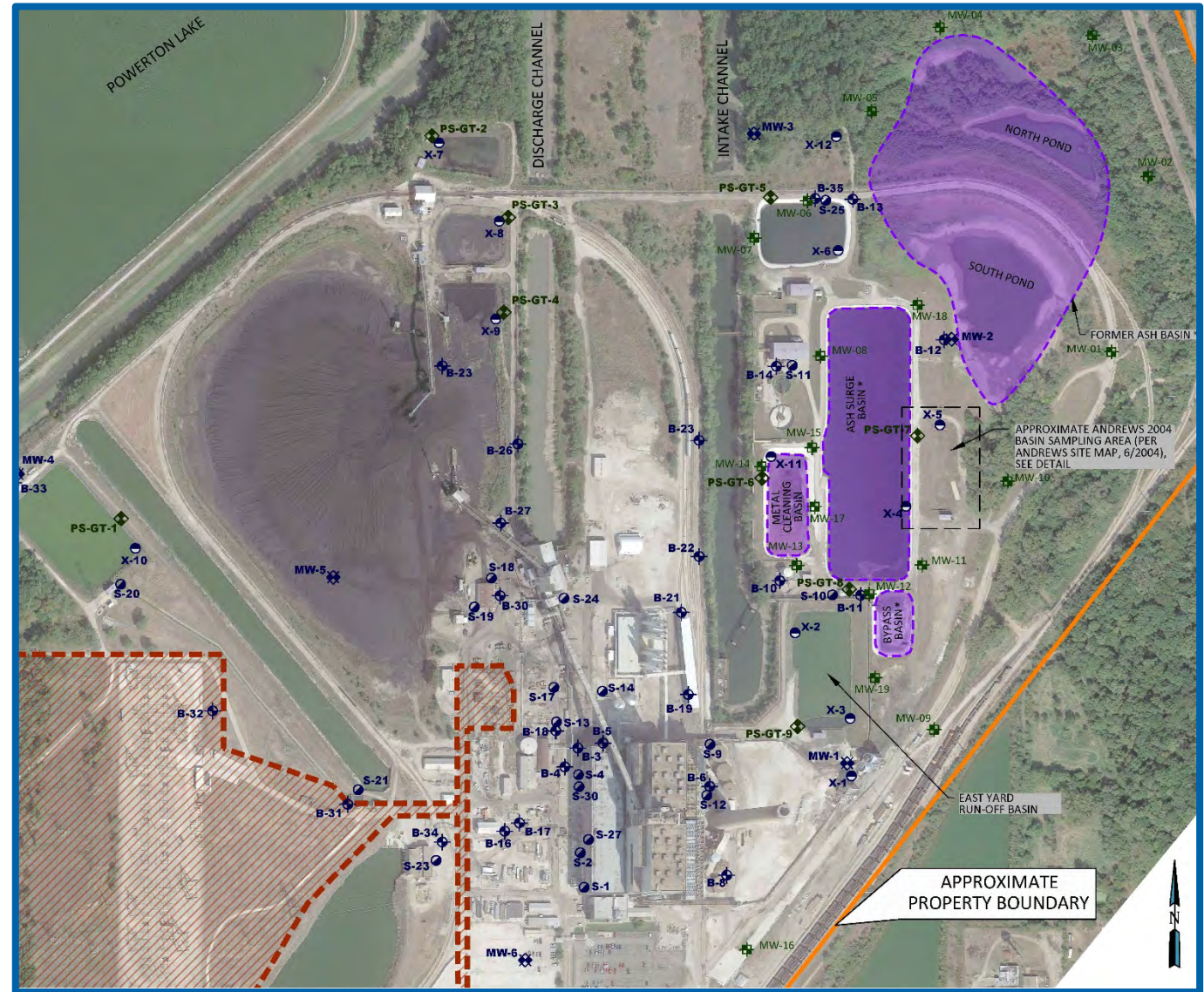
**LEGEND**

-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE)
-  PROPERTY NOT OWNED BY MWG
-  APPROXIMATE CCR PONDS
-  POND SUBJECT TO FEDERAL AND/OR STATE CCR RULES

NOTE: ASH SURGE BASIN, BYPASS BASIN, AND FORMER ASH BASIN ARE SUBJECT TO FEDERAL AND STATE CCR RULES. METAL CLEANING BASIN IS SUBJECT TO STATE CCR RULES.






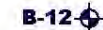




-  **MW-2** PATRICK 2010 HYDRO ASSESSMENT/KPRG 2012-2019 CCR APPROXIMATE MONITORING WELL LOCATION (PER KPRG MAP, 12/2020)
-  **B-12** ENSR 1998 PHASE II ESA APPROXIMATE BORING LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **MW-5** ENSR 1998 PHASE II ESA APPROXIMATE MONITORING WELL LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **S-15** ENSR 1998 PHASE II ESA APPROXIMATE SURFACE SOIL SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **X-8** ENSR 1998 PHASE II ESA APPROXIMATE SEDIMENT SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  ANDREWS 2004 BASIN SAMPLING APPROXIMATE TEST PIT LOCATION (PER ANDREWS SITE MAP, 6/2004)
-  **PS-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)

NOTE:  
 \* ASH AND WATER SAMPLES COLLECTED FROM THE BYPASS BASIN AND ASH SURGE BASIN IN 2018 AND 2019 AS PART OF 2019 AND 2020 KPRG ASDs.



