

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:)	
)	
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.)	

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, Midwest Generation, LLC’s Appeal of the Hearing Officer’s Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz’s Opinions without Non-Disclosable Exhibits and Memorandum in Support of Midwest Generation, LLC’s Appeal of the Hearing Officer’s Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz’s Opinions without Non-Disclosable Exhibits, a copy of which is hereby served upon you. The Appeal and Memorandum in Support of the Appeal with Non-Disclosable Exhibits have been mailed to the IPCB, Don Brown.

MIDWEST GENERATION, LLC

By: /s/ Jennifer T. Nijman

Dated: July 27, 2022

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CERTIFICATE OF SERVICE

The undersigned, an attorney, certifies that a true copy of the foregoing Notice of Filing, Certificate of Service for Midwest Generation, LLC's Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions without Non-Disclosable Exhibits and Memorandum in Support of Midwest Generation, LLC's Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions without Non-Disclosable Exhibits, a copy of which is hereby served upon you was filed on July 27, 2022 with the following:

Don Brown, Clerk
Illinois Pollution Control Board
James R. Thompson Center
60 E. Van Buren St., Ste. 630
Chicago, Illinois 60605

and that true copies of the Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions and Memorandum in Support of Midwest Generation, LLC's Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions without the Non-Disclosable Exhibits and the Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions and Memorandum in Support of Midwest Generation, LLC's Appeal of the Hearing Officer's Ruling Denying its Motion in Limine to Exclude Jonathan Shefftz's Opinions along with the Non-Disclosable Exhibits were emailed on July 27, 2022 to the parties listed on the foregoing Service List. The Appeal and Memorandum in Support with Non-Disclosable Exhibits have been mailed to the IPCB, Don Brown.

/s/ Jennifer T. Nijman

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**MIDWEST GENERATION, LLC’S APPEAL OF THE
HEARING OFFICER’S RULING DENYING ITS MOTION *IN LIMINE*
TO EXCLUDE JONATHAN SHEFFTZ’S OPINIONS**

Respondent Midwest Generation, LLC (“MWG”), appeals the Hearing Officer’s ruling denying MWG’s motion *in limine* to exclude opinions of Complainants’ expert, Jonathan Shefftz. (35 Ill. Adm. Code 101.518). None of the assumptions Mr. Shefftz relies on to formulate his opinions are based upon direct or circumstantial evidence, as required by applicable law and by the Hearing Officer’s own order. Mr. Shefftz relies upon cost estimates in a remedy report that the Complainants disavow, written by Complainants’ former expert who Complainants replaced (over MWG’s objection) and who will not testify at the hearing. All of Mr. Shefftz’s other assumptions are exclusively from information given to him by Complainants’ counsel, without factual basis, and who are similarly unavailable for cross-examination. Finally, the Hearing Officer’s suggestion that MWG is speculating about whether Complainants’ new expert (Mark Quarles) can support the Shefftz opinions at the hearing is incorrect. Experts are required to identify their opinions pursuant to Illinois Supreme Court Rule 213, and MWG is fully aware that Mr. Quarles has no

expert opinions in his report to support Mr. Shefftz, as confirmed by his expert deposition. The Illinois Pollution Control Board (“Board”) should reverse the Hearing Officer’s decision and exclude Mr. Shefftz from testifying at the hearing to any opinions that are not based on evidence. MWG has also filed a motion for expedited review of this appeal as well as its appeal of the Hearing Officer’s denial of MWG’s motion to exclude Complainants’ groundwater expert, Mark Quarles.

In support of its Appeal, MWG incorporates by reference its Motion *in limine* and Reply, submits its Memorandum in Support, and states as follows:

I. Background

a. Original Expert Discovery

1. On June 9, 2014, the Hearing Officer set a discovery schedule, including a schedule for expert discovery. The case had not been bifurcated and the schedule did not indicate that the expert reports or the issues to be litigated were to be split between liability and damages.
2. On July 1, 2015, Complainants submitted expert reports by a groundwater expert, James Kunkel (“Kunkel”) and an economic expert, David Schlissel. Mr. Kunkel submitted two reports “Expert Report on Groundwater Contamination” (Hearing Ex. 401) and an “*Expert Report on Remedy for Groundwater Contamination.*” Ex. 1, attached to MWG’s Memorandum in Support. In his report on Remedy, Mr. Kunkel opined on a removal remedy for each of the four MWG stations,¹ and included an analysis of the estimated costs for the removal. Mr. Kunkel submitted three subsequent reports, including two Rebuttal Reports that clarified his removal remedy and opined that his removal remedy was economically reasonable. (Hearing Exs. 407 & 412).

¹ The four stations are the MWG stations that are subject to this matter: Joliet 29 Station in Joliet, IL, Powerton Station in Pekin, IL, Waukegan Station in Waukegan, IL, and Will County Station in Romeoville, IL.

3. On February 9, 2017, without a request by either party or any input from either party, the Hearing Officer bifurcated the case ordering that the initial hearing would address liability only.

4. In October 2017 and continuing to January 2018, the parties participated in a lengthy and extensive hearing regarding Complainants' allegations that MWG violated the Illinois Environmental Protection Act ("Act").

5. On June 20, 2019, the Board issued an Interim Order regarding liability, which it reconsidered and modified in part on February 6, 2020.

b. Complainants Sought and Were Granted Leave to Replace Experts

6. On April 1, 2020, Complainants moved for leave to designate substitute expert witnesses claiming that their previously disclosed and testifying expert, Mr. Kunkel, was "not the best-placed expert to address the remaining issues in this matter." See Complainants' Motion for Leave to Designate Substitute Expert Witness and Memorandum in Support, April 1, 2020, p. 6.

7. MWG objected to Complainants' motion because the parties had already presented expert opinions on all elements of the litigation, including remedy, and it would be highly prejudiced by the substitution because it conducted its litigation strategy based upon the completed expert opinions of both parties. MWG's Response to Complainants' Motion to Designate Substitute Expert Witnesses, April 15, 2020, p 14.

8. MWG also argued that if Complainants were allowed to replace their experts, then the new experts must maintain substantially the same opinions as the original experts. Under Illinois law, substitution of an expert may be allowed under certain circumstances (like illness), but it is not an opportunity to "introduce new and different theories in this case." *Id.*, citing *Ind. Ins. Co. v. Valmont Elec., Inc.*, 2011 U.S. Dist. LEXIS 23256, *4 (S.D. Ind. 2001).

9. On September 14, 2020, the Hearing Officer allowed the parties to name new expert witnesses, but with conditions consistent with Illinois law -- that the testimony already given stands and the parties must build on that information. The order states, “Any testimony already given stands and the parties must proceed to build on that information and present more information, including elaboration and amplification.” Hearing Officer Order, Sept. 14, 2020, p. 3.

c. Expert Discovery with Replacement Experts

10. On January 25, 2021 and July 16, 2021, Complainants submitted their expert reports and rebuttal reports of their new groundwater expert, Mark Quarles,² and their new economic expert, Jonathan Shefftz.

11. In his expert opinion, Mr. Quarles ignored and disregarded opinions made by Complainants’ first expert (a/k/a Kunkel’s opinion) for complete removal at each of the MWG four stations. Instead, he suggested a “nature and extent” evaluation which may or may not lead to other remedies. Mr. Quarles admitted that he did not review the Kunkel reports, deposition, or even Mr. Kunkel’s testimony during the first hearing. Ex. 2, p. 53:24-54:20, attached to the Memorandum in Support.

12. Mr. Shefftz opined on the economic benefit MWG purportedly gained for its alleged violations (relevant excerpts attached to the Memorandum in Support as Exhibits 3, 4, and 5.) To prepare his opinion, Mr. Shefftz did not rely upon the new Quarles remedy opinion, admitting he did not even recognize Mr. Quarles’s name, but instead relied upon the former Kunkel remedy opinion and the cost estimates it contained. Ex. 6, p., 61:19-21.

² The Quarles Reports are attached as Exhibits 1 and 2 to MWG’s Objection to and Motion for Interlocutory Appeal of the Hearing Officer’s Denial of MWG’s Motion to Exclude the Expert Opinion of Mark Quarles filed on July 27, 2022.

13. Mr. Shefftz also based his opinions on information given to him by Complainants' counsel including:

- a. The start date of the Kunkel remedy Ex. 6, pp., 73:15-74:4
- b. The duration of the Kunkel remedy Ex. 6, pp., 73:15-74:4
- c. Expenditure pattern and timing, Ex. 6, p., 74:15-23.
- d. That the violations were "continuing" Ex. 6, p., 107:16-19
- e. That the costs MWG spent to originally reline the ponds and conduct the groundwater would have had to be expended anyway. Ex. 4, p. 14, Ex. 6, 100:10-102:9.

14. Mr. Shefftz cited to no other direct or circumstantial evidence for these conclusions, and relied on the Kunkel remedy even though it has apparently been replaced by the Quarles opinions.

d. MWG's Motions *in Limine* to Exclude the Replacement Experts

15. On February 4, 2022, MWG filed a motion to exclude Mr. Shefftz's opinions because they rely on cost estimates for a removal remedy that Complainants have withdrawn, and because they are based on assumptions fed to him by Complainants' counsel that are not direct or circumstantial evidence. *See* MWG's Motion *in Limine* for Shefftz Opinions, Feb. 4, 2022.³

16. On July 13, 2022, the Hearing Officer issued his decisions on the parties' motions *in limine*. The Hearing Officer denied MWG's motion *in limine* to exclude Mr. Shefftz's opinions in a brief three-paragraph discussion.

II. The Hearing Officer's Denial of MWG's Motion to Exclude the Opinions of Jonathan Shefftz is in Error and causes Material Prejudice to MWG.

17. The Hearing Officer states that an expert may rely on assumptions "if based on direct or circumstantial evidence." But here, there *is no direct or circumstantial evidence* – which is the key problem with Mr. Shefftz's opinions. Complainants have withdrawn the Kunkel Remedy opinion on which Mr. Shefftz relies, and issued an entirely new opinion. Similarly, Mr. Shefftz's reliance

³ MWG also filed a motion to exclude the opinions of Quarles because they violate Illinois law on replacement experts, and violate the Hearing Officer's order. That decision is being separately appealed to the Board.

on statements made by Complainants' counsel cannot stand because counsel's statements have no basis in fact, and no direct or circumstantial evidence to support them.

18. Each of Mr. Shefftz's assumptions are based upon information from unavailable witnesses that MWG has no ability to cross-examine.

19. Even though Mr. Shefftz developed his economic opinions based on the disavowed Kunkel Remedy Report, Complainants will not present Mr. Kunkel to testify. Because Mr. Kunkel does not live in Illinois, MWG cannot subpoena him to appear at the hearing.

20. MWG also cannot cross-examine Complainants' new expert Mr. Quarles about Kunkel's remedy cost estimates, relied on by Mr. Shefftz, because Mr. Quarles did not review the Kunkel report, deposition testimony, nor hearing testimony. Quarles Dep., Ex. 2, p. 53:24-54:20

21. Mr. Shefftz himself stated that he had no opinion on the quality or validity of the estimates that form the basis of his entire opinion, and was simply told to use them. Ex. 3, Shefftz Jan. 2021 Rpt. p. 22, Ex. 4, Shefftz Rebuttal Rpt. p. 14, Shefftz Dep, Ex. 6, pp., 61:3-15; 73:12-75:19; 110:18-22.

22. All of the other information Mr. Shefftz relies on is from Complainants' counsel, who also are not available to cross-examine. Because Complainants will have no one to testify on the duration of the Kunkel remedy, the start date of the remedy, whether those violations are continuing, or whether MWG's previous compliance measures should be accounted for, MWG has no way to challenge those assumptions.

23. While the Board may generally prefer to allow testimony and assess its weight, this situation is particularly egregious and a clear exception. As the Hearing Officer stated, an expert must still rely on evidence, be it direct or circumstantial, and it must be evidence that is reasonably relied on by experts. Just like the courts in Illinois, the Board has a responsibility for expert

“gatekeeping” when the circumstances require it. *Soto v. Gaytan*, 313 Ill. App. 3d 137, 147, 245 Ill. Dec. 769, 776 (2nd Dist. 2000) (Court found trial court abused its discretion allowing unreliable expert testimony stating “[a]s the gatekeeper of expert opinions disseminated to the jury, the trial court plays a critical role in excluding testimony that does not bear an adequate foundation of reliability”); *Sw. Ill. Dev. Auth. v. Masjid Al-Muhajirum*, 348 Ill. App. 3d 398, 401, 284 Ill. Dec. 164, 167, 809 N.E.2d 730, 733 (5th Dist. 2004) (Court approved trial court, as “gatekeeper,” striking of the defendant’s expert opinion because it was based upon speculative information).

24. Here, the Board is faced with opinions presented by an expert that are based on *assumptions from counsel or a withdrawn and unavailable expert*, and there is no witness available to allow the assumptions to be questioned for their relative weight. It would be arbitrary and capricious if the Board were to allow the testimony to proceed.

25. Also, the Hearing Officer’s claim that MWG’s argument “is speculative as to what Mr. Quarles will testify to,” and that MWG may address its concerns during its cross-examination, disregards fundamental Illinois law for expert opinions. MWG is not “speculating” as to what Mr. Quarles will testify to – he stated it in his reports and deposition testimony. Mr. Quarles stated in his deposition that he had no knowledge of the Kunkel Remedy on which Mr. Shefftz relies, and that he did not elaborate or amplify Mr. Kunkel’s opinions. Ex. 2, p. 53:19-55:5. The Hearing Officer’s statement suggests that experts are not bound by the opinions in their reports and depositions. That is antithetical to the long-standing boundaries established Rule 213.

26. The Board should follow standard Illinois procedural and evidentiary law and reverse the Hearing Officer’s decision.

WHEREFORE, for the reasons stated above, MWG requests that the Board reverse the Hearing Officer's order, and exclude the opinions by Complainants' expert Jonathan Shefftz that have no basis.

Respectfully submitted,
Midwest Generation, LLC
By: /s/ Jennifer T. Nijman
One of Its Attorneys

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**MEMORANDUM IN SUPPORT OF MIDWEST GENERATION, LLC’S
APPEAL OF THE HEARING OFFICER’S RULING DENYING ITS MOTION *IN
LIMINE TO EXCLUDE JONATHAN SHEFFTZ’S OPINIONS***

Midwest Generation, LLC (“MWG”) submits this Memorandum in Support of its Appeal from the Hearing Officer’s Ruling denying MWG’s motion *in limine* to exclude the opinions of Complainants’ expert, Jonathan Shefftz. The Hearing Officer’s refusal to exclude Mr. Shefftz’s opinions materially prejudices MWG, is based upon a misstatement of the facts, and violates the foundations of Illinois procedural law and the Hearing Officer’s own order.

The morass the Board now faces is due to Complainants’ demand to replace their original experts long after discovery had closed. That change of experts, coupled with the Hearing Officer’s denial of MWG’s motion *in limine*, allows Complainants to have their cake and eat it too. Despite the Hearing Officer stating that any new experts must build upon the testimony of the original experts (as required by Illinois law), Complainants ignored that directive. Now, Complainants will present at the hearing entirely new and opposing opinions, which they want their experts to rely on in one hand, and disavow in another. If the Hearing Officer’s Order stands, Complainants will

have their replacement economic expert (Mr. Shefftz) rely on Complainants' original groundwater expert's remedy (the Kunkel Remedy), along with information fed to Mr. Shefftz by Complainants' counsel that have no basis in direct or circumstantial evidence. At the same time, Complainants have their new technical expert (Mr. Quarles) completely ignoring the Kunkel Remedy and recommending a different approach. MWG cannot cross examine the original expert (Mr Kunkel) nor Complainants' counsel to investigate whether there is any basis for the information on which Mr. Shefftz relies because neither of them can be compelled to testify.

MWG is faced with a hearing in which it is barred from cross examining the facts and evidence on which Mr. Shefftz bases his opinions, and also a new remedy opinion by Mr. Quarles that has no connection to the original opinion, nor to the Shefftz economic opinion. Surely, it cannot be deemed reasonable for an expert, Mr. Shefftz, to rely on a withdrawn, changed technical opinion or on unsupported statements from counsel, and at the same time allow a new expert to ignore that very same technical opinion. While the Board may not be strictly bound by Illinois Supreme Court rules, it is not ungoverned by any rules at all. Due process and fairness require that the Board reverse the Hearing Officer's decision. Either Complainants are bound to their first remedy report (by Kunkel) because it is "in the record" and their second remedy expert must only elaborate from it (so he can be cross examined), OR their first expert's remedy report is not "in the record" and Complainants' economic expert Mr. Shefftz cannot make opinions based upon it.⁴ Allowing Complainants to have it both ways, holding diametrically opposed positions, is fundamentally unfair, materially prejudices MWG at the hearing, and is arbitrary and capricious. Accordingly, the Hearing Officer's decision must be reversed.

⁴ MWG moved to exclude Complainants' replacement remedy expert opinion, which the Hearing Officer denied. See MWG's Motion *in Limine* to Exclude Quarles Opinions, Feb. 4, 2022 and Hearing Officer Order, July 13, 2022. MWG appealed the Hearing Officer's order on July 27, 2022.

I. Brief Background

Due to the size and scope of this matter, discovery and related issues have been lengthy, intensive, and extensive. In addition to the numerous dispositive and discovery motions, the parties have exchanged approximately 200,000 pages of documents, and conducted eleven depositions of fact witness (some more than once). Because Complainants sought to replace their original experts, Complainants produced eleven expert reports: six by the original experts and five by the replacement experts.

a. Original Expert Discovery

Up until February 9, 2017, the parties proceeded through discovery as if the final hearing would be about both liability on Complainants' claims and any remedy or penalty that may be imposed. Accordingly, both parties identified and submitted expert reports addressing all elements of the litigation, including the condition of the groundwater, the constituents in the groundwater, proposed remedies, the economic reasonableness of the proposed remedies, and the factors the Board considers for its opinions in Section 33(c) and 42(h) of the Illinois Environmental Protection Act ("Act").

Complainants presented two experts and multiple reports:

- Groundwater expert, James Kunkel ("Kunkel"), prepared a total of five expert reports.
 - Two initial expert reports – an "Expert Report on Groundwater Contamination" (Hearing Ex. 401) and an "Expert Report on Remedy for Groundwater Contamination" both dated July 1, 2015, attached as Ex. 1 (Remedy Report). In his report on Remedy, Mr. Kunkel concluded that removal was the remedy required for each of the four MWG stations,⁵ and included an analysis of costs and site impacts. *Id.*
 - A Rebuttal Expert Report, Dec. 8, 2015 (Hearing Ex. 407), later supplemented – March 9, 2016 (Hearing Ex. 412), both admitted as evidence. Kunkel's Rebuttal Reports restated and referenced his removal remedy opinion and added

⁵ The four MWG stations are the stations that are subject to this matter: Joliet 29 Station in Joliet, IL, Powerton Station in Pekin, IL, Waukegan Station in Waukegan, IL, and Will County Station in Romeoville, IL.

that the removal remedy he proposed in his Remedy Report was economically reasonable. (Hearing Ex. 407, p. 11).

- A specific rebuttal opinion responding to MWG's expert's statistical trend testing in support of MWG's opinions, March 16, 2016 (Hearing Ex. 408).
- Economic Expert, David Schlissel prepared a report, dated July 1, 2015, on the economic reasonableness of the remedies proposed by Mr. Kunkel and the availability of economic resources of MWG's parent company for the remedy.

MWG also presented two experts in response to Complainants' original experts. Each party had an opportunity to depose the experts, evaluating each of the opinions stated in their reports. The depositions were not limited to liability and each party questioned the experts about their evaluation of the proposed remedies at the stations, the proper remedial actions that should be taken, and the Section 33(c) and 42(h) factors.

After all discovery was completed, and substantive motions filed, the Hearing Officer, on his own action, bifurcated the case, ordering that the first hearing would address liability, with a later hearing regarding a potential remedy or penalty. Hearing Officer Order, Feb. 9, 2017. Accordingly, the Hearing Officer conducted a hearing on liability over ten days in 2017 and 2018. On June 20, 2019, the Board issued an Interim Order regarding liability, which it reconsidered and modified in part on February 6, 2020.

b. Replacement Expert Discovery

On April 1, 2020, Complainants requested leave to designate replacement expert witnesses, claiming that their previously disclosed and testifying expert, Mr. Kunkel, was "not the best-placed expert to address the remaining issues in this matter." See Complainants' Motion for Leave to Designate Substitute Expert Witness and Memorandum in Support, April 1, 2020, p. 6. MWG objected to Complainants' motion because the parties had already presented expert opinions on all elements of the litigation, including remedy, and it would be highly prejudiced by the substitution because it conducted its discovery and litigation based upon the complete expert opinions of both

parties. MWG's Response to Complainants' Motion to Designate Substitute Expert Witnesses, April 15, 2020, p 14.

MWG also argued that if Complainants were allowed to replace their experts, then the new experts must maintain substantially the same opinions as the original experts. Under Illinois law, substitution of an expert may be allowed under certain circumstances, but it is not an opportunity to "introduce new and different theories in this case." *Id.*, citing *Ind. Ins. Co. v. Valmont Elec., Inc.*, 2011 U.S. Dist. LEXIS 23256, *4 (S.D. Ind. 2001). Over MWG's objection, on September 14, 2020, the Hearing Officer allowed the parties to name new expert witnesses, but the Hearing Officer correctly, and in accordance with Illinois law, added the condition that the testimony already given by the prior experts stands and the parties must build on that information. "Any testimony already given stands and the parties must proceed to build on that information and present more information, including elaboration and amplification." Hearing Officer Order, Sept. 14, 2020, p. 3.

Subsequent to the Hearing Officer's Order, Complainants identified two new experts:

- Groundwater expert, Mark Quarles ("Quarles"), to replace Mr. Kunkel. He prepared two opinions:
 - Expert Opinion, January 25, 2021.
 - Rebuttal opinion, July 16, 2021.⁶
- Economic Benefit Expert, Jonathon Shefftz, to replace Mr. Schlissel. He issued three reports:
 - Expert Opinion, Economic Benefit of Noncompliance and Economic Impact of Penalty Payment and Compliance Costs, January 25, 2021, attached as Exhibit 3.
 - Supplemental and Rebuttal Expert Opinion, Economic Benefit of Noncompliance and Economic Impact of Penalty Payment and Compliance Costs, July 16, 2021, attached as Exhibit 4.

⁶ Both reports are attached as exhibits 1 and 2 to MWG's Motion for Interlocutory Appeal of the Hearing Officer's Denial of MWG's Motion *in Limine* to Exclude Quarles Opinions.

- Second Supplemental and Rebuttal Expert Opinion, Economic Benefit of Noncompliance and Economic Impact of Penalty Payment and Compliance Costs, October 26, 2021, relevant excerpt attached as Exhibit 5.

i. Quarles Opinions

Complainants' new expert, Mr. Quarles, completely ignored the Kunkel removal remedy. Instead, he put forth a new and different theory and recommended in his expert reports that MWG conduct a "nature and extent" investigation at the MWG Stations. Mr. Quarles also admitted that he did not build upon, elaborate or amplify the opinions of the prior expert. In fact, Mr. Quarles did not review Mr. Kunkel's reports, and was not even aware that Mr. Kunkel had written three reports for this matter that included opinions on remedy. Ex. 2, p. 53:24-55:5. Mr. Quarles also did not review Mr. Kunkel's deposition, nor even Mr. Kunkel's testimony during the first hearing. Ex. 2, p. 54:15-20. Further discussion of Mr. Quarles's opinions is in MWG's Motion in Limine to Exclude Quarles Opinions, filed on February 4, 2022, and its Motion for Interlocutory Appeal from the Hearing Officer Order, filed on July 27, 2022.

ii. Shefftz Opinions

Complainants' second new expert, Mr. Shefftz, prepared an opinion on the economic benefit Complainants claim MWG allegedly gained. To prepare the opinion, Mr. Shefftz required certain information to insert into his economic benefit analysis, including the alleged cost of a recommended remediation, the date of noncompliance, duration of remedy, and absence of lower cost alternatives. Rather than using facts and opinions provided by Complainants' new expert, Mr. Quarles, Mr. Shefftz relied on the remedy opinions made by the withdrawn expert, Mr. Kunkel. Even though Mr. Quarles is the new testifying expert and Mr. Quarles rejected the Kunkel removal remedy, Mr. Shefftz used Kunkel's cost estimates and remedy proposal. Ex. 6, p. 66:12-13. Mr.

Shefftz did not rely on any opinions made by the new expert Mr. Quarles, admitting that he did not even recognize Mr. Quarles's name. Ex. 6, p., 61:19-21.

The remainder of the economic benefit inputs Mr. Shefftz uses (the date of noncompliance, date of compliance, and length of remedy) are based solely on statements made by Complainants' counsel, without any independent support. As the Shefftz Report states, "Table 3 provides the dates for when the various remedy costs should have been expended and can reasonably be anticipated to be expended eventually based on a 10-year cleanup schedule at each of the four sites. This *schedule* is based upon *information that Petitioner's counsel provided to me in response to my requests.*" Ex. 3, p. 22. When asked during his deposition what he meant by this "schedule," Mr. Shefftz replied, "both the number of years of the schedule and when the start date should be for each schedule." Ex. 6, pp., 73:15-74:4. He explained that while Mr. Kunkel's reports provided the total remedy cost, he needed the information related to "expenditure pattern and timing" of the remedy to run the model, which he obtained solely from Petitioners' attorneys. Ex. 6, p., 74:15-23. He further stated that when he asked counsel for this information, "I was told ten years, and here are the start dates for both the one-time scenario and the delayed-compliance scenario." *Id.* Petitioners' counsel also informed Mr. Shefftz that the violations were "continuing," a factor in setting the date of compliance. Ex. 4, p. 15, Ex. 6, p. 107:16-19; 110:10-22. Mr. Shefftz admitted he had no opinion on the schedule, and had no other source for this information. Ex. 6, pp., 74:21-23; 75:2-14 (explaining he had no opinion on the ten-year schedule "both in number of years and timing of it.")

Mr. Shefftz also relies solely on Complainants' counsel for additional factors in his analysis, including that costs of the pond liners MWG installed could be disregarded because they would have been expended regardless of any remedy. Ex. 4, p. 14, Ex. 6, 100:10-101:18. Similarly,

Petitioners' counsel told Mr. Shefftz that the groundwater monitoring MWG conducted would have needed to be conducted in any case (Ex. 4, p. 14, Ex. 6, p. 101:23-102:9), which has not been established. In fact, the opposite is true – MWG would not have relined ponds that would later be removed under Mr. Kunkel's remedy proposal. Moreover, MWG, unlike other companies, voluntarily agreed to conduct sampling in 2010 when it was under no obligation to do so. 1/29/18 Tr. p. 245:12-15 (Testimony of Race). Mr. Shefftz has no other basis for these conclusions other than blind adherence to statements from Complainants' counsel.

c. MWG's Motions *in Limine*

On February 4, 2022, MWG filed its motions *in limine*, including a motion to exclude the Shefftz opinions and a motion to exclude the Quarles opinions. MWG moved to exclude the Shefftz opinions in part because the opinions rely on cost estimates for a removal remedy that Complainants have withdrawn and rely upon assumptions fed to him by Complainants' counsel that are not based on direct or circumstantial evidence. *See* MWG's Motion *in Limine* Shefftz Opinions, Feb. 4, 2022. MWG moved to exclude Mr. Quarles's opinions because he made no attempt to elaborate or amplify Mr. Kunkel's opinions as required by Illinois law for a replacement expert, and as required by the Hearing Officer's order. *See* MWG's Motion *in Limine* Quarles Opinions, Feb. 4, 2022; *See also* Ex. 2, p. 54:21-55:5.

d. Hearing Officer's Decision on MWG's Motion *in Limine* to Exclude Shefftz Opinion

On July 13, 2022, the Hearing Officer issued his decisions on the parties' motions *in limine*. In denying MWG's motion to exclude the Shefftz opinions, the Hearing Officer's issued two key opinions:

- 1) "Experts relying on counsel's assumptions or hypotheticals within the realm of direct or circumstantial evidence for their opinion is proper if based on direct or circumstantial evidence."

- 2) "Complainants enlisted another expert, Mr. Quarles, to assist them with remediation issues. Any argument that MWG presents in its motion in limine is speculative as to what Mr. Quarles will testify to. Further, MWG may address any concerns it has during its cross-examination of Mr. Shefftz and/or Mr. Quarles."

H.O. July 13, 2022 Order, p. 9-10. The Hearing Officer denied MWG's request to file its reply, *instanter*, in support of its motion. *Id.* at 9-10.

In the lead-in comments to finding (2) above, the Hearing Officer's decision misstates the facts, suggesting confusion as to the basis of MWG's motion to exclude Mr. Shefftz's opinions. The Hearing Officer states: "*As background, complainants' expert, Mr. Kunkel, who testified at the liability proceeding was replaced by Mr. Shefftz. Mr. Shefftz testimony involves economic benefit analysis- as did Mr. Kunkel's.*" H.O. July 13, 2022 Order, p. 9. This is incorrect. Mr. Shefftz replaced Mr. Schlissel as Complainants' economic expert. Mr. Kunkel was replaced by Mr. Quarles and his testimony did not involve any economic benefit analysis. This confusion on which experts replaced which is certainly understandable given the internally inconsistent positions Complainants have pursued and the morass now before the Board.

II. The Hearing Officer's Decision Fails to Apply Illinois law and Materially Prejudices MWG

The Hearing Officer's conclusion that MWG can address its concerns regarding Mr. Shefftz's opinions during its cross-examination is incorrect and results in a violation of Illinois Rule 213. None of the assumptions Mr. Shefftz relies on to formulate his opinion are based on direct or circumstantial evidence, or even his own independent knowledge and expertise. Instead, they are from sources that MWG has no way to challenge at the hearing. The assumptions are either from Complainants' attorneys or from the non-testifying former expert the Complainants withdrew. It is arbitrary and capricious to allow the admission of expert testimony based solely on assumptions that the opposing party has no way to cross-examine or interrogate and are not based upon any direct or circumstantial evidence.

Also, the Hearing Officer's suggestion that MWG's description of Mr. Quarles's opinion is "speculative" and that his opinions may be addressed during cross examination suggests that MWG does not know what those opinions are. In fact, Mr. Quarles made his opinions perfectly clear, as required, in his expert reports and during his deposition. The Hearing Officer cannot possibly be suggesting that Complainants' experts are entitled to withhold their opinions and bases therefore from discovery before the hearing, or that Mr. Quarles, and even Mr. Shefftz, could make different opinions at the hearing that were not previously disclosed. That would be directly contrary to the requirements of Illinois Supreme Court Rule 213, which requires parties to disclose the subject matter, conclusions, and opinions of an expert, "in order to prevent unfair surprise at trial." Rule 213; Committee Comment to Ill. Sup. Ct. R. 213(f). In fact, in this matter, the Hearing Officer quoted that Committee Comment in his decision on MWG's Motion *in limine* before the first hearing. H.O. Order, July 18, 2017. It would be arbitrary and capricious for the Hearing Officer to now disregard Illinois procedural rules and his own precedence. Mr. Quarles's opinions are limited to what he previously disclosed, and MWG knows what those opinions are. There is no speculation involved.

a. None of Mr. Shefftz's Assumptions Are Based on Direct or Circumstantial Evidence or His Own Expertise

The Hearing Officer is correct that an expert may rely on counsel's assumptions or hypotheticals "if [they are] based on direct or circumstantial evidence." H.O. July 13, 2022 Order, p. 9 (emphasis added). But here, none of the assumptions Mr. Shefftz relies on to formulate his opinion are based upon direct or circumstantial evidence or even his own expertise and experience.