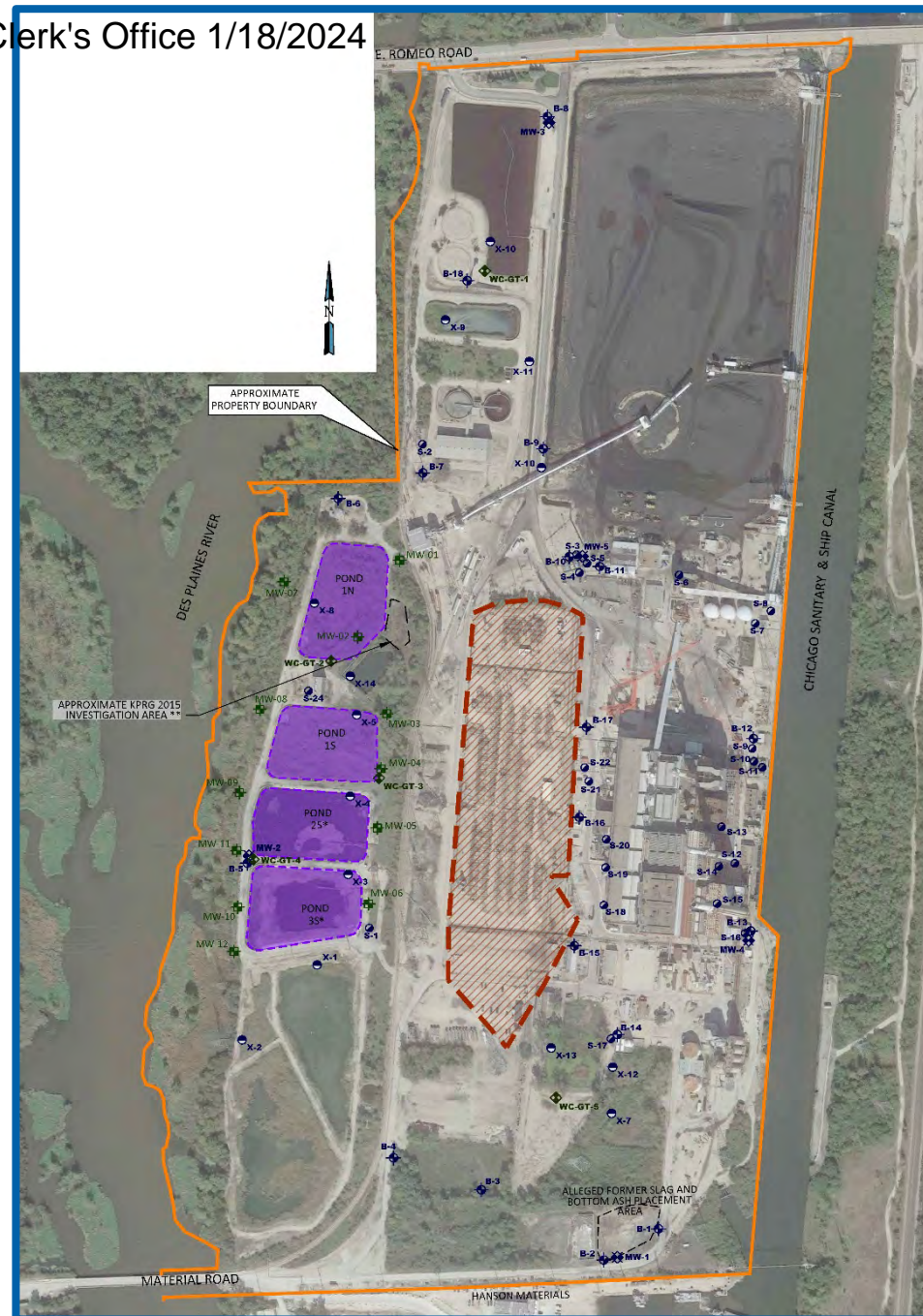
# Will County - Investigation Locations

## LEGEND

-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE)
-  PROPERTY NOT OWNED BY MWG
-  APPROXIMATE CCR PONDS
-  PONDS SUBJECT TO FEDERAL AND/OR STATE CCR RULES
- NOTE: POND 2S AND POND 3S ARE SUBJECT TO FEDERAL AND STATE CCR RULES. POND 1N AND POND 1S ARE SUBJECT TO STATE CCR RULES.
-  **MW-2** PATRICK 2010 HYDRO ASSESSMENT/ KPRG 2015 CCR APPROX. MONITORING WELL LOCATION (PER KPRG MAP, 12/2020)
-  **B-12** ENSR 1998 PHASE II ESA APPROXIMATE BORING LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **MW-5** ENSR 1998 PHASE II ESA APPROXIMATE MONITORING WELL LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **S-15** ENSR 1998 PHASE II ESA APPROXIMATE SURFACE SOIL SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **X-8** ENSR 1998 PHASE II ESA APPROXIMATE SEDIMENT SAMPLE LOCATION (PER ENSR SITE PLAN, 11/1998)
-  **WC-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)











## NOTES:

- \* ASH AND WATER SAMPLES COLLECTED FROM POND 2S AND POND 3S IN 2018 AS PART OF 2019 KPRG ASD.
- \*\* COAL ASH SAMPLES COLLECTED FROM THIS AREA FROM 20 BORINGS (A1 TO D7) AS PART OF 2014 KPRG CCB DETERMINATION



# Waukegan County - Investigation Locations

## LEGEND

-  APPROXIMATE PROPERTY BOUNDARY (PER COUNTY GIS SITE, IN ADDITION, FOLLOWING CURRENT LAKE SHORE LINE)
-  APPROXIMATE CCR PONDS
-  POND SUBJECT TO FEDERAL AND STATE CCR RULES
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-  **A4** KPRG 2020 INVESTIGATION APPROXIMATE SAMPLING LOCATION (PER RUETTIGER, TONELLI & ASSOC. INC. PLAN, 11/2020)
-  **WS-GT-4** KPRG 2005 GEOTECH APPROXIMATE BORING LOCATION (PER KPRG FIGURE PLAN, 2005)

## NOTES:

\* ASH AND WATER SAMPLES COLLECTED FROM THE EAST AND WEST ASH PONDS IN 2018 AS PART OF 2019 KPRG ASD. BOTTOM ASH SAMPLES (BOTTOM ASH-1, BOTTOM ASH-2, AND BOTTOM ASH1/2) COLLECTED FROM EAST AND WEST ASH PONDS AS PART OF KPRG 2004 SAMPLING.





## **APPENDIX F**

**PEOPLE v. LINCOLN, LTD, et. al.**

**2012 IL App. (1st) 190317-U**

**Attached pursuant to IL Supreme Court Rule 23(e)**

2021 IL App (1st) 190317-U

FIRST DIVISION  
November 5, 2021

Nos. 1-19-0317 & 1-19-0377 (cons.)

**NOTICE:** This order was filed under Supreme Court Rule 23 and is not precedent except in the limited circumstances allowed under Rule 23(e)(1).