When an expert opinion is "totally lacking in factual support, it is nothing more than conjecture and guess and should not be admitted as evidence." *Harris Tr. & Sav. Bank v. Otis Elevator Co.*, 297 Ill. App. 3d 383, 393, 231 Ill. Dec. 401, 696 N.E.2d 697, 705 (1998). It is well established

that, “For expert testimony to be admissible, an adequate foundation must be laid establishing that the information that the expert bases the opinion upon is reliable.” *Taylor v. Cnty. of Cook*, 2011 IL App (1st) 093085, ¶ 32; *Kruzek v. Estate of Kruzek*, 2012 IL App (1st) 121239-U, ¶ 31 (limiting testimony based on lack of reliable foundation); ILL. R. EVID. 703. It is the burden of the proponent of expert testimony to lay this foundation. *People v. Safford*, 392 Ill. App. 3d 212, 221 (1st Dist. 2009) (trial court erred when it allowed proposed expert examiner to testify to conclusions without providing evidentiary foundation for his opinion). A tribunal “is not required to blindly accept the expert’s assertion that his testimony has analyzed the adequacy of the foundation.” *Soto v. Gaytan*, 313 Ill. App. 3d 137, 146 (2d Dist. 2000). After all, 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; *Todd W. Musburger, Ltd. v. Meier*, 394 Ill. App. 3d 781 (1st Dist. 2009). In other words, if an expert’s opinion lacks factual support or fails to follow established standards, it should not be received. *Musburger*, 394 Ill. App. 3d at 802 (affirming barring expert opinion that lacked factual basis); *In re Marriage of Cutler*, 334 Ill. App. 3d 731, 736–37 (5th Dist. 2002) (expert opinion should not have been received because it lacked a proper foundation).

To lay an adequate foundation for expert testimony, “it must be shown 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; Fed. R. Evid. 703.⁷ Moreover, even if the opinion passes the reasonable reliance test, the testimony can still be inadmissible if it “runs afoul of other evidentiary requirements.” *Modelski v. Navistar Int’l Transp. Corp.*, 302 Ill. App. 3d 879, 885, 707 N.E.2d 239, 244 (1st Dist. 1999). For example, “testimony grounded in guess, surmise, or conjecture, not

⁷ In *Wilson v. Clark*, 84 Ill. 2d 186, 192-96, 417 N.E.2d 1322, 49 Ill. Dec. 308 (1981), the Illinois Supreme Court adopted Federal Rules of Evidence 703.

being regarded as proof of a fact, is irrelevant as it has no tendency to make the existence of a fact more or less probable. From this conclusion follows the rule that expert opinions based upon the witness's guess, speculation, or conjecture as to what he believed might have happened are inadmissible.” *Id.* at 886. Moreover, “[t]he party calling the expert witness must lay a foundation sufficient to establish that the information upon which the expert bases his opinion is reliable.” *Turner v. Williams*, 326 Ill. App. 3d 541 (2d Dist. 2001).

Here, Mr. Shefftz’s expert opinion is totally lacking in factual support and none of the assumptions fed to Mr. Shefftz are supported by direct or circumstantial evidence. As explained throughout this appeal, Mr. Shefftz’s opinion is based upon prior expert opinions that Complainants have clearly withdrawn – the Kunkel remedy opinions. In fact, in attempting to justify why their new technical expert, Mr. Quarles, ignored the Kunkel remedy, Complainants stated in their response to MWG’s motion in *limine* to exclude Quarles that the Kunkel Remedy Report “is not part of the liability phase record.” Comp. Quarles Resp. p. 4, March 4, 2022 (emphasis added).⁸ They repeat that Kunkel’s Remedy Report, “is not a part of the record in the liability phase proceeding...” *Id.* at 5. And yet, and despite essentially disavowing its existence through their new expert Mr. Quarles, Complainants provide the Kunkel remedy report to Mr. Shefftz for him to rely on. The result is that Mr. Shefftz relies on opinions about a previously proposed remedy that Complainants’ new expert has no opinion about (and he has never heard of Mr. Kunkel). Mr. Shefftz’s opinions from a former expert have no foundation, no validity, and no basis because neither Mr. Shefftz, nor the former expert (Mr. Kunkel), nor Mr. Quarles, nor any other witness can support or even testify about the underlying facts. Complainants simply cannot

⁸ Complainants’ Response to MWG’s Motion in *Limine* Regarding Quarles is difficult to cite because Complainants fail to sequentially number the pages, in violation of 35 Ill. Adm. Code 101.302.

establish that the information upon which Mr. Shefftz bases his opinion is reliable, contrary to Illinois law.

Similarly, the assumptions from Complainants' counsel, on which Mr. Shefftz specifically relies, are also not based on facts nor on any direct or circumstantial evidence. There is no document, fact, evidence, or testimony in the record supporting the assumptions counsel told Mr. Shefftz to rely on -- that a removal action should have begun one month after the initial sampling event or that a removal action would take ten years. There is also no document, evidence, or testimony that, as counsel told Mr. Shefftz, MWG would have had to reline the pond nor that MWG would have even continued to manage the wet ash in the CCR surface impoundments.⁹ These facts form the basis of Mr. Shefftz's conclusions about the amount of economic benefit MWG allegedly obtained and are unsupported and patently unreliable.

Mr. Shefftz has no independent knowledge or expertise that would give him the ability to rely upon the assumptions fed him by Complainants' counsel or Kunkel's report. *People v. Negron*, 2012 IL App (1st) 101194, ¶ 13, 368 Ill. Dec. 545, 548, 984 N.E.2d 491, 494, (Expert allowed to testify because assumptions were founded in the same subject as her expertise.). Mr. Shefftz readily admitted that he is not an engineer and cannot testify as to the accuracy of any of the assumptions he is relying upon. Ex. 4, Shefftz Jan. 2021 Rpt., p. 22, Ex. 6, Dep p. 61:6-8 (“*As I am an economist, not an engineer, I have no independent expert opinion on the cost estimates that were prepared in that report.*”). He similarly stated that “*I am an economist, not an engineer, I have no independent expert opinion on the cost estimates prepared in that report. So, same thing here regarding the ten-year schedule, both number of years and the timing of it.*” Ex. 6 p. 75:2-8.

⁹ For example, CCR may be managed by using a submerged scraper conveyor system, which continuously conveys the CCR to an outlet via a scrapper – an entirely different than the passive system in a CCR surface impoundment. See https://global.kawasaki.com/en/energy/solutions/energy_plants/ash/seal.html (last visited July 18, 2022).

He also stated, “*I’m relying upon petitioners’ counsel. I’m not forming any independent expert opinion on the legal issues here or the engineering aspects, monitoring issues or whatever.*” Ex. 6, p. 110:19-22 (emphasis added). He has no direct knowledge or expertise in corrective actions, large scale removal actions, the duration the removal action should take, the date the removal action should have occurred, and the legal expertise to distinguish whether the violations are continuing. Because he has no expertise in these topics, he cannot (nor did he) use his own expertise or knowledge to interpret the data and make the resulting assumptions.

The single case the Hearing Officer relies upon in his decision denying MWG’s motion actually supports the fact that assumptions experts rely on must be based on facts. *Timber Creek Homes, Inc. v. Village of Round Lake Park, Round Lake Village Board and Groot Industries, Inc.* concerns a request by a home association to review a village’s decision to grant siting for a waste transfer station. PCB 14-99 slip at 18, (Aug. 21, 2014), p. 1. The home association, village, and waste transfer station each engaged expert appraisers to opine on the potential impact to property values. *Id.* p. 19-20. The Board accepted the village’s and waste transfer station’s expert opinions because they were based upon evidence. The Board, however, specifically rejected the home association’s expert opinion because it was solely based upon assumptions. *Id.* at 72. While the Board reached that conclusion after the hearing, that was simply because no one in that case filed a motion *in limine* to strike the home association’s expert testimony based solely on assumptions.

Because Mr. Shefftz does not rely upon any facts, documents, testimony, or any evidence at all – direct, circumstantial, or otherwise – Mr. Shefftz’s opinions lack factual support and fail to follow established standards. Accordingly, the Board should reverse the Hearing Officer and order that the Shefftz opinions be excluded. *Musburger*, 394 Ill. App. 3d at 802

b. It is Error to Accept the Shefftz Opinions when MWG is Precluded from Cross-Examining Any of the Assumptions Shefftz Relies on.

The Hearing Officer makes no mention of the fact that MWG cannot even challenge Mr. Shefftz's assumptions because there is no witness to be cross-examined. Mr. Shefftz relies on an expert opinion by Complainants' original expert, Mr. Kunkel, which is based on a remedy that Complainants will not be presenting at the hearing and Complainants have now rejected. Mr. Shefftz also relies on assumptions given to him by Complainants' counsel with no other basis in fact. None of the parties providing the assumptions can be compelled to testify at the hearing, and, in addition to a lack of any foundation, MWG is materially prejudiced because it has no ability to cross-examine those assumptions.

i. MWG Cannot Cross-Examine Remedy Cost Estimates Presented by Complainants' Former Expert (Mr. Kunkel)

The Hearing Officer's decision explicitly allows Complainants to hide the ball -- they may now rely on the withdrawn Kunkel remedy estimates to support their economic expert's analysis by Mr. Shefftz, and at the same time are allowed to reject the Kunkel remedy and state an entirely new approach by Mr. Quarles. Ultimately MWG is precluded from cross examining anyone on the basis for the cost estimates that underlying Mr. Shefftz's opinions. To that end, MWG has also appealed the Hearing Officer's denial of MWG's motion *in limine* to exclude Complainants' replacement expert on remedy, Mark Quarles.

Because the Hearing Officer allowed Complainants to replace Mr. Kunkel as their expert, MWG cannot cross examine him at the hearing about his remedy estimates, process, or proposal, on which Mr. Shefftz now relies, because Mr. Kunkel is no longer a witness in this case. Moreover, Mr. Kunkel cannot be compelled to appear because he does not live in Illinois.¹⁰ *Hulsey v. Scheidt*,

¹⁰ Mr. Kunkel testified he lives in Colorado. 1/29/2018 Hearing Tr. p. 94:21.

258 Ill. App. 3d 567, 576, 196 Ill. Dec. 740, 746 (1st Dist. 1994) (Court found that out of state witnesses could not be compelled to testify because a subpoena is not enforceable unless issued by a court which had *in personam* jurisdiction over the individual). MWG also cannot cross examine Complainants' new expert, Mr. Quarles, about the Kunkel remedy cost estimates (relied on by Mr. Shefftz) because Mr. Quarles made it very clear that he neither reviewed nor relied on the Kunkel reports in any way, he did not review Mr. Kunkel's deposition testimony, and nor did he review Mr. Kunkel's hearing testimony. Quarles Dep., Ex. 2, p. 53:24-54:20. MWG also cannot cross examine Mr. Shefftz about the basis for the remedy cost estimates that Mr. Shefftz himself uses because he repeatedly stated he had no opinion on the estimates that form the basis of his entire opinion, and was simply told to use them. Ex. 3, Shefftz Jan. 2021 Rpt. p. 22, Ex. 4, Shefftz Rebuttal Rpt. p. 14, Shefftz Dep, Ex. 6, pp., 61:3-15; 73:12-75:19; 110:18-22. This inability to cross-examine is the exact reason that Illinois Courts require that any new expert be limited to expounding and adding to the opinions of the former expert – so that there is a witness available to be examined. *People v. Pruim*, PCB 04-207 (Sept. 24, 2008) (Hearing Officer allowed substitution of expert witness because the new expert worked to develop the supplemental opinion, indicating that there was little difference between the old and new expert opinions.)

In fact, when MWG cross-examined Mr. Kunkel about his cost estimates during his sworn deposition, the cost estimates completely fell apart. Mr. Kunkel admitted that both his high and low unit costs were inaccurate and not representative of the actual costs. Ex. 7, Kunkel Dep. pp. 190:19-197:16. Because Mr. Kunkel will not be testifying at the hearing, and no other witness for Complainants has reviewed his remedy or cost estimates, MWG has no ability to further challenge the testimony based on the Board's Interim Order, or explain to the Board why no weight should be given to it.

Now, in addition to being unable to challenge the appropriateness of a “removal” remedy in the first place (because Complainants’ new expert Quarles does not adopt a removal remedy), there is no witness who has any information and may answer on cross-examination the following questions:

- How Mr. Kunkel’s proposed removal remedy comports with the Board’s findings at each Station.
- Whether Mr. Kunkel’s analysis of the location of removals is appropriate in light of the Board’s findings at each Station.
- Why Mr. Kunkel’s excavation and backfilling estimates for a municipality are reliable estimates for the removal project he is recommending?
- How far Mr. Kunkel’s potential ash disposal locations are from the MWG Stations and whether estimated disposal costs reflect that distance?
- Whether Mr. Kunkel investigated landfills that would accept the CCR?
- If so, what landfills and what was the result of his investigation?
- Whether a landfill’s refusal to accept the CCR would change the cost estimates?
- Whether alternative transportation methods were investigated, and if so, the results?
- Whether Mr. Kunkel’s cost estimated accounted for the costs of tipping fees for disposal at a landfill?
- What was the source of the material to be used to backfill following the extensive, proposed excavation?
- How far away was the source of the backfill material?
- What was the estimated cost of the backfill material and the costs for transportation?
- Whether Mr. Kunkel’s costs fail to include the disposal costs?
- Whether Mr. Kunkel’s estimates fail to include the costs of excavation and backfilling?

And there are many more questions that *could* go to the weight of Mr. Shefftz’s purported economic benefit analysis *if* there were a witness available.

In sum, there is *nobody* who can or will defend the cost estimates relied upon by Mr. Shefftz at the hearing because every subsequent expert for Complainants denies any knowledge. MWG is materially prejudiced if it is required to accept the Kunkel cost estimates AS IS without cross examination, and also accept Mr. Shefftz's reliance upon the cost estimates, without challenge. It is arbitrary and capricious to allow the unsubstantiated cost estimates in as evidence and the Hearing Officer's decision should be reversed.

ii. MWG Cannot Cross-Examine Assumptions Fed to Mr. Shefftz by Complainants' Counsel

The Hearing Officer also made no mention of and appears to have disregarded MWG's objections to Mr. Shefftz's reliance on assumptions solely from Complainants' counsel. Complainants' counsel readily admitted that they are the sole source of Mr. Shefftz's assumptions, without any evidentiary basis, direct or circumstantial. As Complainants' counsel have not offered themselves up as witnesses, MWG cannot cross examine them on the basis for each of the assumptions provided to Mr. Shefftz. As such, it would be arbitrary and capricious to allow an expert to rely on unsupported assumptions, without direct or circumstantial basis in the record, as the basis for expert opinions.

As admitted by Complainants, Mr. Shefftz relied upon Complainants' counsel for very specific assumptions that formed the basis for his conclusions about economic benefit to MWG. In fact, without those assumptions from counsel to use as input into his "model", Mr. Shefftz's entire process for calculating economic benefit fails. Counsel fed to Mr. Shefftz how long the (withdrawn) Kunkel remedy would take and told Mr. Shefftz to assume that the violations are "continuing." Ex. 4, p. 14. As the Board is aware, this assumption of continuing violations was reconsidered by the Board in its Revised Interim Order. Board Feb. 6, 2020 Order, p. 13 (Holding that the groundwater management zones continue to be applicable). In fact, Complainants' counsel

even stated that Mr. Shefftz should be allowed to rely on Complainants' counsel's assumptions because of "Complainants' Counsel's knowledge of how long similar cleanup projects have taken." Complainants' Response to MWG's Motion p. 6-7, emphasis added and excerpt attached as Ex. 8. Again, it cannot possibly be held that such assumptions made by counsel, and not a from witness that can be challenged under oath, are reliable evidence for expert testimony. Because Complainants will have *no one* to testify on the duration of the Kunkel remedy nor whether those violations are "continuing, MWG cannot challenge those bold assumptions at the hearing. MWG is forced to go to hearing without being able to assess or cross examine:

- What "similar projects" are Complainants' counsel referring to for their alleged knowledge? What states? What sites? How are the sites "similar"? Did the sites contain CCR? If not – what did the sites contain? How big were the sites? What was the remedy? Where were the disposal locations that the waste went to and how far was the transportation? What other remedies were considered?
- The basis for the assumption that an ash removal project would begin within one month after the first round of sampling occurred at the MWG Stations?
- How counsel's assumptions comport with requirements (timing, permitting, assessments etc.) of 35 Ill. Adm. Code 845 ("Illinois CCR Rule")?
- How counsel's assumptions fit within the rules and practices of the Illinois EPA and the Illinois Site Remediation Program ("SRP") process under 35 Ill. Adm. Code Part 740?
- The basis for counsel's statements that the violations are continuing in light of the Board's interim opinions, including the Board's opinions concerning groundwater management zones.