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IN THE  
APPELLATE COURT OF ILLINOIS  
FIRST DISTRICT

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PEOPLE OF THE STATE OF ILLINOIS *ex rel.* )  
KWAME RAOUL, Attorney General of the State )  
of Illinois, )  
 )  
Plaintiff-Appellee, )  
 )  
v. )  
 )  
LINCOLN, LTD., an Illinois corporation, f/k/a TRI- )  
STATE INDUSTRIES, an Illinois corporation, JOHN )  
EINODER, an individual, LAND OF LINCOLN )  
DEVELOPMENT COMPANY, an Illinois corporation )  
f/k/a Composting Corporation of America, DONALD P. )  
CLARKE, an individual, LESLIE E. CLARKE, an )  
individual, and VINCENT CAINKAR, an individual, )  
 )  
Defendants, )  
 )  
(Lincoln, Ltd., John Einoder, Land of Lincoln )  
Development Co., Donald P. Clarke, and Leslie E. Clark, )  
Defendants-Appellants; Village of Ford Heights, )  
Intervenor). )

Appeal from the  
Circuit Court of  
Cook County

No. 04 CH 12782

The Honorable  
David B. Atkins,  
Judge Presiding.

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PRESIDING JUSTICE PIERCE delivered the judgment of the court.  
Justice Coghlan\* concurred in the judgment.  
Presiding Justice Hyman dissented.

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\*Justice Griffin was originally assigned to participate in this case. Justice Coghlan was substituted on the panel after Justice Griffin's retirement and has read the briefs and record on appeal and listened to the recorded oral arguments.

**ORDER**

¶ 1 *Held:* The circuit court’s order for a mandatory injunction improperly imposed retroactive liability on defendants’ past conduct. The civil penalties imposed were unreasonable.

¶ 2 This is the third appeal from the parties’ dispute regarding liability for violations of the Illinois Environmental Protection Act (415 ILCS 5/1, *et seq* (West 2018)). On appeal, defendants challenge the circuit court’s order for a permanent mandatory injunction and civil penalties. For the following reasons, we reverse the judgment of the circuit court and remand for further proceedings.

¶ 3 I. BACKGROUND

¶ 4 Defendants Land of Lincoln Development Company, Donald P. Clarke, and Leslie E. Clarke (collectively, the “Owner defendants”), own the property in Ford Heights, Illinois, that is the subject of this dispute. Defendants Donald P. Clarke and Leslie E. Clarke are also shareholders of and officers in Land of Lincoln Development Company. Defendant Lincoln, Ltd. is the corporation that managed the dumping of waste at the property. John Einoder is the owner of Lincoln, Ltd. Collectively, Einoder and Lincoln, Ltd. are hereinafter referred to as the “Operator defendants.”

¶ 5 The background to this case was extensively detailed in the first two appellate opinions in this case. See *People ex rel. Madigan v. Lincoln, Ltd.*, 383 Ill. App. 3d. 198 (2008) (*Lincoln I*) and *People ex rel. Madigan v. Lincoln, Ltd.*, 2016 IL App (1st) 143487 (*Lincoln II*). Relevant to this appeal, a condensed version of the history of this case follows.

¶ 6 In 2002, pursuant to a written agreement between the parties, Lincoln began dumping clean construction or demolition debris (“CCDD”) at a property owned by the Owner defendants in Ford Heights, Illinois. The Operator defendants’ claimed purpose for this dumping was to later convert

the property into a snow sports facility. The Owner defendants received a share of the profits from the Operator defendants' dumping operation. The People of the State of Illinois filed this lawsuit in 2004, alleging the defendants' activities violated the Act. In the first appeal, we found the dumping of CCDD was considered "waste" under the Act and Lincoln was required to obtain a permit, and we remanded the case for further proceedings. See *Lincoln I*, 383 Ill. App. 3d 198.

¶ 7 After further litigation in the circuit court, the Owner defendants and the People filed cross-motions for summary judgment on the counts related to the Owner defendants' liability for the dumping of CCDD in violation of the Act. The trial court ruled in favor of the Owner defendants. The People appealed, and we affirmed in part and reversed in part the judgment of the circuit court. *Lincoln II*, 2016 IL App (1st) 143487.

¶ 8 In *Lincoln II*, this court held the Owner defendants were not liable for the violations the Operator defendants engaged in between 2002 and 2007 because the Operator defendants acted contrary to the parties' agreement and because the Owner defendants sought to stop the Operator defendants' activities through enforcement of their contractual rights. *Id.* ¶ 35. Although we "rejected the People's argument that [the Owner defendants] allowed open dumping of waste by failing to prevent or shutdown [the Operator defendants'] operations," we agreed that the Owner defendants were "abandoning or storing waste on [their] unpermitted property by failing to remediate the pollution." *Id.* ¶ 44. Accordingly, we held the Owner defendants were "required to remedy the storage or abandonment" of the illegal waste. *Id.* ¶ 56.

¶ 9 In *Lincoln II*, we "remand[ed] with directions regarding [the Owner defendants'] liability as the owner of currently polluted land." *Id.* ¶ 55. Specifically, we directed the circuit court to

“(1) order [the Operator defendants] to immediately remediate the property  
and (2) quickly conclude the issue of [the Operator defendants'] civil

penalties and fines. In addition, if [the Operator defendants] fails to remediate the pollution in a timely manner, we direct the circuit court to order [the Owner defendants] to take over that task. Ultimately, [the Owner defendants are] fully protected by the circuit court's indemnification order in its favor, which was not appealed. \*\*\* We leave any issues regarding the imposition of costs, penalties, and fines against [the Operator defendants] and/or [the Owner defendants] to the circuit court." *Id.* ¶ 56.

The scope of our mandate in *Lincoln II* is disputed by the People and the Owner defendants on appeal.

¶ 10 On remand, the People filed memoranda in support of their request for permanent mandatory injunctive relief and the imposition of fines and penalties against the Owner defendants and the Operator defendants. After briefing, the circuit court ordered prohibitory and mandatory injunctive relief against all defendants requiring the defendants to (1) develop and implement a plan for the removal of all CCDD at the property, and (2) monitor and correct groundwater conditions if necessary. The Owner defendants moved to modify this order in light of our decision in *Lincoln II*. The circuit court modified its order *nunc pro tunc*, directing the injunctive relief to issue against the Operator defendants only. After the Operator defendants failed to implement the circuit court's order, the People moved the circuit court to require the Owner defendants to implement the injunctive relief. The circuit court allowed the motion.

¶ 11 On January 25, 2019, the circuit court entered a final and appealable judgment imposing a \$1,800,000 penalty against the Owner defendants and a \$6,000,000 penalty against the Operator defendants. The Owner defendants and the Operator defendants each timely appealed, and the appeals were consolidated.