Similarly, Counsel simply told Mr. Shefftz not to offset his economic benefit calculation with costs MWG had already expended to reline its CCR ponds as part of a remedy in MWG's Compliance Commitment Agreements. Mr. Shefftz relied solely on Complainants' *counsel's* suggestion that MWG would have had to reline its ponds in any case. Ex. 4, p. 14, Ex. 6, 100:10-101:18. But, that is not correct. First, in his remedy opinion, Mr. Kunkel made it clear that his ash removal remedy was not merely removing the ash from inside the ponds for a relining. Instead, his

recommended removal included a complete removal project, and completely backfilling the ponds with clean fill. Certainly, MWG would not have relined a pond that was going to be backfilled. Mr. Kunkel repeatedly referred to the “removal, hauling and backfilling of the existing ash ponds” – *not* simply removing the ash from the ponds so that they could be relined and used again. Ex. 1, p. 2. In fact, Mr. Kunkel made no suggestion that the ponds should or could be relined or reused following the ash removal. 10/27/2017 Hr. Tr. p. 35:1; 10/27/2017 Hr. Tr. p. 171:4-5. However, because Mr. Kunkel will not be a witness, and because Complainants counsel will not testify, MWG has no method to interrogate or cross examine the assumption that the ponds would have to be relined – an assumption that Mr. Shefftz relies on for his calculations.

Second, *counsel's* assumption that the ponds would have been relined anyway after a removal is directly contrary to the evidence. As Complainants and the Board well know, the routine process of removing ash from a pond that will be reused is completely different from a complete removal. 10/24/17 Hearing Tr. pp. 131:3-16, 224:3-9, 1/31/18 Hearing Tr. p. 236:16-20. Routine removals remove CCR from the middle of the ponds, to prevent damaging the liners. To suggest that the removal on the scale stated by Mr. Kunkel is the same as a routine cleanout is contrary to the record in this case, and false. *Id.* Many more questions would serve to challenge *counsel's* assumptions, and MWG is highly prejudiced if it is required to accept the Shefftz assumptions AS IS.

iii. The Board Has a Responsibility for Gatekeeping Expert Opinions that are Wholly Lacking in Basis

The Hearing Officer's decision failed to address the key problem with Mr. Shefftz's opinions; that there is no one to testify as to any of these assumptions upon assumptions. Mr. Kunkel is not available to explain what he meant or how he reached the remedy costs he reached. Mr. Quarles, Kunkel's replacement, never reviewed the Kunkel reports, depositions, or hearing testimony and

has no opinions about them. Ex. 2, p. 53:19-54:20. Complainants' counsel is not agreeing to be a witness to have counsel's assumptions challenged. And Mr. Shefftz simply accepted the assumptions without question. Mr. Shefftz specifically stated that he only used the cost figures that appeared in a single table of Mr. Kunkel's report, and the date of the report. Ex. 6, Shefftz Dep. p. 60:7-23.

While the Board may generally prefer to allow testimony to be presented and to then assess its weight, this situation is particularly egregious and a clear exception. Just like the courts in Illinois, the Board has a responsibility for expert "gatekeeping" when the circumstances require it. *Soto v. Gaytan*, 313 Ill. App. 3d 137, 147, 245 Ill. Dec. 769, 776 (2nd Dist. 2000) (Court found trial court abused its discretion allowing unreliable expert testimony stating "[a]s the gatekeeper of expert opinions disseminated to the jury, the trial court plays a critical role in excluding testimony that does not bear an adequate foundation of reliability"); *Sw. Ill. Dev. Auth. v. Masjid Al-Muhajirum*, 348 Ill. App. 3d 398, 401, 284 Ill. Dec. 164, 167, 809 N.E.2d 730, 733 (5th Dist. 2004) (Court approved trial court, as "gatekeeper," striking of the defendant's expert opinion because it was based upon speculative information). Here, the Board is faced with opinions presented by an expert that are based on *assumptions from counsel and a withdrawn and unavailable expert*, and there is no witness available to allow the assumptions to be questioned for their relative weight. It would be clear error for the Board to allow the testimony to proceed.

c. Allowing an Unsupported Expert Opinion Violates Illinois Supreme Court Rule 213

Allowing Mr. Shefftz's unreliable opinions to proceed is a clear violation of Illinois procedural and evidentiary law. Given the number of motions before the Hearing Officer, and the complexity and intertwining of Mr. Shefftz, Mr. Kunkel and Mr. Quarles, it is not surprising that errors exist. For example, the Hearing Officer mistakenly stated that Mr. Shefftz replaced Mr. Kunkel and that

Mr. Kunkel's testimony included an economic benefit analysis – neither of which is accurate. H.O. July 13, 2022 Order, p. 9.

In another questionable finding, the Hearing Officer's decision states that MWG's argument "in its motion *in limine* is speculative as to what Mr. Quarles will testify to," referring to whether Mr. Quarles might, at hearing, provide support for the Kunkel remedy opinions on which Mr. Schlissel relies. The Hearing Officer's decision went on to suggest that MWG may address its concerns during its cross-examination. Hearing Officer July 13, 2022 Order, p. 9. As stated above, there is no witness to testify about the basis for Mr. Shefftz' assumptions (and certainly not the assumptions made by Complainants' counsel). We already know exactly what Mr. Quarles will and may say at hearing – his reports and his deposition define his opinions. In fact, Mr. Quarles agreed in his deposition that all of his opinions appear in his two reports. Quarles Dep, Oct 12, 2021, p. 11, lines 10-14. Certainly, the Hearing Officer's decision is not suggesting that an expert's opinion, as described in his own reports, is mere speculation, or that the parties don't already know the expert's opinions *before the hearing*. Any suggestion that an expert would be entitled to create new theories or newly support materials previously ignored would violate Illinois Supreme Court Rule 213 and would violate the requirement for a fair hearing. 35 Ill. Adm. Code 101.610.

The applicable rule requiring disclosure of expert opinions in Illinois is Illinois Supreme Court Rule 213. The purpose of discovery rules governing the "disclosure of expert witnesses, their opinions, and the bases for those opinions[,] is to avoid surprise and to discourage strategic gamesmanship." *Thomas v. Johnson Controls Inc.*, 344 Ill. App. 3d 1026, 1032, 801 N.E.2d 90, (1st Dist. 2003). Supreme Court Rule 213 disclosures are mandatory and strict compliance is required and furthers the administration of justice by providing a degree of certainty in the trial process and eliminating a trial by "ambush." *Clayton v. County of Cook*, 346 Ill. App. 3d 367, 381,

805 N.E.2d 222, 281 Ill. Dec. 854 (2003); *Sullivan v. Edward Hospital*, 209 Ill. 2d 100, 109, 806 N.E.2d 645 (2004). Supreme Court Rule 213(f)(3) requires parties to furnish, among other things, the subject matter, conclusions, and opinions of controlled expert witnesses who will testify at trial. Supreme Court Rule 213(g) limits expert opinions at trial to "[t]he information disclosed in answer to a Rule 213(f) interrogatory, or at deposition." ILSC 213(g). The committee comments to Rule 213 explain that, "in order to avoid surprise, the subject matter of all opinions must be disclosed pursuant to this rule... and that no new or additional opinions will be allowed unless the interests of justice require otherwise." 177 Ill. 2d R. 213 (g), Committee Comments. Accordingly, pursuant to Rule 213, parties' expert opinions are limited to the opinions expressed in the written report and depositions and no new opinions are allowed.

The Hearing Officer has previously stated in this matter that the intent behind Supreme Court Rule 213 "provides general guidance: the rule is intended 'to prevent unfair surprise at trial, without creating an undue burden on the parties before trial.'" H.O. July 18, 2017 Order, *quoting* Committee Comment to Ill. Sup. Ct. R. 213(f). But implying that Mr. Quarles might be allowed to provide new testimony at the hearing that is not in his expert reports, not in his deposition, and would go to an issue that he specifically disregarded (Kunkel's remedy reports), is certainly "unfair surprise" and "trial by ambush" at its best. MWG's motion does not include "speculations" about Mr. Quarles's testimony. MWG merely repeated the opinions Mr. Quarles provided in his written reports and deposition. The Hearing Officer does not explain how MWG could cross examine Mr. Quarles in light of the fact that he ignored Mr. Kunkel's report and had never even heard of Mr. Kunkel. It would be clear error to state that rules and standards that all Illinois Courts, including the Illinois Supreme Court, must adhere to, may be disregarded without fully analyzing and addressing the impact of the decision to do so.

III. Conclusion

For the reasons stated above, MWG requests that the Board reverse the Hearing Officer's order and exclude the opinions by Complainants' expert Jonathan Shefftz that are solely based on a withdrawn expert, statements made by counsel, and assumptions and information MWG cannot interrogate or cross examine.

Respectfully submitted,
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EXHIBIT 1



In the Matter of:)	
)	
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.)	

Expert Report on Remedy for Ground-water Contamination

James R. Kunkel, Ph.D., P.E.

July 1, 2015



This expert report provides my professional technical analyses of possible remedy opinions and costs related to stopping or minimizing on-going ground-water contamination caused by leaky ash ponds and coal ash deposition on the ground surface outside the ash ponds at four coal-fired power plants (Joliet #29, Powerton, Waukegan, and Will County) in Illinois owned by Midwest Generation, LLC (MWG). My professional analyses and opinions are presented in the following paragraphs for each of the four power plants with emphasis on remedy options which, if implemented, would stop or minimize the continuing ground-water contamination from MWG's ash ponds and/or other coal ash disposal areas at the four power plant sites.

SUMMARY OF CONCLUSIONS

- The remedy at all four power plant sites is the removal, hauling and backfilling of the existing ash ponds and selected areas of ash-impacted soils in order to reduce the ground-water contamination source terms;
- At Joliet #29, the remedy includes the ash ponds and the northeast ash landfill comprising approximately 393,000 tons of material. This remedy is estimated to cost between approximately \$11.6 and \$16.9 million;
- At Powerton, the remedy includes the ash ponds comprising approximately 1,354,000 tons of material. This remedy is estimated to cost between approximately \$39.7 and \$58.2 million;
- At Waukegan, the remedy includes the ash ponds and the ash/slag storage area comprising approximately 967,000 tons of material. This remedy is estimated to cost between approximately \$28.3 and \$41.5 million;
- At Will County, the remedy includes the ash ponds comprising approximately 186,000 tons of material. This remedy is estimated to cost between approximately \$5.5 and \$8.0 million; and
- For all four sites combined, the total remedy cost range is between approximately \$84.9 and \$124.6 million.

INTRODUCTION

General

The remedy for continued long-term ground-water contamination at the four power plant sites is removal of the leaking ash ponds as well as all or a portion of the coal ash which has been deposited outside the ash ponds. The conclusions in my previous report (Kunkel, 2015) form the bases for this remedy report. Those conclusions were that continued use of the ash ponds results in liner leaks due primarily to liner damage from dredging of the coal ash, liner leaks due to high ground-water tables in the vicinity of the ash ponds cause hydrostatic uplift when the pond water levels are below the water table, and ash deposits leached by rainfall, snowmelt and rising/falling ground-water levels. Poor liner construction is an initial cause of liner defects which results in leaking ponds and release of contaminated fluids into the underlying ground water. Existing unlined or Poz-o-Pac lined ash ponds also have caused ground-water contamination.

Also, coal ash was utilized in the construction of roadways, pond dikes and also for general land leveling at all four power plants (Kunkel, 2015). Coal ash also was stored or disposed of outside the ash ponds as a method of temporary or final coal ash disposal and placed on the ground surface. This coal ash is subject to leaching by rainfall and snowmelt, rising and falling ground-water levels, and this leachate is transported downward causing contamination of the ground water.

Methodology

Based on existing soil borings and written documentation by MWG at the four power plant sites, I have been able to compile a database of estimated coal ash-impacted soil thickness for coal ash outside the ash ponds. I utilized this database to estimate the quantities of coal ash subject to leaching for each site. At



some sites the areal extent and depth of coal ash outside the ash ponds is extensive, as discussed below. I calculated the volumes of coal ash-impacted soil outside the ash ponds at each site by multiplying the total area defined by soil borings times the average thickness of coal ash-impacted soils based on those borings. If the ash ponds were removed, removal of the area outlined by the soil borings adjacent to the ash ponds, except at the Joliet #29 and Waukegan sites, would constitute a minimal remedy for those sites. At Joliet, the remedy is removal of not only the ash ponds, but also the northeast ash landfill. At Waukegan, the remedy is removal of not only the ash ponds, but also additional ash outside the ash ponds.

Continued use of ash ponds at the Joliet #29, Powerton, Waukegan and Will County generating stations is limited due to geographical restrictions contained in the USEPA (2014) coal combustion residual rule. That rule, in part, states that existing ash ponds must have their "base located no less than five feet above the uppermost aquifer" and "that there will not be an intermittent, recurring, or sustained hydraulic connection between any portion of the base of the pond and uppermost aquifer due to normal fluctuations in groundwater elevations (including groundwater elevations during the wet season)." Ash ponds constructed without a composite (or alternative composite) liner that meets the USEPA (2014) rule must either be retrofitted with an acceptable composite liner or closed. None of the MWG ash ponds at the four sites of interest meet either of the above requirements.

In-place capping of existing ash ponds is not a remedy due to the high likelihood that the existing ash pond liners at all four sites are either leaking, likely to leak due to high water table elevations, or do not meet the geographical restrictions of USEPA (2014). Rather, adequately addressing the contamination at the four sites requires the complete removal of the existing ash ponds and selected areas of coal ash deposited outside the ash ponds as the remedy. Coal ash from the ash ponds, coal ash used in construction activities at each site and the coal ash deposited on the ground surface outside the existing ash ponds must be placed in an appropriate landfill for the four MWG power plant sites.

The cost of removing the coal ash at each site, whether site-wide or only for the ash ponds, was based on local bid tabulations for removal and disposal of contaminated soils in northern Illinois and southern Wisconsin. Eleven different contractor bids were utilized for the years 2013 and 2014 which are representative of current soil removal and disposal costs. The unit costs utilized include the cost for a volume of uncontaminated soil equal to the volume of coal ash-impacted soil that would replace the contaminated soil removed. Pond removal costs at the four MWG power plant sites were estimated as though the ponds were coal ash-impacted soil having the same thickness defined by nearby soil borings. These soil borings were typically at the pond sites.

At all of the sites, I recommend that additional soil borings be done to better define the areal extent and thickness of coal ash-impacted soils. The number and locations of additional soil borings are based on engineering judgement. The unit cost of these additional soil borings assumes a geoprobe with a two-person crew. Additional monitoring also is recommended at the four MWG power plant sites as part of the remedies. The cost of these additional monitoring wells also assumed a drill rig with a two person crew.

Cost Bases

Local Bid Tabulations for Removal Existing Coal Ash-Impacted Soils and Ash Ponds. The cost basis for excavation, hauling, and backfilling with uncontaminated soil is based on 11 bid tabulations for northern Illinois and southern Wisconsin in 2013 and 2014 as shown in Table 1. The average unit cost from the bid tabulations is \$29.27 per ton of material excavated, hauled and backfilled. The average unit cost for similar excavation and hauling of coal ash/soil estimated for MWG by Patrick Engineering, Inc. (Bates Nos. 6823-6843) was given as \$42.95 per ton for loading and hauling only to a municipal solid waste (MSW) landfill in Illinois. The Patrick unit cost of \$42.95 per ton is credible based on the off-site disposal at a MSW facility. The average bid tabulation unit cost of \$29.27 per ton for soil contaminated with coal ash was utilized as a



reasonable value in estimating the cost to remove and dispose of coal ash-impacted soils from the four power plant sites; whereas, the Patrick unit cost of 42.95 was utilized as a higher estimate. Therefore, a range of unit costs from \$29.27 to \$42.95 per ton were utilized at each power plant site to estimate the costs to remove the existing ash ponds and ash-impacted soils at each site, haul the material removed to an existing landfill and backfill the excavated areas. An additional contractor mobilization cost of approximately \$25,000 was added to the total excavation, hauling and backfilling cost at each site, although this mobilization cost is small compared to the excavation, hauling and backfilling cost.