¶ 12

## II. ANALYSIS

¶ 13

### A. Injunctive Remedy

¶ 14 On appeal, the Operator defendants challenge the circuit court's imposition of the mandatory permanent injunction on the grounds that the court applied section 42(e) of the Act to past conduct, in violation of our supreme court's decision in *People ex rel. Madigan v. J.T. Einoder, Inc.*, 2015 IL 117193. The Operator defendants argue that the mandatory injunction ordered by the circuit court involves the retroactive application of section 42(e) because it requires removal of all the waste dumped at the site, without distinction as to whether the waste was dumped before or after the 2004 amendment of section 42(e). We agree.

¶ 15 For the first two years the Operator defendants operated the illegal dumping site, only prohibitory injunctive relief was available under the Act. At that time, section 42(e) of the Act provided that "the Attorney General, may \*\*\* institute a civil action for an injunction to restrain violations of this Act." 415 ILCS 5/42(e) (West 2002). Effective July 28, 2004, the Act was amended to state that "the Attorney General, may \*\*\* institute a civil action for an injunction, prohibitory *or mandatory*, to restrain violations of this Act \*\*\* or to require such other actions as may be necessary to address violations of this Act \*\*\*." (Emphasis added.) 415 ILCS 5/42(e) (West 2018).

¶ 16 Our supreme court has held that the amended version of section 42(e) providing for mandatory injunctive relief cannot be applied retroactively to conduct that occurred prior to the amendment of the Act because to do so "would impose a new liability on defendants' past conduct." *People ex rel. Madigan v. J.T. Einoder, Inc.*, 2015 IL 117193, ¶ 36. In *J.T. Einoder*, the court considered the circuit court's order for cleanup of an illegal dump site operated by the defendants between 1995 and 2003. *Id.* ¶ 25. Although the dumping had ceased prior to the 2004

amendment of section 42(e), the circuit court entered a mandatory injunction for removal of the waste. *Id.* ¶¶ 19, 26. On appeal, our supreme found that the amendment to section 42(e) “create[d] an entirely new type of liability—a mandatory injunction—which was not available under the prior statute.” *Id.* ¶ 36. Accordingly, our supreme court found that the amended statute could not be applied to the defendants’ conduct that occurred prior to the amendment and reversed the circuit court’s order for a mandatory injunction. *Id.* ¶ 37.

¶ 17 We find that the circuit court here improperly applied section 42(e) retroactively to the Operator defendants’ pre-amendment conduct by ordering the removal of all waste from the property. It is undisputed that the Operator defendants’ illegal dumping operation began in 2002, was ongoing at the time of the 2004 amendment, and continued through 2007. The Operator defendants argue that much of the waste was dumped prior to 2004, and the removal order improperly imposes new liability for this dumping. Although the circuit court made no findings on this issue, the record reflects that the waste pile was approximately half its final volume around the time the amendment to section 42(e) became effective on July 28, 2004. Because the circuit court ordered removal of all the waste, without respect to when the waste was dumped in violation of the Act, the circuit court improperly applied the amended section 42(e) retroactively to the Operator defendants’ past conduct.

¶ 18 The People argue that the cleanup of the entire site may be ordered for violations that occurred and continued after 2004 because the waste pile is “undifferentiated.” We disagree. Consider for example the same set of facts, but that the Operator defendants dumped the waste into two piles, clearly divided based on when they were created, with one pile labeled pre-amendment and the other labeled post-amendment. At oral argument, the People argued liability is premised on the site or location that the waste was dumped, not the waste itself. Under the

People's theory, as long as the waste piles were dumped at the same site, the circuit court could order the cleanup of both piles without retroactively penalizing defendants' pre-amendment conduct. This is not so. Retroactivity would be implicated if the circuit court ordered the cleanup of just the pre-amendment pile. The retroactivity problem is not cured by the circuit court failing to distinguish between the pre- and post-amendment conduct in its mandatory injunction order.

¶ 19 To avoid implicating retroactivity, the circuit court must take evidence on whether the waste pile is indeed "undifferentiated" and whether the Operator defendants' dumping activities can be divided into pre- and post-amendment conduct. If the circuit court is unable to draw a distinction, the circuit court must consider other means of ordering remediation of the site that do not impose new liability on the defendants' pre-2004 dumping. As discussed further below, the circuit court should consider the practicality of ordering a partial cleanup of the property. We therefore reverse the order of the circuit court imposing a mandatory injunction for removal of the waste against the Operator defendants and remand for an evidentiary hearing.

¶ 20 Although the Owner defendants do not challenge the circuit court's application of the current version of the statute to their conduct, our ruling nevertheless affects the mandatory injunction entered against the Owner defendants. In *Lincoln II*, we held the Owner defendants' liability for remediation of the site was secondary to the Operator defendants', and that the Owner defendants should "take over" the remediation ordered by the circuit court in the event that the Operator defendants failed to complete it. *Lincoln II*, 2016 IL App (1st) 143487, ¶ 56. Because we reverse the circuit court's remediation order as to the Operator defendants, we must also reverse the circuit court's subsequent remediation order directed to the Owner defendants.

¶ 21 Both the Owner and Operator defendants also argue that the circuit court erred in issuing a mandatory injunction for the removal of waste from the property without conducting a hearing on



the feasibility of removal as a remedy. The People argue that no hearing was necessary because this court's mandate in *Lincoln II* required the circuit court to issue an injunction for removal of the waste from the property. The People also argue that under *People ex rel. Sherman v. Cryns*, 203 Ill. 2d 264, 277 (2003), the circuit court had no discretion to refuse their requested injunction.

¶ 22 First, we must clarify the scope of our mandate in *Lincoln II*. The circuit court expressed a belief that our mandate in *Lincoln II* required an order for removal of the waste from the property. This interpretation was erroneous. We did not order the circuit court to issue a mandatory injunction for removal of waste from the property, nor did we foreclose the possibility that another form of remediation might be directed by the circuit court. Rather, this court held that “if [the Operator defendants] fail[ed] to remediate the pollution in a timely manner,” the Owner defendants were “required to remedy the storage or abandonment of waste on its property by [the Operator defendants] \*\*\*.” *Lincoln II*, 2016 IL App (1st) 143487, ¶ 56. To the extent we discussed removal of the waste as the contemplated form of remediation in this case, we did not intend on finding removal was the only remedy available. The parties and the circuit court on remand are encouraged to design a remedy that is equitable and attainable within the confines of the law.