Additional Soil Borings. The cost of additional soil borings at each site was assumed based on the existing soil borings already completed at the site as well as the locations of suspected or known site coal ash disposal which had not been well documented either in its areal extent or thickness. I assumed that a daily geoprobe cost was \$1,500.00 per day for a two-person crew. No mobilization or de-mobilization costs were assumed in addition to this daily rate. I assumed that 8 geoprobe soil borings per day could be completed. This cost also is small compared to the excavation, hauling and backfilling costs for ash-impacted soils at each site.

Additional Ground-water Monitoring Wells. The cost of additional ground-water monitoring wells is not estimated in this report, because the numbers and locations of these monitoring wells are unknown at this time. However, additional ground-water monitoring is not a necessary prerequisite for the minimal remedy discussed above.

JOLIET #29

Coal Ash-Impacted Soil Estimates

The quantity of coal ash impacted soils at the Joliet site is based on the total land area inside the solid red perimeter line shown on Figure 1. This total area was estimated to be 251 ac including the areas described for the ponds and the old coal ash landfills (Bates Nos. 48403-48414). Within this 251-ac site area is a smaller pond area located inside the dashed red perimeter line. This pond area was estimated to be 15 ac. Additionally, within the 251-ac site area, there are two old coal ash landfill areas northeast and southwest of the power plant and ponds as shown on Figure 1. These two coal ash landfills are estimated to have areas of 44 and 34 ac respectively. The coal ash-impacted soil area for the pond area and northeast landfill is summarized for the Joliet #29 site on Table 6. An estimate of the coal ash-impacted soil volumes for the site area and the ash pond area was made from existing soil borings shown on Figure 1 and the average estimated thickness of coal ash-impacted soils from the borehole logs summarized in Table 2. Because no definitive soil borings showing coal ash thickness are available for the northeast coal ash landfill, it is not possible to make precise estimates of the coal ash volumes at that site. However, it was assumed that, on average, the coal ash-impacted soil thickness at the northeast ash landfill was 4 ft. This assumption is based upon spreading dump truck loads of ash using a dozer.

Utilizing the site area (251 ac) and its average coal ash thickness of 1.4 ft as shown in Table 2, the total site-wide coal ash-impacted soils is calculated to be on the order of 567,000 yds³ as shown in Table 6. However, there may be over 281,000 yds³ in just the old northeast coal ash landfill depending on future soil boring data. The ash pond area of 15 ac is estimated to have approximately 33,880 yds³ of coal ash-impacted soils (Table 6). The total volume of coal ash-impacted soils at the Joliet #29 power plant site may range from approximately 33,900 to 567,200 yds³. Approximately 314,000 yds³ may be in the pond area and northeast landfill areas. Removal of the coal ash-impacted soils and the ash ponds in these two areas would significantly reduce the potential ground-water contamination source-term at the Joliet #29 plant site in my opinion.



Additional Soil Borings

Visual inspection of Figure 1 indicates that only about one-half of the Joliet #29 total site area has soil borings which could characterize the thickness of coal ash-impacted soils. Thus, I conclude that additional soil borings are required at the site, especially in the northeast coal ash landfill area. I recommend that at least one geoprobe soil boring per two acres be completed with 20 around the perimeter of the northeast coal ash landfill and 22 in the interior of the landfill for a total of 42 soil borings. An additional 15 soil borings should be completed in the area north and east of the existing coal pile at the Joliet #29 site. A minimum 57 total additional soil borings for the Joliet #29 site are necessary to assess the thickness of coal ash-impacted soils in areas without any soil borings.

Additional Ground-water Monitoring

Leaching of coal ash at the old northeast coal ash landfill is most likely partly responsible for the ground-water contamination seen in the Joliet #29 ground-water monitoring wells. Additionally, it is likely that ground-water contamination from leaching of coal ash at the old southwest coal ash landfill also is occurring but is not monitored by the existing up-gradient ground-water monitoring wells. To confirm this, additional ground-water monitoring wells should be installed in the northeast coal ash landfill area. The number and cost of these additional ground-water monitoring wells are not estimated.

Coal Ash-Impacted Soil Remedy Cost for Joliet #29

For the Joliet #29 power plant site, the remedy is the removal of coal ash-impacted soil as well as the existing ash ponds. The cost of this remedy is the cost of coal ash-impacted soil excavation and hauling to an approved off-site landfill and backfilling with soil to achieve the pre-removal ground-surface contours. This remedy also would include 57 additional soil borings to better characterize the coal ash-impacted soil thickness of the northeast coal ash landfill as well as the area north and east of the existing coal storage area.

The volume of coal ash-impacted soils is the volume shown in Table 6 for the northeast coal ash landfill and the pond areas (a total of 59 ac) totaling approximately 314,000 yds³. Assuming a dry unit weight per yd³ of 1.25 tons and a low unit cost of \$29.27 per ton, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$11.5 million as shown in Table 6. If the high unit cost of \$42.95 per ton is used, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$16.9 million, also as shown in Table 6.

The cost of 57 additional geoprobe soil borings at the site, assuming 8 borings per day and \$1,500 per day for a geoprobe unit, is estimated to be \$11,000. The average mobilization cost for the coal ash-impacted soil equipment is estimated to be approximately \$25,000, also as shown in Table 1. Therefore the total estimated cost for the coal ash-impacted soil remedy ranges from approximately \$11.6 to \$16.9 million for the Joliet #29 site. If only the pond areas are reclaimed, the coal ash-impacted soil remedy ranges from approximately \$1.3 to \$1.8 million. These estimates are highly dependent on the coal ash-impacted soil thickness assumed for the northeast coal ash landfill. A rather small change in this thickness will significantly change the total estimated cost for this remedy.

POWERTON

Coal Ash-Impacted Soil Estimates

The quantity of coal ash impacted soils at the Powerton site is based on the total land area inside the solid blue perimeter line shown on Figure 2. The total land area of the Powerton site is 2,314 ac (Bates Nos. 48415-48426) which includes Powerton Lake. Only the land area shown in the solid blue perimeter line was utilized as the site area where coal ash-impacted soils may be present. This site area was estimated to be 349 ac, which includes the area described for the ponds and the former ash pond shown inside the solid



red line. Within this 349-ac area is a smaller pond area located inside the dashed blue line. This pond area was estimated to be 73 ac. Additionally, within the 73-ac total area, there is the unlined Former Ash Pond area shown inside the solid red line on Figure 2. These coal ash-impacted areas are summarized for the Powerton site on Table 6.

From existing soil borings shown on Figure 2 and the average estimated thickness of ash-impacted soils from the borehole logs summarized in Table 3, an estimate of the coal ash-impacted soil volumes for the site area and the ash pond area was made. Because no definitive soil borings showing coal ash thickness are available for the northeast and southwest areas of the site, it is not possible to make precise estimates of the coal ash volumes at these two sites. However, it was assumed that the average coal ash-impacted soil thickness shown in Table 3 for the site area is representative and is equal to 6.6 ft.

Utilizing the average total site area (349 ac) and its average coal ash thickness of 6.6 ft, as shown in Table 3, the total site-wide coal ash-impacted soils is calculated to be on the order of 3,720,000 yds³ as shown in Table 6. The ash pond area of 73 ac is estimated to have approximately 1,084,000 yds³ of coal ash-impacted soils (Table 6) based on an average coal ash-impacted soil thickness of 9.2 ft for the pond area. The total volume of coal ash-impacted soils at the Powerton power plant site may range from approximately 1,084,000 to 3,720,000 yds³. Removal of the 1,084,000 yds³ of coal ash-impacted soils and the ash ponds at Powerton would reduce the ground-water contamination source-term at the Powerton plant site.

Additional Soil Borings

Visual inspection of Figure 2 indicates that only the extreme northeast and southwest portions of the Powerton total site area lack soil borings which could characterize the thickness of coal ash-impacted soils. Thus, additional soil borings are required at the site especially in these two areas. I recommend that at least one geoprobe soil boring be completed every 300 ft around the perimeter of the northeast and southwest extremes of the site for a total of 15 soil borings. These would be the minimum total additional soil borings for the Powerton site in order to assess the thickness of coal ash-impacted soils in those areas.

Additional Ground-water Monitoring

Monitoring Well MW-16 is an up-gradient ground-water monitoring well. However, to better assess potential down-gradient ground-water quality impacts and to establish whether removal of the existing ash ponds is an acceptable remedy at the Powerton site, I recommend that at least one or more ground-water monitoring wells be located north of the site between MW-4 and the Illinois River and at least one ground-water monitoring well be located southwest of soil boring B-31. Additional ground-water monitoring also should be located near the location of soil boring GT-2. Figure 2 shows the locations of the existing ground-water monitoring wells and soil borings. The number and cost of these additional ground-water monitoring wells are not estimated in this report.

Coal Ash-Impacted Soil Remedy Cost for Powerton

For the Powerton site, the remedy is the removal of coal ash-impacted soil as well as the existing ash ponds. The cost of this remedy is the cost of coal ash-impacted soil excavation and hauling to an approved off-site landfill and backfilling with soil to achieve the pre-removal ground-surface contours. This remedy also would include 15 additional soil borings to better characterize the coal ash-impacted soil thickness of the northeast and southwest areas of the site as well as the area north and east of the existing coal storage area.

I assumed that the volume of coal ash-impacted soils is the volume shown in Table 6 for the pond areas (73 ac) totaling approximately 1,084,000 yds³. Assuming a dry unit weight per yd³ of 1.25 tons and a low unit cost of \$29.27 per ton, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$39.6 million as shown in Table 6. If the high unit cost of \$42.95 per ton is



used, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$58.2 million, also as shown in Table 6.

The cost of 15 additional geoprobe soil borings at the site, assuming 8 borings per day and \$1,500 per day for a geoprobe unit, is estimated to be \$3,000. The average mobilization cost for the coal ash-impacted soil equipment is estimated to be approximately \$25,000 also as shown in Table 1. Therefore, the total estimated cost for the coal ash-impacted soil remedy ranges from approximately \$39.7 to \$58.2 million for the Powerton site. These estimates are highly dependent on the assumed coal ash-impacted soil thickness estimated for the ash pond area.

WAUKEGAN

Coal Ash-Impacted Soil Estimates

The quantity of coal ash-impacted soils at the Waukegan site is based on the total land area inside the red perimeter line shown on Figure 3. This site area was estimated to be 249 ac (Bates Nos. 48427-48432), including the area described for the ponds and the former coal ash/slag storage area shown inside the solid blue line. Within this 249-ac area is a smaller pond and coal ash/slag storage area located inside the dashed red and solid red perimeter line. This pond and coal ash/slag area was estimated to be 44 ac, as shown on Figure 3. These coal ash-impacted areas are summarized for the Waukegan site on Table 6.

I calculated the coal ash-impacted soil volumes for the site area and the ash pond area from existing soil borings shown on Figure 3 and the average estimated thickness of coal ash-impacted soils from the borehole logs summarized in Table 4. The average coal ash-impacted soil thickness for the site area, based on the available soil borings, is 5.3 ft. Utilizing the average site area (249 ac) and its average coal ash thickness of 5.3 ft as shown in Table 4, the site-wide coal ash-impacted soils is calculated to be on the order of 2,129,000 yds³, as shown in Table 6. The ash pond and coal ash/slag storage areas of 44 ac is estimated to have approximately 774,000 yds³ of coal ash-impacted soils (Table 6), based on an average coal ash-impacted soil thickness of 10.9 ft for these areas. The total volume of coal ash-impacted soils at the Waukegan power plant site may range from approximately 774,000 to 2,129,000 yds³. Removal of the 774,000 yds³ of coal ash-impacted soils, the ash ponds and coal ash/slag storage area would significantly reduce the ground-water contamination source-term at the Waukegan plant site.

Additional Soil Borings

Visual inspection of Figure 3 indicates that the Waukegan total site area most likely has sufficient soil borings to adequately characterize the thickness of coal ash-impacted soils. Thus, no additional soil borings are required at the site.

Additional Ground-water Monitoring

Visual inspection of Figure 3 indicates that the Waukegan total site area likely has sufficient ground-water monitoring to adequately monitor the impacts of removal of the ash ponds and the coal ash/slag storage area. Thus, no additional ground-water monitoring wells are required at the Waukegan site.

Coal Ash-Impacted Soil Remedy Cost for Waukegan

For the Waukegan power plant site, the removal of coal ash-impacted soils in the coal ash/slag storage area as well as the existing ash ponds is assumed to be the remedy. The cost of this remedy is the cost of coal ash-impacted soil excavation and hauling to an approved off-site landfill and backfilling with soil to achieve the pre-removal ground-surface contours.



I assumed that the volume of coal ash-impacted soils is the volume shown in Table 6 for the coal ash/slag and ash pond areas (a total of 44 ac) totaling approximately 774,000 yds³. Assuming a dry unit weight per yd³ of 1.25 tons and a unit cost of \$29.27 per ton, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$28.3 million, as shown in Table 6. If the high unit cost of \$42.95 per ton is used, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$41.5 million, also as shown in Table 6.

The average mobilization cost for the coal ash-impacted soil equipment is estimated to be approximately \$25,000, also as shown in Table 1. Therefore, the total estimated cost for the coal ash-impacted soil remedy ranges from approximately \$28.3 to \$41.5 million for the Waukegan site. This estimate is highly dependent on the assumed coal ash-impacted soil thickness.

WILL COUNTY

Coal Ash-Impacted Soil Estimates

The quantity of coal ash-impacted soils at the Will County site is based on the total land area inside the red perimeter line shown on Figure 4. This total area was estimated to be approximately 215 ac (Bates Nos. 48433-48438) including the area described for the ponds shown inside the dashed red line. Within this 215-ac area is a smaller pond area located inside the dashed red and solid red perimeter line. This pond area was estimated to be 20 ac, as shown on Figure 4. These coal ash-impacted areas are summarized for the Will County site on Table 6.

From existing soil borings shown on Figure 4 and the average estimated thickness of coal ash-impacted soils from the borehole logs summarized in Table 5, I made an estimate of the coal ash-impacted soil volumes for the total area and the ash pond area. The average coal ash-impacted soil thickness for the site area, based on the available soil borings, is 2.1 ft. Utilizing the average total site area (215 ac) and its average coal ash thickness of 2.1 ft, as shown in Table 5, the total site-wide coal ash-impacted soils are calculated to be on the order of 728,000 yds³, as shown in Table 6. The ash pond area of 20 ac is estimated to have approximately 148,000 yds³ of coal ash-impacted soils (Table 6) based on an average coal ash-impacted soil thickness of 4.6 ft for that area. The total volume of coal ash-impacted soils at the Will County power plant site may range from approximately 148,000 to 728,000 yds³. Removal of the 148,000 yds³ of coal ash-impacted soils and the ash ponds would significantly reduce the ground-water contamination source-term at the Will County plant site.

Additional Soil Borings

Visual inspection of Figure 4 indicates that the Will County total site area most likely has sufficient soil borings to adequately characterize the thickness of coal ash-impacted soils. Thus, no additional soil borings are required at the site.

Additional Ground-water Monitoring

Visual inspection of Figure 4 indicates that the Will County total site area most likely has ground-water monitoring to adequately assess the impacts of removal of the ash ponds area. I recommend that one up-gradient ground-water monitoring well be installed at the north boundary of the site near East Romeo Road and the Des Plaines River to assess overall ground-water flow direction at the site. However, this is not a prerequisite for the remedy discussed above.

Coal Ash-Impacted Soil Remedy Cost for Will County

For the Will County site, the remedy is the removal of coal ash-impacted soils in the existing ash pond area. The cost of this remedy is the cost of coal ash-impacted soil excavation and hauling to an approved off-site landfill and backfilling with soil to achieve the pre-removal ground-surface contours.



For purposes of this report, the volume of coal ash-impacted soils is assumed to be the volume shown in Table 6 for the ash pond area (a total of 20 ac) totaling approximately 148,000 yds³. Assuming a dry unit weight per yd³ of 1.25 tons and a low unit cost of \$29.27 per ton, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$5.4 million, as shown in Table 6. If the high unit cost of \$42.95 per ton is used, the estimated cost to excavate, haul and backfill this volume of coal ash-impacted soil is approximately \$8.0 million, also as shown in Table 6.

The average mobilization cost for the coal ash-impacted soil equipment is estimated to be approximately \$25,000, also as shown in Table 1. Therefore, the total estimated cost for the coal ash-impacted soil remedy would range from approximately \$5.5 to \$8.0 million for the Will County site. This estimate is highly dependent on the assumed coal ash-impacted soil thickness.

CONCLUSIONS

- The remedy at all four power plant sites is the removal, hauling and backfilling of the existing ash ponds and selected areas of ash-impacted soils in order to reduce the ground-water contamination source terms;
- At Joliet #29, the remedy includes the ash ponds and the northeast ash landfill comprising approximately 393,000 tons of material. This remedy is estimated to cost between approximately \$11.6 and \$16.9 million;
- At Powerton, the remedy includes the ash ponds comprising approximately 1,354,000 tons of material. This remedy is estimated to cost between approximately \$39.7 and \$58.2 million;
- At Waukegan, the remedy includes the ash ponds and the ash/slag storage area comprising approximately 967,000 tons of material. This remedy is estimated to cost between approximately \$28.3 and \$41.5 million;
- At Will County, the remedy includes the ash ponds comprising approximately 186,000 tons of material. This remedy is estimated to cost between approximately \$5.5 and \$8.0 million; and
- For all four sites combined, the total remedy cost range is between approximately \$84.9 and \$124.6 million.

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- Patrick Engineering, Inc. (Patrick) 2011c. Hydrogeologic Assessment Report, Waukegan Generating Station, Waukegan, Illinois. Report submitted to the Illinois Environmental Protection Agency. February, Patrick Project No. 21053.070. 9 p., 3 tabs, 5 figs, Apps. A through D. (Comp. 003684-003775)



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U.S. Environmental Protection Agency (USEPA). 2010. 2010 Questionnaire for the Steam Electric Generating Effluent Guidelines ("the 2010 EPA survey"). Questionnaires for Joliet #29, Powerton, Waukegan, and Will County. (MWG13-15_823-2458)

U.S. Environmental Protection Agency (USEPA). 2014. Hazardous and Solid Waste Management System: Disposal of Coal Combustion Residuals from Electric Utilities [RIN-2050-AE81; FRL-9149-4]. December 10. 745 p. (Comp. 018103-018847)

ATTACHMENTS

Table 1	Summary of Bid Tabulation Unit Costs for Removal of Contaminated Soils
Table 2	Summary of Joliet #29 Ash Deposits Located Outside the Ash Ponds Based on Monitoring Well and Soil Boring Logs
Table 3	Summary of Powerton Ash Deposits Located Outside the Ash Ponds Based on Monitoring Well and Soil Boring Logs
Table 4	Summary of Waukegan Ash Deposits Located Outside the Ash Ponds Based on Monitoring Well and Soil Boring Logs
Table 5	Summary of Will County Ash Deposits Located Outside the Ash Ponds Based on Monitoring Well and Soil Boring Logs
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Figure 3	Waukegan Soil Boring Locations
Figure 4	Will County Soil Boring Locations

Table 1

**Summary of Bid Tabulation Unit Costs for Removal of Contaminated Soils
(Case No. PCB 2013-015)**

Contractor	Unit Cost (\$) ⁽³⁾		Contractor Location (State)	Source
	Item 1	Item 2		
	Mobilization (Lump Sum)	Contaminated Soil Excavation, Hauling & Backfilling (\$/Ton)		
1	6,829.00	18.50	WI	(1)
2	44,000.00	40.00	WI	(1)
3	12,000.00	25.07	WI	(1)
4	17,750.00	25.00	WI	(1)
5	45,000.00	26.40	WI	(1)
6	36,000.00	25.00	WI	(1)
7	23,000.00	41.00	IL	(1)
8	16,800.00	35.00	IL	(1)
9	--	26.00	WI	(2)
10	--	31.00	WI	(2)
11	--	29.05	WI	(2)
Average	\$25,172.38	\$29.27		
Std. Dev	\$14,661.66	\$6.91		
Max.	\$45,000.00	\$41.00		
Min.	\$6,829.00	\$18.50		
N	8	11		
Patrick ⁽⁴⁾	--	\$42.95	Illinois	Bates Nos. 6823-6843

(1) Project 13-2032 KEP Interim Action Soil Remediation. Bid Date: October 16, 2013.

(2) Project 14-2033 Soil Remediation. Bid Date: November 12, 2014.

(3) The unit cost includes the cost of contaminated soil excavation, hauling, and backfilling.

(4) Not included in the statistics and does not include backfilling.

Table 2

**Summary of Joliet #29 Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
MW-1	N/A ⁽⁵⁾	--	Patrick (2011a)
MW-2	N/A	--	Patrick (2011a)
MW-3	N/A	--	Patrick (2011a)
MW-4	N/A	--	Patrick (2011a)
MW-5	N/A	--	Patrick (2011a)
MW-6	N/A	--	Patrick (2011a)
MW-7	N/A	--	Patrick (2011a)
MW-8	N/A	--	Patrick (2011a)
MW-9	N/A	--	Patrick (2011a)
MW-10	N/A	--	Patrick (2011a)
MW-11	N/A	--	Patrick (2011a)
B-1	N/A	--	ENSR (1998b)
B-3	A ⁽⁶⁾	Unknown	ENSR (1998b)
B-4	A	Unknown	ENSR (1998b)
B-6	A	--	ENSR (1998b)
B-8	N/A	--	ENSR (1998b)
B-9	A	Unknown	ENSR (1998b)
B-10	A	Unknown	ENSR (1998b)
B-11	A	Unknown	ENSR (1998b)
B-12	N/A	--	ENSR (1998b)
B-13	A	Unknown	ENSR (1998b)
B-14	N/A	--	ENSR (1998b)
B-15	N/A	--	ENSR (1998b)
B-16	A	Unknown	ENSR (1998b)
B-17	A	Unknown	ENSR (1998b)
B-18	N/A	--	ENSR (1998b)
B-19	A	Unknown	ENSR (1998b)
B-20	N/A	--	ENSR (1998b)
JS29-GT-1	0 - 1	1	KPRG (2005a)
JS29-GT-2	0 - 1	1	KPRG (2005a)
JS29-GT-3	0 - 1	1	KPRG (2005a)
JS29-GT-4	N/A	--	KPRG (2005a)
JS29-GT-5	N/A	--	KPRG (2005a)
JS29-GT-6	0 - 2.5	2.5	KPRG (2005a)
Former Ash Disposal Area (Northeast of Plant Site and Ash Ponds)	Unknown	Unknown	KPRG (2009a, b), KPRG (2010), KPRG (2012a, b), KPRG (2013), ENSR (1998b)
Former Ash Disposal Area (Southwest of Plant Site and Ash Ponds)	Unknown	Unknown	ENSR (1998b)
	Mean	1.4	
	Std. Dev.	0.75	
	Max.	2.5	
	Min.	1	
	N	4	

(1) MW designates a monitoring well. All other designations are borings.

(2) Depth below ground surface from boring logs.

(3) Difference in maximum and minimum depth bgs.

(4) Reference or Bates Numbers.

(5) N/A = no ash in boring log.

Table 3

**Summary of Powerton Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
MW-1	N/A ⁽⁵⁾	0	Patrick (2011b)
MW-2	N/A	0	Patrick (2011b)
MW-3	N/A	--	Patrick (2011b)
MW-4	N/A	--	Patrick (2011b)
MW-5	0 - 12.5	12.5	Patrick (2011b)
MW-6	0 - 18	18	Patrick (2011b)
MW-7	0 - 13.5	13.5	Patrick (2011b)
MW-8	0 - 24.5	24.5	Patrick (2011b)
MW-9	0 - 17	17	Patrick (2011b)
MW-10	N/A	0	Patrick (2011b)
MW-11	0 - 16	16	Bates Nos. 40059-40062
MW-12	0 - 18.5	18.5	Bates Nos. 40059-40062
MW-13	0 - 15	15	Patrick (2011e)
MW-14	0 - 18.5	18.5	Patrick (2011e)
MW-15	0 - 20	20	Patrick (2011e)
MW-16	N/A	0	REF?
B-1	N/A	0	ENSR (1998c)
B-4	N/A	0	ENSR (1998c)
B-5	N/A	0	ENSR (1998c)
B-6	N/A	0	ENSR (1998c)
B-9	0 - 8	8	ENSR (1998c)
B-10	0 - 6	6	ENSR (1998c)
B-11	0 - 7	7	ENSR (1998c)
B-12	0 - 6	6	ENSR (1998c)
B-13	0 - 8	8	ENSR (1998c)
B-14	4 - 16	12	ENSR (1998c)
B-15	N/A	0	ENSR (1998c)
B-16	N/A	0	ENSR (1998c)
B-17	N/A	0	ENSR (1998c)
B-18	N/A	0	ENSR (1998c)
B-19	0 - 12	12	ENSR (1998c)
B-21	0 - 3.5	3.5	ENSR (1998c)
B-22	0 - 4	4	ENSR (1998c)
B-23	0 - 12	12	ENSR (1998c)
B-25	0 - 4	4	ENSR (1998c)
B-26	4 - 8	4	ENSR (1998c)
B-27	8 - 20	12	ENSR (1998c)
B-30	0 - 0.5	0.5	ENSR (1998c)
B-31	4 - 20	16	ENSR (1998c)
B-32	N/A	0	ENSR (1998c)
B-33	16 - 20	4	ENSR (1998c)
B-34	N/A	0	ENSR (1998c)
B-35	N/A	0	ENSR (1998c)
B-36	N/A	0	ENSR (1998c)
PS-GT-1	N/A	0	KPRG (2005a)
PS-GT-2	N/A	0	KPRG (2005a)
PS-GT-3	0 - 1	1	KPRG (2005a)
PS-GT-4	N/A	0	KPRG (2005a)

Table 3

**Summary of Powerton Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
PS-GT-5	2 - 4	2	KPRG (2005a)
PS-GT-6	1 - 6	5	KPRG (2005a)
PS-GT-7	2 - 13	11	KPRG (2005a)
PS-GT-8	2.5 - 15	12.5	KPRG (2005a)
PS-GT-9	3 - 14	11	KPRG (2005a)
AP-3	0 - 2	2	Bates Nos. 14225-14269
AP-4	0 - 19	19	Patrick (2008)
AP-5	0 - 9.7	9.7	Patrick (2008)
AP-6	0 - 10	10	Patrick (2008)
AP-8	0 - 5.3	5.3	Patrick (2008)
AP-9	0.5 - 10	9.5	Patrick (2008)
AP-10	0.5 - 10	9.5	Patrick (2008)
AP-11	N/A	0	Patrick (2008)
AP-12	0 - 3	3	Patrick (2008)
AP-13	0 - 8	8	Patrick (2008)
AP-14	0 - 7.5	7.5	Patrick (2008)
AP-15	0 - 5	5	Patrick (2008)
AP-16	0 - 9.5	9.5	Patrick (2008)
APB-1-08	1 - 31	30	Patrick (2008)
APB-2-08	1 - 23	22	Patrick (2008)
APB-3-08	N/A	0	Patrick (2008)
APB-4-08	N/A	0	Patrick (2008)
APB-5-08	N/A	0	Patrick (2008)
APB-6-08	N/A	0	Patrick (2008)
APB-7-08	N/A	0	Patrick (2008)
APB-8-08	N/A	0	Patrick (2008)
APB-9-08	1 - 4.5	3.5	Patrick (2008)
APB-10-08	N/A	0	Patrick (2008)
	Mean	6.6	
	Std. Dev.	7.30	
	Max.	30	
	Min.	0	
	N	74	

(1) MW designates a monitoring well. All other designations are borings.

(2) Depth below ground surface from boring logs.

(3) Difference in maximum and minimum depth bgs.

(4) Reference or Bates Numbers.

(5) N/A means no ash identified in boring log.

Table 4

**Summary of Waukegan Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
MW-1	0 - 20	20	Patrick (2010c)
MW-2	0 - 11	11	Patrick (2010c)
MW-3	0 - 18.5	18.5	Patrick (2010c)
MW-4	0 - 18.5	18.5	Patrick (2010c)
MW-5	0.5 - 17	16.5	Patrick (2010c)
MW-6	N/A ⁽⁵⁾	0	IEPA (2012c)
MW-7	1 - 9.5	8.5	IEPA (2012c)
MW-8	3 - 4.5	1.5	Bates No. 45648
MW-9	6 - 9.5	3.5	Bates No. 45649
MW-10	?	?	?
MW-11	?	?	?
MW-12	?	?	?
MW-13	?	?	?
MW-14	?	?	?
MW-15	0 - 5	5	Bates No. 11932
B-1	0 - 4	4	ENSR (1998d)
B-2	N/A	0	ENSR (1998d)
B-3	N/A	0	ENSR (1998d)
B-4	0 - 4	4	ENSR (1998d)
B-6	0.5 - 1	0.5	ENSR (1998d)
B-7	0 - 1	1	ENSR (1998d)
B-8	0 - 2	2	ENSR (1998d)
B-9	0 - 3	3	ENSR (1998d)
B-10	0 - 2	2	ENSR (1998d)
B-11	0.5 - 3	2.5	ENSR (1998d)
B-12	Borehole not logged		ENSR (1998d)
B-13	0 - 4	4	ENSR (1998d)
B-14	0 - 3	3	ENSR (1998d)
B-15	0 - 2	2	ENSR (1998d)
B-16	0 - 2	2	ENSR (1998d)
B-17	0 - 4	4	ENSR (1998d)
B18	N/A	0	ENSR (1998d)
B19	0 - 4	4	ENSR (1998d)
B20	0 - 6	6	ENSR (1998d)
B-21	N/A	0	ENSR (1998d)
B-22	0 - 1.5	1.5	ENSR (1998d)
B-23	N/A	0	ENSR (1998d)

Table 4

**Summary of Waukegan Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
WS-GT-1	1 - 3	2	KPRG (2005a)
WS-GT-2	N/A	0	KPRG (2005a)
WS-GT-3	1.5 - 4	2.5	KPRG (2005a)
WS-GT-4	1 - 19.5	18.5	KPRG (2005a)
WS-GT-5	1 - 22	21	KPRG (2005a)
	Mean	5.3	
	Std. Dev.	6.58	
	Max.	21	
	Min.	0	
	N	36	

(1) MW designates a monitoring well. All other designations are borings.

(2) Depth below ground surface from boring logs.

(3) Difference in maximum and minimum depth bgs.

(4) Reference or Bates Numbers.

(5) N/A means no ash indicated in boring log.

Table 5

**Summary of Will County Ash Deposits Located Outside the Ash Ponds
Based on Monitoring Well and Soil Boring Logs (Case No. PCB 2013-015)**

Boring or Monitoring Well ID ⁽¹⁾	Depths of Ash ⁽²⁾ (ft. bgs)	Thickness of Ash ⁽³⁾ (ft)	Source ⁽⁴⁾
MW-1	0 - 5	5	Patrick (2011d)
MW-2	0 - 12	12	Patrick (2011d)
MW-3	0 - 7.5	7.5	Patrick (2011d)
MW-4	0 - 6	6	Patrick (2011d)
MW-5	N/A ⁽⁵⁾	0	Patrick (2011d)
MW-6	0 - 8	8	Patrick (2011d)
MW-7	N/A	0	Patrick (2011d)
MW-8	N/A	0	Patrick (2011d)
MW-9	N/A	0	Patrick (2011d)
MW-10	N/A	0	Patrick (2011d)
B-1	1 - 3	3	ENSR (1998e)
B-2	0.5 - 3	2.5	ENSR (1998e)
B-3	0 - 1	1	ENSR (1998e)
B-4	1 - 2	1	ENSR (1998e)
B-5	0 - 1.3	1.3	ENSR (1998e)
B-6	N/A	0	ENSR (1998e)
B-7	0 - 1	1	ENSR (1998e)
B-8	N/A	0	ENSR (1998e)
B-9	0 - 0.5	0.5	ENSR (1998e)
B-10	0 - 1	1	ENSR (1998e)
B-11	0 - 0.75	0.75	ENSR (1998e)
B-12	0 - 2	2	ENSR (1998e)
B-13	0 - 1	1	ENSR (1998e)
B-14	N/A	0	ENSR (1998e)
B-15	N/A	0	ENSR (1998e)
B-16	N/A	0	ENSR (1998e)
B-17	Bore Hole not Logged		ENSR (1998e)
B-18	N/A	0	ENSR (1998e)
WC-GT-1	N/A	0	KPRG (2005a)
WC-GT-2	0 - 2.5	2.5	KPRG (2005a)
WC-GT-3	0 - 9.5	9.5	KPRG (2005a)
WC-GT-4	0 - 2	2	KPRG (2005a)
WC-GT-5	N/A	0	KPRG (2005a)
	Mean	2.1	
	Std. Dev.	3.16	
	Max.	12	
	Min.	0	
	N	32	

(1) MW designates a monitoring well. All other designations are borings.