¶ 23 Next, we consider the People's argument that the circuit court had no discretion to deny their requested injunction. Under section 42(e) of the Act, the Attorney General is authorized to seek prohibitory or mandatory injunctive relief to restrain or address violations of the Act. 415 ILCS 5/42(e) (West 2018).<sup>1</sup> “An action for injunctive relief under [section 42 of the Act] is not governed by the usual equitable principles for a preliminary injunction.” *People v. Mika Timber Co., Inc.*, 221 Ill. App. 3d 192, 193 (1991). “Where, as here, the State or a governmental agency

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<sup>1</sup>As discussed, a prior version of the Act, in effect until 2004, allowed only prohibitory injunctions to restrain future violations of the Act. 415 ILCS 5/42(e) (West 2004). We have held that any mandatory injunction issued by the circuit court in this case may only be directed to conduct that occurred after the amendment of the statute.

is expressly authorized by statute to seek injunctive relief, the traditional equitable elements necessary to obtain an injunction need not be satisfied. [Citations].” *Cryns*, 203 Ill. 2d at 277. Because the violation of a statute implies injury to the public, the State “seeking the injunction need only show that the statute was violated and that the statute relied upon specifically allows injunctive relief.” *Id.* at 277-278. Accordingly, our supreme court in *Cryns* held that “[o]nce it has been established that a statute has been violated, no discretion is vested in the circuit court to refuse to grant the injunctive relief authorized by that statute.” *Id.* at 278.

¶ 24 We disagree with the People that the circuit court has no discretion to deny the People’s requested order where a statute authorizes injunctive relief. *Cryns* relieves the circuit court of the discretion to decide whether to issue an injunction where an injunction is authorized by statute. However, the circuit court is not required to enter verbatim the injunction requested by the People, without consideration of the appropriateness of the terms and conditions of the proposed order. When issuing an injunction authorized by statute, the circuit court retains its discretion to craft an injunctive remedy that reflects the facts of the case. The circuit court should take evidence and consider commonsense principles of feasibility and proportionality when entering the terms and conditions of its order. We therefore agree with defendants that the circuit court should have conducted an evidentiary hearing on the proposed remedy before entering the injunction.

¶ 25 The People proposed one method of remediation to the circuit court: removal of all the waste from the property. The parties agree that the People’s plan will cost \$100 million to be implemented over a period of seven years. The Owner and Operator defendants identified several questions as to the practicality of the People’s proposed remedy. For example, the Operator defendants argued that they would not be able to contract for the necessary services to complete the removal of the waste because their company is no longer operating or taking in revenue. The

Owner defendants argue that in addition to the financial burden, removal of the CCDD from the property will result in negative environmental effects, such as traffic congestion, air pollution, and groundwater contamination. These concerns must be developed at trial through expert testimony. The circuit court may also require evidence and argument from the intervenor, the Village of Ford Heights, to make its determination as to the best course of action.

¶ 26 The trial court should hold an evidentiary hearing to consider whether another remedy might impose a lesser environmental burden and be more financially viable. After a hearing, the circuit court may in fact find that the People's proposed remedy, modified to address the post-amendment dumping only, is the best course of action to address the violations at issue. But the circuit court may instead find that, in its discretion, it has determined that another type of injunctive remedy is more appropriate. In any event, the parties should be given the opportunity to present evidence on the issue of the appropriate injunctive relief to be issued, and the circuit court should weigh the evidence and exercise its discretion in fashioning an equitable remedy consistent with the facts and the law.

¶ 27 In summary, we find the circuit court was not required to order the People's requested remedy under our mandate in *Lincoln II* or under *Cryns*. Although the circuit court was required to grant the People's request for injunctive relief, the circuit court nonetheless retained the power to hold an evidentiary hearing to consider all relevant matters, including the defendants' arguments regarding the propriety and feasibility of the People's proposed remedy, in constructing the parameters of the injunction. Accordingly, we reverse and remand for the circuit court to hold a hearing on the appropriate remedy to be imposed in this case.

¶ 28

B. Civil Penalties

¶ 29 Finally, the Owner and Operator defendants challenge the circuit court's imposition of civil penalties against them.

¶ 30 Section 42(a) of the Act allows for monetary penalties of up to \$50,000 per violation and \$10,000 per day for each day the violation continues. 415 ILCS 5/42(a) (West 2018). In determining the penalty amount, the court may consider "any matters of record in mitigation or aggravation of penalty," including the statutory factors set forth in section 42(h) of the Act (*id.* § 42(h)). These factors include "the duration and gravity of the violation," any "economic benefits accrued by the respondent" because of the noncompliance, the presence of "due diligence" on the part of the respondent in attempting to comply with the Act, and the amount that would deter further violations and encourage voluntary compliance with the Act. *Id.* The Act requires that the penalty assessed be "at least as great as the economic benefits, if any, accrued by the respondent as a result of the violation, unless the \*\*\* imposition of such penalty would result in an arbitrary or unreasonable financial hardship." *Id.*

¶ 31 The penalty "must be commensurate with the seriousness of the infraction for which it is imposed." *Trilla Steel Drum Corp. v. Pollution Control Board*, 180 Ill. App. 3d 1010, 1013 (1989). "However, the Act clearly authorizes the Board to assess civil penalties for violations regardless of whether those violations resulted in actual pollution." *ESG Watts, Inc. v. Illinois Pollution Control Board*, 282 Ill. App. 3d 43, 51 (1996). "The imposition of civil penalties under section 42(a) [of the Act] is discretionary, and such a determination will not be disturbed on review unless it is clearly arbitrary, capricious or unreasonable." *People ex rel. Ryan v. McHenry Shores Water Co.*, 295 Ill. App. 3d 628, 638 (1998).

¶ 32 In its final order, the circuit court found that “[n]otwithstanding the Owner Defendants’ early efforts to obtain some compliance by the Operator Defendants,” the Owner defendants’ violations described by this court in *Lincoln II* have continued since 2007. The circuit court found that the Owner defendants “benefitted at least \$1,800,000 from the unlawful operation of the relevant landfill” from royalty payments from the Operator defendants, and that this amount did not include “the benefits derived from avoiding disposal and regulatory compliance costs.” The circuit court thus imposed a \$1,800,000 penalty on the Owner defendants.

¶ 33 As to the Operator defendants, the circuit court emphasized the scope and duration of the illegal dumping operation. The circuit court found that the Operator defendants “knew or should have known a waste disposal permit was required at all relevant times, but failed to secure one.” The circuit court also found that the Operator defendants “received approximately \$8,000,000 in dumping fees, from which they paid approximately \$1,800,000 to the Owner Defendants and approximately \$635,000 to the Village of Ford Heights” not including “disposal and regulatory compliance costs.” The circuit court thus imposed a \$6,000,000 penalty on the Operator defendants.