(2) Depth below ground surface from boring logs.

(3) Difference in maximum and minimum depth bgs.

(4) Reference or Bates Numbers.

(5) N/A means no ash indicated in boring log.

Electronic Filing: Received, Clerk's Office 07/27/2022

Table 6

Summary of Ash-Impacted Soil Volumes and Removal Costs for each MWG Power Plant (Case No. PCB 2013-015)

Plant Site and Area	Potentially Impacted Site Area (ac)	Estimated Depth of Ash-Impacted Soils (ft)	Estimated Volume of Ash-Impacted Soils (yds ³)	Estimated Weight of Ash-Impacted Soils ⁽⁷⁾ (tons)	Low Unit Cost ⁽⁵⁾ (\$/ton)	High Unit Cost ⁽⁸⁾ (\$/ton)	Low Estimated Cost for Excavation, Hauling and Backfilling (\$)	High Estimated Cost for Excavation, Hauling and Backfilling (\$)
Joliet #29⁽¹⁾								
Site-wide	251	1.4	566,925	708,657	\$29.27	\$42.95	\$20,742,381	\$30,436,804
NE Ash Landfill ⁽⁶⁾	44	4	280,916	351,145	\$29.27	\$42.95	\$10,278,011	\$15,081,672
Pond Areas	15	1.4	33,880	42,350	\$29.27	\$42.95	\$1,239,585	\$1,818,933
Powerton⁽²⁾								
Site-wide	349	6.6	3,716,152	4,645,190	\$29.27	\$42.95	\$135,964,711	\$199,510,911
Pond Areas	73	9.2	1,083,515	1,354,393	\$29.27	\$42.95	\$39,643,093	\$58,171,194
Waukegan⁽³⁾								
Site-wide	249	5.3	2,129,116	2,661,395	\$29.27	\$42.95	\$77,899,032	\$114,306,915
Pond Areas	44	10.9	773,755	967,193	\$29.27	\$42.95	\$28,309,749	\$41,540,954
Will County⁽⁴⁾								
Site-wide	215	2.1	728,420	910,525	\$29.27	\$42.95	\$26,651,067	\$39,107,049
Pond Areas	20	4.6	148,427	185,533	\$29.27	\$42.95	\$5,430,561	\$7,968,657

(1) Figure 1 and Table 2

(2) Figure 2 and Table 3

(3) Figure 3 and Table 4

(4) Figure 4 and Table 5

(5) The unit cost includes the cost of contaminated soil excavation, hauling, and backfilling based on 11 bid tabulations in northern Illinois and southern Wisconsin for 2013 and 2014.

(6) Assumed 4 ft ash thickness.

(7) Assumed 1.25 tons per yd³.

(8) From Patrick (Bates Nos. 6823-6843).

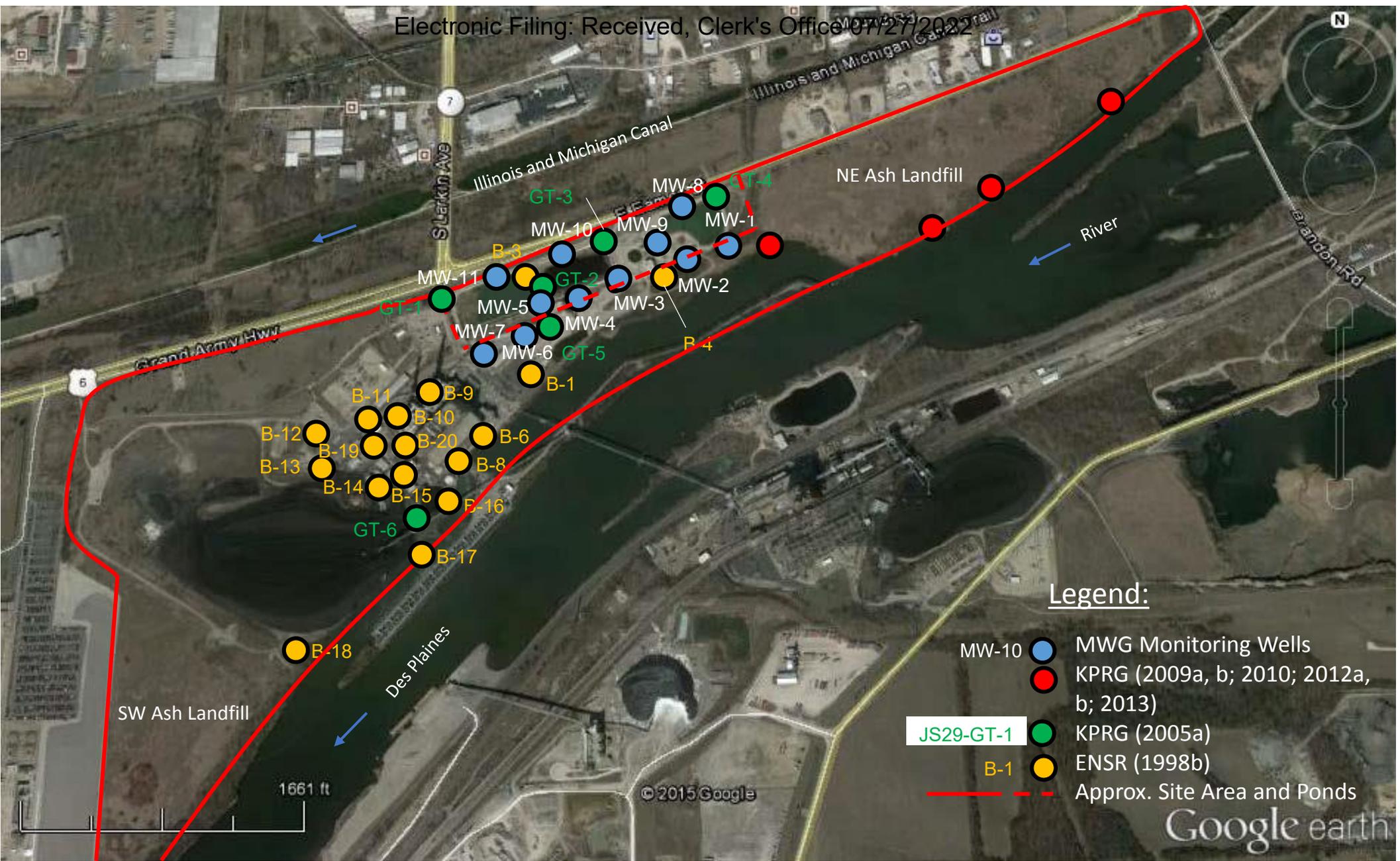


Figure 1 Joliet #29 Soil Boring Locations (PCB 2013-015)

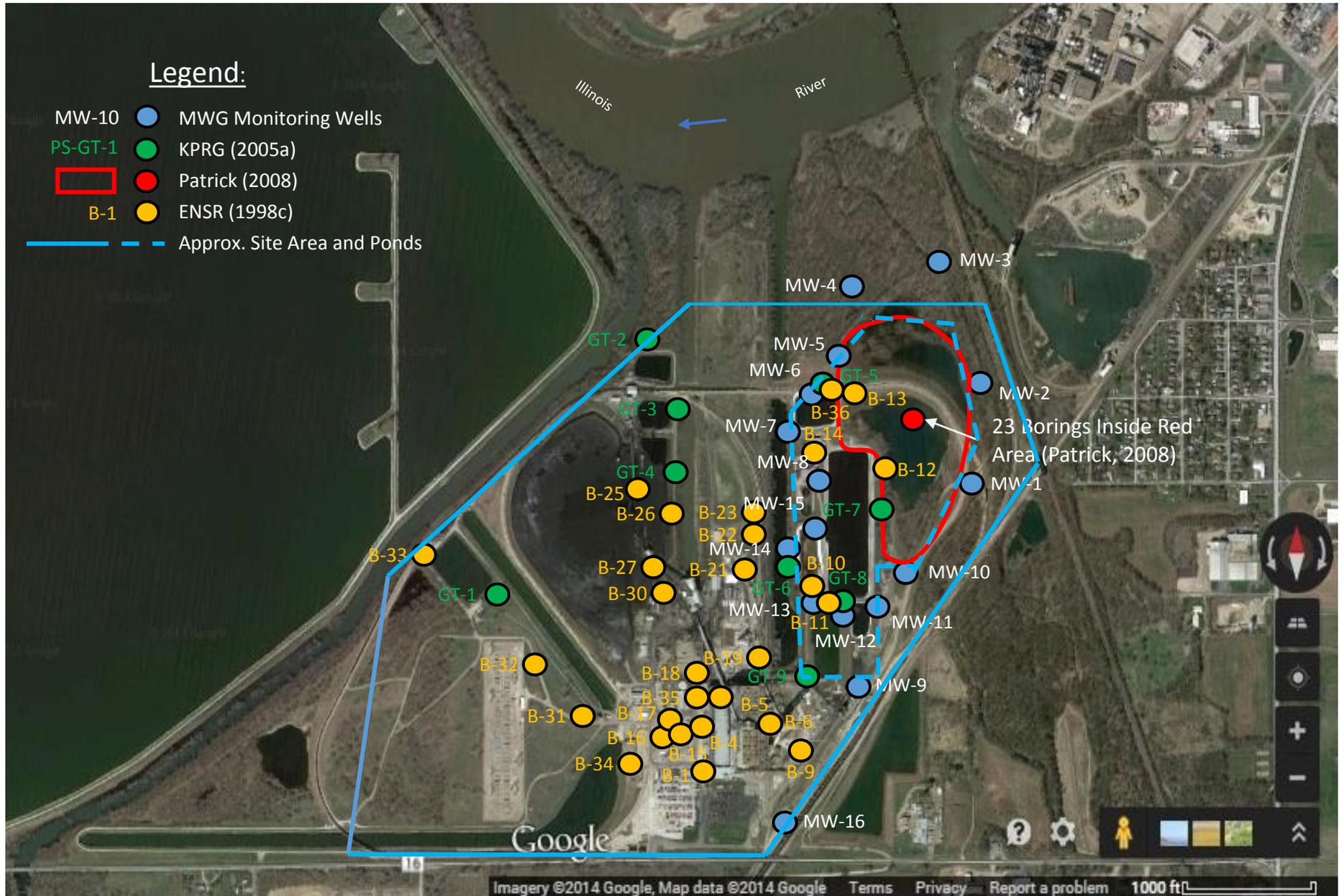


Figure 2 Powerton Soil Boring Locations (PCB 2013-015)

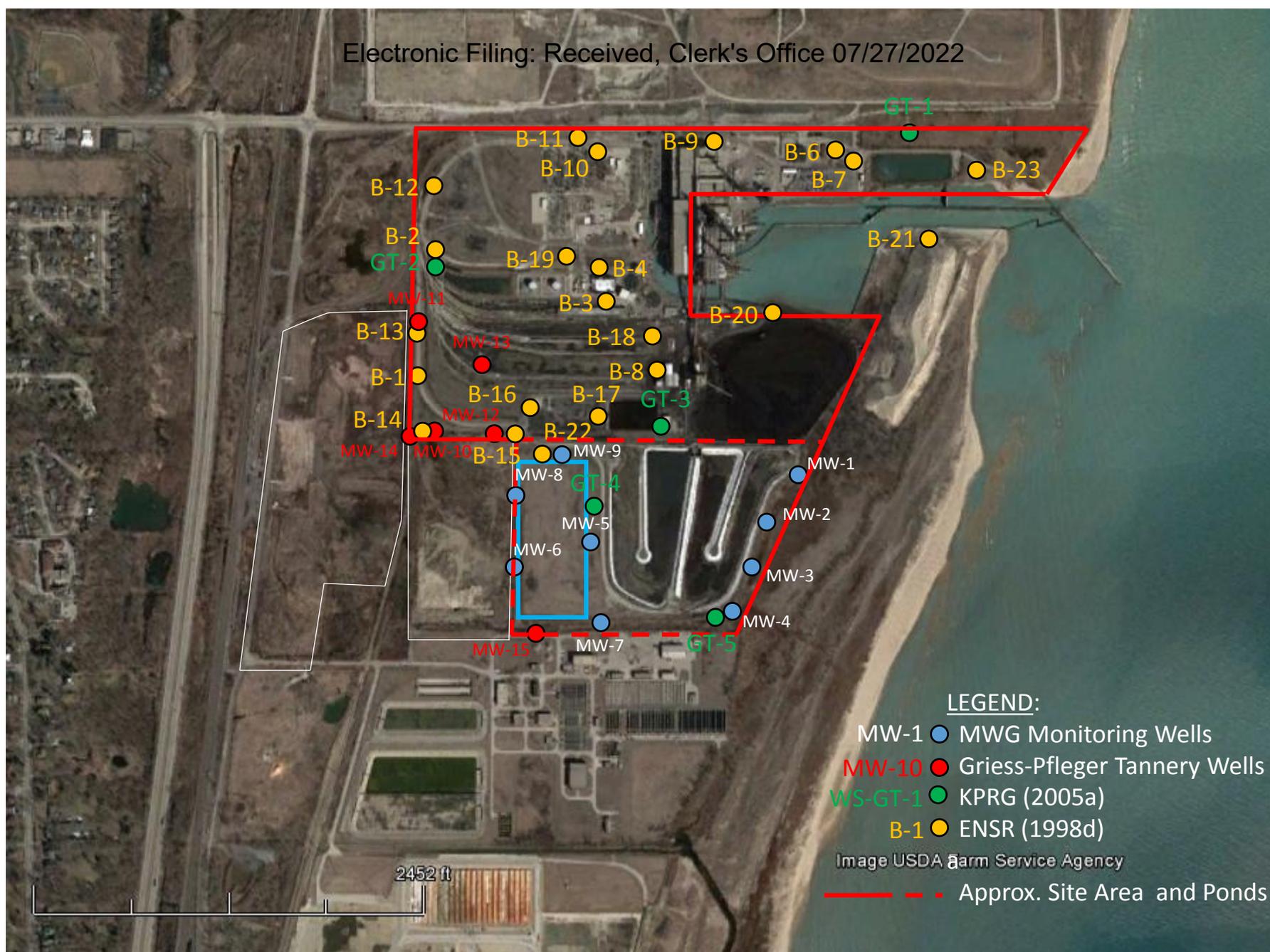


Figure 3 Waukegan Soil Boring Locations (PCB 2013-015)



Figure 4 Will County Soil Boring Locations (PCB 2013-015)

EXHIBIT 2

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ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, ENVIRONMENTAL LAW)
AND POLICY CENTER, PRAIRIE RIVERS)
NETWORK, AND CITIZENS AGAINST)
RUINING THE ENVIRONMENT,)
)
Complainants,)
) PCB 2013-015
vs.) Enforcement-Water
)
MIDWEST GENERATION, LLC,)
)
Respondent.)

Zoom video conference, evidence deposition,
of MARK QUARLES, pursuant to notice, commencing
at 10:00 a.m., Tuesday, October 12, 2021, before
Connie L. James, CSR.

Reported by: Connie L. James
CSR No. 084.002510

1 A. Yes.

2 Q. And Mark Quarles, P.G. --

3 A. Can you blow that up?

4 Q. Yeah. And the Mark Quarles, P.G., listed as
5 an author, that's you, right?

6 A. It is, yeah.

7 Q. Did you ever question or formally renounce
8 any of the conclusions in this report?

9 MR. WANNIER: Objection. Vague.

10 THE WITNESS:

11 A. I have no idea. I don't recall ever
12 renouncing anything, but I don't recall that report
13 that was written fifteen years ago, the particulars of
14 it.

15 MS. NIJMAN:

16 Q. Are you aware that Dr. Anne Maest renounced
17 the conclusions in the report?

18 A. I'm not.

19 Q. Do you recognize the name James Kunkle?

20 A. I do recognize that name.

21 Q. From what?

22 A. I think he had some involvement in the prior
23 phase of this case.

24 Q. Did you review any of the reports Mr. Kunkle

1 prepared for this case?