¶ 34 We find that the penalties imposed by the circuit court were arbitrary and unreasonable. The circuit court did not ensure the penalty was commensurate with the economic benefit received because the circuit court did not quantify the economic benefit received by the Owner and Operator defendants as a result of the failure to obtain the required permit. We cannot determine from the record before us the precise basis for the circuit court’s calculations. Instead, it appears the circuit court relied on the gross revenue figures as a measure of the economic benefit received, possibly with the view that, without a permit, the entire operation was illegal, and the gross revenue of the operation was the total economic benefit to defendants. We find it was error to use the gross

revenue as a measure of the economic benefit to defendants because the dumping operation would not have been illegal at the time if it was permitted and otherwise compliance with the Act. Although it may be difficult to quantify the amount gained by the Operator defendants' failure to obtain a permit, the circuit court should have nonetheless attempted to calculate this benefit with greater specificity.

¶ 35 Furthermore, we do not find that the circuit court properly assessed the duration of the violations. Although it is true some of the violations have continued through the lengthy pendency of the litigation in this case, the delayed resolution is not due entirely to defendants. We do not find that the Operator defendants should be penalized for the delay that resulted from their unsuccessful interlocutory appeal in *Lincoln I*. Similarly, neither the Owner nor the Operator defendants should be penalized for the delay resulting from the People's interlocutory appeal in *Lincoln II*. Nor should the continuation of the violations be considered clearly due to the obstruction of defendants where the People waited three years before obtaining a hearing on their motion for a preliminary injunction.

¶ 36 Finally, we find the record before does not support a finding that the penalties imposed were commensurate with the infractions at issue. The record indicates there has been no dumping at the site since 2007. There appears to be no dispute the material dumped was clean, non-toxic construction debris that posed no environmental threat. By all accounts, the cost of removal appears to be in excess of several million dollars which, when coupled with any assessed statutory penalty, would likely bankrupt defendants. Defendants contend remediation is possible through alternate use of the property consistent with the Act, and this alternate use theory does not appear to have been considered by the circuit court. Ultimately, this case arises from the Operator defendants' failure to secure the proper permit for the disposal of non-toxic waste at the property.

We know of no cases where the penalty imposed approximates the multimillion-dollar penalties imposed in this case. The fact that the penalties fall under the statutory maximum amount does not mean they were reasonably calculated to aid the purposes of the Act as discussed in section 42(h). The compliance goal at issue is for landfill owners and operators to abide by the permitting and regulatory requirements of the Act. A lesser penalty amount would serve this goal without being unduly punitive and excessive.

¶ 37 We therefore find that the penalties ordered against the Owner and Operator defendants by the circuit court are not supported by the record in view of all the relevant circumstances surrounding the underlying circumstances of the statutory violations and available alternative remediation remedies available and therefore were unreasonable. We remand for the circuit court to conduct a hearing on the civil penalty, if any, to be imposed on both sets of defendants.

¶ 38 III. CONCLUSION

¶ 39 For the foregoing reasons, the judgment of the circuit court is reversed. This case is remanded for the circuit court to conduct a hearing on the remedy and penalties to be assessed against defendants.

¶ 40 Reversed and remanded.

¶ 41 PRESIDING JUSTICE HYMAN dissenting:

¶ 42 The trial court followed precisely what the decision in *People ex rel. Madigan v. Lincoln, Ltd.*, 2016 IL App (1st) 143487 (*Lincoln II*), instructed—to order defendants to remove the waste they had been illegally dumping and maintaining since 2002, and to impose civil fines on both defendants.

¶ 43 Yet, the majority concludes that the trial court misinterpreted *Lincoln II* and improperly applied the Act retroactively by ordering the removal of the waste pile. The majority then nullifies

the trial court's actions and orders a "do-over" on both the appropriateness of the injunction and fines.

¶ 44 The majority has not only evaded the holding in *Lincoln II*, but also ignored the Act's plain language. And the majority subverts the law-of-the-case doctrine. So, I respectfully dissent.

¶ 45 I also dissent from the majority's choice of designating the decision as a written order. The majority's reasoning squarely falls within the mandate for publication as an opinion under Supreme Court Rule 23(a). Ill. S. Ct. Rule 23(a)(1) (eff. Jan. 1, 2021) (listing criteria for publication including "establish[ing] a new rule of law"). Now that Rule 23 permits citing written orders "for persuasive purposes," I believe Rule 23(a) should allow publication as an opinion whenever a single panel member determines the criteria have been met.

¶ 46 Retroactive Application of the Statute

¶ 47 The majority finds the trial circuit court improperly applied section 42(e) of the Act retroactively by ordering defendants to remove all of the waste dumped at the site instead of limiting removal to the waste dumped after the Act's 2004 amendment. *Supra* ¶ 17. The majority rejects the State's argument that the trial court could order cleanup of the entire site for violations that occurred and continued after 2004 because the waste pile is "undifferentiated."

¶ 48 To reach its ultimate conclusion, the majority presents a hypothetical that had the operator dumped the waste in two distinct piles—one containing only pre-2004 waste and one containing only post-2004 waste—the trial court could not order the removal of the pre-2004 waste without implicating retroactivity. A hypothetical, however, should not be used to make inferences on a wholly different set of facts. The record establishes an undifferentiated pile of waste, thus the hypothetical on which the majority heavily relies, is irrelevant.



¶ 49 Furthermore, remand is not required to address whether removing the entire pile would involve applying the Act retroactively—that issue already has been decided by the trial court. The majority concentrates on the State’s contention that under *People ex rel. Sherman v. Cryns*, 203 Ill. 2d 264, 277 (2003), the trial court had no discretion to deny the request for an injunction when, as here, a statute authorizes an injunction. *Supra* ¶ 24. The majority asserts that *Cryns* only relieves the trial court of the discretion to decide *whether* to issue an injunction and does not remove the trial court’s discretion to have an evidentiary hearing on the propriety and feasibility of the State’s proposed remedy. *Supra* ¶ 27.

¶ 50 Leaving aside that discretion to hold a hearing before issuing the injunction implies the discretion not to hold a hearing, the trial court did conduct a hearing before entering its order. The State addressed the issue in its memorandum in support of the motion for permanent injunctive relief to which the defendants responded making the same arguments they make here. Thus, defendants had the opportunity to argue that the pile was differentiated and that partial removal would serve the Act’s purposes. After considering the positions for and against injunctive relief and the evidence presented by the parties, the trial court ordered defendants to remove the waste.

¶ 51 *People ex rel. Madigan v. J.T. Einoder, Inc.*, 2015 IL 117193 is plainly distinguishable. As the majority notes, in *Einoder*, our supreme court held that section 42(e) could not be applied retroactively and vacated the trial court’s mandatory injunction ordering defendants to remove any and all material deposited above grade at the site. But in *Einoder*, the defendants ceased their dumping activities in 2003, before the 2004 the legislature amended section 42(e). The supreme court found that because the legislature had not expressly indicated an intent regarding the temporal reach of the amended statute, it is presumed not to apply retroactively. *Id.* ¶ 34. So, the trial court could not order the removal of waste that had all been dumped *before* the amendment.

¶ 52 Conversely, defendants dumped waste on the site until 2007, four years after the statute was amended, making it impossible to differentiate between waste dumped on the pile before and after the amendment. Unlike *Einoder*, the trial court's order did not increase defendants' "liability for past conduct, or impose new duties with respect to transactions already completed." *Einoder*, 2015 IL 117193, ¶ 30. Instead, the court applied the appropriate remedy for illegal dumping that continued long after July 2004. See, e.g., *Tri-County. Landfill Co. v. Illinois Pollution Control Board*, 41 Ill. App. 3d 249, 257 (1976) (holding application of Environmental Protection Act not retroactive because landfill company had been adding refuse to landfill after Act's effective date).

¶ 53 The majority's finding of retroactive application appears to lie solely on its conclusion that the trial court "ordered removal of all the waste, without respect to when the waste was dumped \*\*\*." *Supra* ¶ 17. Not so. On remand, the defendants stipulated they dumped about half of the waste before the 2004 amendment and half after. Both parties presented arguments to the trial court about whether requiring removal of the entire pile would constitute retroactive application. The trial court concluded, based on the facts and law, that the entire pile must be removed. Remanding for another hearing serves no purpose other than rehashing issues the trial court has already addressed and causing further delay.

¶ 54 Feasibility of Removing Pile

¶ 55 The majority also contends the trial court erred in failing to hold a hearing on the feasibility of removing the waste pile. According to the majority, the trial court interpreted this court's mandate in *Lincoln II* too broadly. Specifically, the majority asserts the trial court's finding that *Lincoln II* required removal of the waste was "erroneous." *Supra* ¶ 22. The majority quotes the court's statement in *Lincoln II* that the "owner of the Ford Heights land, is required to remedy the storage or abandonment of waste on its property by Lincoln in violation of section 21(e) of the

Act.” But, the next sentence, which the majority neglects to quote, states, “Mindful of the primary purpose of the Act, which the General Assembly specified is to assure that ‘adverse effects upon the environment are fully considered and borne by those who cause them’ (415 ILCS 5/4/(b) (West 2002)), we direct the circuit court to now (1) order Lincoln to immediately remediate the property and (2) quickly conclude the issue of Lincoln's civil penalties and fines.”

¶ 56 This court directed the trial court to order defendants to “remediate the property,” to contend otherwise would be to reject the *Lincoln II* court’s direction and result and substitute its own. This the majority has no authority to render. *Gillen v. State Farm Mutual Automobile Insurance Co.*, 215 Ill. 2d 381, 392 n.2 (2005) (appellate court free to part company with appellate court decision with which it disagreed, but, as a court of equal dignity, it had no authority to abrogate that decision).

¶ 57 The majority suggests, however, that “remediate” may mean something other than removal and that “[t]o the extent we discussed removal of the waste as the contemplated form of remediation in this case, we did not intend on finding removal was the only remedy available.” *Supra* ¶ 22. Defendants raised the same argument in the trial court.

¶ 58 In rejecting it, the trial court noted that the *Lincoln II* court stated, “[i]t cannot be said that the continuation of litigation permits an owner of land to indefinitely postpone and thereby allow waste to remain on its property and not be obligated to remove waste should another responsible party not do so.” *People v. Lincoln, Ltd.*, 2016 IL App (1st) 143487, ¶ 55. Beyond question, this court ordered LLDC to remove the waste from the site if Lincoln failed to do so.

¶ 59 The court contemplated no other remedy in *Lincoln II*, and the trial court ordered that remedy after briefing. Accordingly, no reason remains to remand for another hearing on the same issue.

¶ 60

Civil Penalties

¶ 61 The majority concludes the civil penalties imposed were “arbitrary and unreasonable.”

They were neither and should be affirmed.

¶ 62 As the majority notes, section 42(a) of the Act allows for monetary penalties of up to \$50,000 per violation and \$10,000 per day for each day the violation continues. 415 ILCS 5/42(a) (West 2018). In determining the penalty amount, the court may consider “any matters of record in mitigation or aggravation of penalty,” including the statutory factors set out in section 42(h) of the Act (*id.* § 42(h)). These factors include (i) “the duration and gravity of the violation,” (ii) “economic benefits accrued by the respondent” because of the noncompliance, (iii) the presence of “due diligence” by the respondent in attempting to comply with the Act, and (iv) the amount that would deter further violations and encourage voluntary compliance with the Act. *Id.*

¶ 63 After extensive briefing, the trial court imposed a \$1.8 million fine on the owners and a \$6 million fine on the operator. Based on the amount of money each defendant earned through the illegal dumping, these fines prevent them from retaining the economic benefit of their illegal activity, as permitted under section 42(h). Moreover, these amounts reflect the duration of the violation, which as of today, approaches two decades. Further, the amounts fall well below the section 42(a) limits while sufficiently serving as a deterrent to potential violators.

¶ 64 The majority takes issue with the trial court’s use of defendants’ gross revenue in calculating the civil fines, finding that it fails to “ensure the penalty was commensurate with the economic benefit received.” *Supra* ¶ 34. The operator similarly argues the trial court should have at least considered costs. But, as this court held in *People ex rel. Madigan v. Einoder*, 2013 IL App (3d) 113498 ¶ 74 (*rev’d on other grounds*) “there is no requirement under the Act that penalties imposed bear a mathematical relationship to the net profits realized by virtue of the violations

charged. Indeed, this approach could encourage potential violators to simply factor in the estimated penalty to the cost of doing business, thus defeating the dual purpose of the imposition of penalties, which is to punish violators and discourage other similarly situated parties from engaging in prohibited conduct.”

¶ 65 Further, as in *Einoder*, “[i]f defendants wanted the trial court to consider evidence that net profits were substantially less than the reasonable estimate of gross profits provided by the State, nothing precluded defendants from presenting that evidence, which was readily available to them.” *Id.* That evidence could have been offered to the trial court. Instead, the majority has gifted a proverbial second bite at the apple.

¶ 66 Moreover, the fines need not be exactly commensurate with the economic benefit defendants received from the illegal dumping, as the majority appears to suggest. *Supra* ¶ 34. In its order, the trial court stated that the operators “received approximately \$8,000,000 in dumping fees, from which they paid approximately \$1,800,000 to the Owner Defendants and approximately \$635,000 to the Village of Ford Heights.” The court noted that neither amount included the benefits derived from avoiding disposal and regulatory compliance costs. In assessing fines of \$6 million and \$1.8 million, the trial court considered not only the economic benefits received but also the duration of the violations and deterrent effect. That the fines do not reflect the exact amounts the defendants gained by failing to obtain a permit is not a basis for reversing the order. 415 ILCS 5/42(h) (West 2020) (“In determining the appropriate civil penalty \* \* \*, the Board shall ensure \*\*\* the penalty is *at least* as great as the economic benefits, if any, accrued by the respondent as a result of the violation”). See, e.g., *Toyal America, Inc. v. Illinois Pollution Control Board*, 2012 IL App (3d) 100585, ¶ 37 (finding \$716,440 civil penalty supported by regulatory mandate that penalties be at least as great as economic benefit accrued from violations, which was \$316,440,

where violations were ongoing for 8 years and manufacturer failed to determine what requirements applied to it or to timely achieve compliance).

¶ 67 The majority's finding that the trial court did not properly assess the duration of the violations also lacks merit. Almost immediately after the dumping began in 2002, the Illinois EPA sent violation notices to the property owners. After the State filed this lawsuit against defendants in 2004, the property owners sent a letter to the operators ordering they cease operations. Yet, the dumping continued for four more years, and both parties continued to earn money from the operation. This distinguishes them from other violators who attempted to remedy their violation and received a lesser penalty. See *e.g.*, *Standard Scrap Metal Co. v. Pollution Control Board*, 142 Ill. App. 3d 655, 662 (1986) (defendant violator applied for and was granted permit after suit filed against it); *People ex rel. Ryan v. McHenry Shores*, 295 Ill. App. 3d 628, 638 (1998) (after receiving enforcement letter from Agency, defendant made some attempt to remedy violations).

¶ 68 The majority does not dispute that the defendants violated the Act for years and profited considerably. Instead, the majority appears to deem defendants' failure to obtain the required disposal permit for the disposal of non-toxic waste as a relatively insignificant infraction not warranting the civil fines the trial court imposed. But, as the majority acknowledges, "the Act clearly authorizes the Board to assess civil penalties for violations regardless of whether those violations resulted in actual pollution." *ESG Watts, Inc. v. Illinois Pollution Control Board*, 282 Ill. App. 3d 43, 51 (1996). *Supra* ¶ 31. Under the Act, the trial court has broad discretion when imposing civil penalties, and we will not disturb the court's decision unless it is plainly arbitrary, capricious, or unreasonable. *McHenry Shores Water Co.*, 295 Ill. App. 3d at 638. The fines the trial court imposed reflect the seriousness of the violations, which continue to this day, and support

the legislature's focus on deterrence and mandate that penalties prevent violators from retaining economic benefits. See 415 ILCS 5/42(h) (2018).

¶ 69 Again, the majority's finding foils the Act's remedial scheme and undermines the trial court's proper exercise of its discretion.

¶ 70 Designation as a Rule 23 Order

¶ 71 I disagree with the issuing of this decision as a written order. I have made this point before, see *People ex rel. Alvarez v. \$59,914 United States Currency*, 2020 IL App (1st) 190922-U, ¶ 51 (collecting cases) and, most recently, in *People v. Hollie*, 2021 IL App (1st) 192222-U. I hold firm to these arguments.

¶ 72 Rule 23(a) allows for publication when a majority of the panel concludes that a decision either “establishes a new rule of law or modifies, explains or criticizes an existing rule of law” or when “the decision resolves, creates, or avoids an apparent conflict of authority within the Appellate Court.” Ill. S. Ct. Rule 23(a)(1)-(2) (eff. Apr. 1, 2018). As I explained in discussing the merits, the majority “establishes a new rule of law” by holding that the trial court applied section 42(e) retroactively by ordering defendants to remove undifferentiated waste they dumped before and after the Act was amended. Thus, Rule 23(a) mandates designating this decision as an opinion.

¶ 73 Moreover, the majority explains existing law by holding that a trial court should first conduct an evidentiary hearing before granting injunctive relief authorized by statute. In *Cryns*, our Supreme Court held that when a state or governmental agency is expressly authorized by statute to seek injunctive relief and it has “been established that [the] statute has been violated, no discretion is vested in the circuit court to refuse to grant the injunctive relief authorized by that statute.” *Id.* at 278. Under the majority's holding, however, the trial court should first hold an evidentiary hearing to consider whether “another type of injunctive remedy is more appropriate”

than the one the State requested. *Supra* ¶ 26. Holding an evidentiary hearing, as the trial court did here, may be necessary, but the majority cites no other cases that have similarly interpreted *Cryns*. So, publication is warranted.

¶ 74 In its present form, Rule 23 stymies rather than encourages issuance of an opinion; the agreement of two justices dictates precedential value. Though usually unanimous, disagreements on satisfaction of the Rule 23(a) criteria have arisen from time to time when there is a dissent or a concurrence, both of which hold a vital and positive role in modern appellate decisions.

¶ 75 To avoid the same problem that occurred when a majority could decide whether to hold oral agreement, the determination of one panel member the decision meets the requirements of Rule 23(a) should suffice. See Ill. S. Ct. Rule 352(a) (eff. July 1, 2018) (“oral argument shall be held in any case in which at least one member of the panel assigned to the case requests it.”).

¶ 76 A dissent, said U.S. Supreme Court Justice William J. Brennan Jr., “safeguards the integrity of the judicial decision-making process by keeping the majority accountable for the rationale and consequences of its decision.” Melvin Urofsky, *Dissent and the Supreme Court: Its Role in the Court’s History and the Nation’s Constitutional Dialogue*, Vintage Books at 425 (2017). An opinion achieves that safeguard far better than an order.