2 A. No, not in detail.

3 Q. What do you mean by not in detail?

4 A. I can't even -- I didn't even review his
5 entire report.

6 Q. Okay. Are you aware he wrote three reports
7 in this case?

8 A. I'm not.

9 Q. Do you know if Mr. Kunkle's reports are in
10 your files?

11 A. It's quite possible that it is in an
12 electronic file.

13 Q. You don't know?

14 A. I don't.

15 Q. Did you review Mr. Kunkle's deposition
16 transcript for this case?

17 A. I did not.

18 Q. Did you review his hearing transcript for
19 this case?

20 A. I did not.

21 Q. So you have not attempted to elaborate or
22 amplify Mr. Kunkle's opinions?

23 MR. WANNIER: Objection. Vague.

24

1 MS. NIJMAN:

2 Q. You can answer.

3 MR. WANNIER: You can answer.

4 THE WITNESS:

5 A. I haven't.

6 MS. NIJMAN:

7 Q. Okay. Now, your report, Exhibit 1, cites on
8 several occasions to the Federal CCR Regulations,
9 correct?

10 A. It does.

11 Q. And you're familiar with those regulations,
12 right?

13 A. I am.

14 Q. And you've also cited in your rebuttal report
15 to the Illinois CCR Rules, correct?

16 A. I did.

17 Q. And are you familiar with the Illinois CCR
18 Rules?

19 A. Yeah.

20 Q. And you would agree that both the federal and
21 Illinois CCR Rules or Regulations apply to defined CCR
22 impoundments?

23 MR. WANNIER: Objection. Legal conclusion.

24

EXHIBIT 3

**NON-DISCLOSABLE INFORMATION
AND FILED WITH THE BOARD
PURSUANT TO PART 130 OF THE
BOARD RULES**

EXHIBIT 4

**NON-DISCLOSABLE INFORMATION
AND FILED WITH THE BOARD
PURSUANT TO PART 130 OF THE
BOARD RULES**

EXHIBIT 5

**NON-DISCLOSABLE INFORMATION
AND FILED WITH THE BOARD
PURSUANT TO PART 130 OF THE
BOARD RULES**

EXHIBIT 6

1 A. It doesn't appear like I did.

2 Q. And --

3 A. Actually let me go look at my second report
4 and see if I mentioned anything like that.

5 No, I don't see any reference to a subsequent
6 report by him in my July 2021 report.

7 Q. Okay. We can certainly go to the pages
8 reviewed, but I believe you state in your report that you
9 reviewed and relied upon Table 6 of Dr. Kunkel's report?
10 Is that correct?

11 A. I can look at my report to see where I
12 specifically mention that.

13 So, on Page 22.

14 Q. Yes.

15 A. I say specifically -- so, we're on the first
16 bullet point, second sentence. Specifically I used the
17 low-end estimates from Table 6 of the expert report.

18 Q. Okay. Thank you. Did you rely on anything
19 else in this remedy report for your opinion in your
20 January 2021 report?

21 A. Yes. I used the date of his report as my cost
22 estimate date. Otherwise, my recollection is that was
23 it.

24 Q. Okay. And, you know, you do not have an

1 opinion independent about Dr. Kunkel's remedy as outlined
2 in this 2015 report. Correct?

3 A. As I stated here, and I quote, this is the
4 second sentence. I'm sorry, the third sentence
5 immediately following the second sentence that I
6 previously quoted. Quote, "As I am an economist, not an
7 engineer, I have no independent expert opinion on the
8 cost estimates that were prepared in that report," end of
9 quote.

10 Q. Okay. And you don't have to -- excuse me.
11 Strike that. You don't have a plan to do so, correct?

12 A. I have no plans to become an engineer and
13 develop an understanding that would allow me to develop
14 an alternative opinion or verify the information in
15 Dr. Kunkel's report.

16 Q. Very good. Do you recognize the name of John
17 Seymour.

18 A. No.

19 Q. Okay. Do you recognize the name of Mark
20 Quarrels?

21 A. No.

22 Q. Do you recognize the name of Weaver
23 Consultants?

24 A. We're 0 for 3 so far. It does not strike a

1 the characterizing of his answers as meandering. I think
2 it's somewhat rude to the witness.

3 BY MS. GALE:

4 Q. Go ahead.

5 A. I'm really puzzled as to what you're getting
6 at here. You asked me for an all encompassing question
7 regarding what aspects of the case I discussed with
8 petitioners' counsel, and then you said you want to kind
9 of be more focused, but it appears to be the same
10 question again. I'm -- I'm really confused as to what
11 you're trying to get at here.

12 Q. You discussed Dr. Kunkel's report, Exhibit 6
13 that we just discussed. Is that correct?

14 A. Yes.

15 MR. WANNIER: Objection, vague.

16 BY MS. GALE:

17 Q. Okay. And you discussed the corrective
18 actions recommended by Dr. Kunkel. Correct?

19 MR. WANNIER: Objection, vague.

20 THE WITNESS: Broadly speaking, yes.

21 BY MS. GALE:

22 Q. Okay. And petitioners' counsel directed you
23 to Table 6. Right?

24 MR. WANNIER: Objection to the extent it

1 sites."

2 So, that corresponds to Column I and O
3 respectively in Table 3 on Page 25. By contrast, the
4 bullet point that you originally were asking me about,
5 the cost estimate dates, that's just always July 2015
6 based upon the date of the Kunkel report. It's much,
7 much easier. So, that actually was not relied upon the
8 information from petitioners' counsel, it's just the date
9 of Dr. Kunkel's report. Sorry about that.

10 Q. Thank you. No, thank you for the
11 clarification.

12 So, on to that second bullet, the expenditure
13 dates on Page 22. So, I think you just -- you just
14 answered that.

15 So, you state in the second sentence, "The
16 schedule is based on information that petitioners'
17 counsel provided me in response to my request." Do you
18 see that there?

19 A. Yes.

20 Q. And right before that, sorry, is the phrase,
21 "Based on a ten-year cleanup schedule at each of the four
22 sites." Right?

23 A. Yes.

24 Q. And that's the schedule you're talking about

1 in the second sentence?

2 A. Both, yes, both the number of years of the
3 schedule and when the start date should be for each
4 schedule.

5 Q. Okay. What is your basis for using ten years?

6 MR. WANNIER: Objection: Asked and answered,
7 mischaracterizes.

8 MS. GALE: I don't know how I've asked this
9 before.

10 MR. WANNIER: You can answer the question.

11 THE WITNESS: The answer is the second
12 sentence that we've just been reading. "This schedule is
13 based on information that petitioner's counsel provided
14 to me in response to my request."

15 So, I said, "Okay. We have these total costs.
16 What's the expenditure pattern and timing look like?"
17 And I was told ten years, and here are the start dates
18 for both the on-time scenario and the delayed-compliance
19 scenario.

20 BY MS. GALE:

21 Q. So, you have no independent opinion on the
22 start date. Right?

23 A. That's correct --

24 Q. And you're --

1 A. I'm still talking, please.

2 Although I didn't repeat it in this bullet
3 point, it's the same as in the prior bullet points where
4 I write both as I am an economist, not an engineer, I
5 have no independent expert opinion on the cost estimates
6 prepared in that report. So, same thing here regarding
7 the ten-year schedule, both number of years and the
8 timing of it.

9 Q. And I think you answered this, but I just want
10 to make sure because that answer was long. I want to
11 make sure. You said timing of ten years. I think my
12 question was you have no opinion on the start date.
13 That's also true?

14 A. Correct.

15 Q. Okay. And you do not plan to have an opinion
16 on the start date. Correct?

17 A. I -- I have a hard time envisioning any
18 scenario under which I develop an opinion on the start
19 date.

20 Q. Very good. And you don't plan to have an
21 opinion on the ten years either. Correct?

22 A. You never --

23 MR. WANNIER: Objection, asked and answered.

24 THE WITNESS: You never know what might happen

1 time.

2 THE WITNESS: I'm really confused as to what's
3 being asked here. I mean this -- we keep trying to pick
4 this apart, but --

5 BY MS. GALE:

6 Q. I just want to understand. So, you had
7 said --

8 A. I'm still talking. I'm trying to answer your
9 questions here.

10 I thought I had a complete explanation of this
11 in the three sentences that comprise this bullet point.
12 Whether -- and I understand how that can be disputed on
13 the technical engineering merits of it, which I think we
14 all understand is beyond the scope of my expertise and
15 hence my opinion, but what I'm explaining here is that
16 even if these costs have been undertaken, if petitioners
17 say that they would have been undertaken regardless of
18 whether or not the measures in the Kunkel report were
19 undertaken, then, no, it doesn't enter into my analysis.
20 Were I to add it to Table 3, these costs would be added
21 under both the on-time and the compliance scenario with
22 the same dates. And if what is in a mechanical kind of
23 point of view if, turning to my Table 3, if the -- all
24 the figures in I through N are exactly the same as what's

1 in O through T, then it doesn't affect the analysis at
2 all. So, what's the point of doing that?

3 Q. All right. And just so I follow, that's what
4 you mean by a wash in that bullet?

5 A. Yes. Apologies if I was unclear. I just
6 meant that it ended up being exactly the same. I mean
7 there are all sorts of things we can throw in there that
8 are the same. But just like, say, in contract damages
9 cases where you have a cost of cover calculation, there
10 are all sorts of things that you don't have to worry
11 about if they are the same, which means both the on-time
12 and delayed compliance scenario you don't have to analyze
13 them.

14 Q. Okay. And for this ash liner cost, other than
15 petitioners' counsel, did you talk with anyone else on
16 whether these measures would have needed to be taken or
17 not?

18 A. No.

19 Q. Okay. Third bullet on Page 14, which is about
20 Table 4 from the Koch report for Midwest Gen incurred
21 groundwater monitoring costs. Do you see that?

22 A. Yes.

23 Q. And it says here again, "Which petitioners
24 once again informed me would have needed to be undertaken

1 even had respondent already achieved that compliance."

2 Do you see that there?

3 A. Yes.

4 Q. And I take it your answers for the other
5 bullets are the same here. Correct?

6 MR. WANNIER: Objection, compound.

7 THE WITNESS: If you mean by that any sort of
8 outside verification of these positions, then same
9 answer. I did not. I'm not trying to be that guy. So.

10 BY MS. GALE:

11 Q. Okay. Continuing on to page -- well, kind of
12 skipped over. So, bottom of 14, the paragraph starts
13 with, "Regarding the compliance-related date," and
14 continues on to 15. Do you see that?

15 A. Yes.

16 Q. And here you are taking issue with Ms. Koch
17 for her dates of non-compliance. Is that right?

18 MR. WANNIER: Objection to the extent it
19 mischaracterizes.

20 THE WITNESS: Yes, I'm addressing the
21 disparity between -- disparity between our respective
22 dates.

23 BY MS. GALE:

24 Q. And you have a quote here from the February 6,

1 ongoing.

2 BY MS. GALE:

3 Q. I think you -- well, let's look. I think you
4 said as violations continue my numbers will change.

5 Isn't that correct?

6 MR. WANNIER: Where? Sorry. Where is that
7 phrase?

8 BY MS. GALE:

9 Q. I'm looking for it. Page 15 of your opinion.

10 A. Which opinion? Which report?

11 Q. Page 15 of Exhibit 2, your second.

12 A. Okay.

13 MR. WANNIER: And where -- sorry. Where on
14 that page does it say as these violations continue?

15 BY MS. GALE:

16 Q. Okay. I'll read it. "Because I understand
17 from petitioners' counsel that respondent continues to be
18 in violation of the act." Do you see that there?

19 A. Yes.

20 Q. Okay. So, these dates and this Board opinion,
21 you've not included these dates into your economic
22 benefit opinion, have you?

23 MR. WANNIER: Objection, asked and answered.

24 I think the testimony speaks for itself. You can answer.

1 petitioners' counsel for the dates. Correct?

2 MR. WANNIER: Objection: Vague, asked and
3 answered.

4 THE WITNESS: I'm sorry. You're talking about
5 the schedule? Well, being that -- you're talking about
6 the schedule being over ten years and the start date for
7 both the -- the schedules for both the on-time and
8 delayed scenario?

9 BY MS. GALE:

10 Q. Look at Page 15 of your report, Exhibit 2,
11 which we already discussed. "Because I understand from
12 petitioners' counsel that respondent continues to be in
13 violation of the Act." You're relying upon petitioners'
14 counsel for that. Correct?

15 MR. WANNIER: Objection: Vague, asked and
16 answered.

17 THE WITNESS: Well, right, that's what it
18 says. I understand petitioners' counsel, so that means
19 I'm relying upon petitioners' counsel. I'm not forming
20 any independent expert opinion on the legal issues here
21 or the engineering aspects, monitoring issues or
22 whatever.

23 BY MS. GALE:

24 Q. Okay. Great. Continuing on with Page 15.

EXHIBIT 7

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

- - -

SIERRA CLUB, ENVIRONMENTAL)
LAW AND POLICY CENTER,)
PRAIRIE RIVERS NETWORK, and)
CITIZENS AGAINST RUINING THE)
ENVIRONMENT,)
)
Complainants,)
)
vs.)No. PCB 2013-015
)
MIDWEST GENERATION, LLC,)
)
Respondent.)
-----)

DEPOSITION OF
 JAMES R. KUNKEL, Ph.D., P.E.
 CHICAGO, ILLINOIS
 MARCH 17, 2016

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REPORTED BY: HEATHER PERKINS, CSR NO. 84-3714

FILE NO.: AA02A71

1	landfill?	13:43:45
2	A. Yes.	13:43:45
3	Q. That's hauling.	13:43:46
4	You dispose of the material in the	13:43:47
5	landfill?	13:43:48
6	A. Yes.	13:43:49
7	Q. And then you would backfill?	13:43:49
8	A. With clean material, yes, from	13:43:52
9	somewhere.	13:43:53
10	Q. So those are the steps we are talking	13:43:54
11	about?	13:43:56
12	A. Yes.	13:43:56
13	Q. Okay. And you have stated here	13:43:57
14	that -- and we have talked about this	13:43:59
15	already -- that the remedy that you propose is	13:44:00
16	the removal, hauling, and backfilling of the	13:44:02
17	ponds and certain areas around the ponds, right?	13:44:05
18	A. Uh-huh.	13:44:08
19	Q. Okay. Mr. Seymour pointed out to you	13:44:09
20	that disposal costs don't appear to be included,	13:44:14
21	and I think in your rebuttal report, you state	13:44:17
22	that that's part of hauling?	13:44:19
23	A. Well, if I take it to a landfill,	13:44:21
24	that's the disposal, yes. So it is	13:44:24

1 either -- hauling, yes. 13:44:26

2 Q. But hauling is different than disposal? 13:44:28

3 A. Let's not get into semantics because 13:44:30

4 the idea, and we just went through those -- 13:44:34

5 Q. Yes. 13:44:34

6 A. -- is we dig it up, we haul it to a 13:44:37

7 landfill -- 13:44:40

8 Q. Right. 13:44:40

9 A. -- and then we backfill. So hauling to 13:44:40

10 the landfill is disposal. 13:44:43

11 Q. Understood, except you have detailed a 13:44:45

12 certain level of costs, and I do not believe 13:44:47

13 that you have included disposal costs in your 13:44:50

14 assertions. 13:44:54

15 A. That's your opinion. That's your 13:44:55

16 opinion. I think I have. 13:44:56

17 Q. I would like you to show me where you 13:44:57

18 have included disposal costs. 13:45:00

19 A. Okay. Well, I used two sets of -- two 13:45:02

20 sets of costs -- unit costs, I'm sorry. 13:45:05

21 One -- actually, I lumped a lot of things 13:45:17

22 together; excavation, hauling, and backfill. 13:45:19

23 Q. So tell me what you are looking at, 13:45:21

24 sir. 13:45:23

1	A. I'm looking at Table 3 -- or, I'm	13:45:24
2	sorry, Table 1.	13:45:26
3	Q. Right.	13:45:28
4	So where does that say "disposal"?	13:45:28
5	A. I'm sorry, just a minute.	13:45:30
6	Well, you know, disposal is included in	13:45:36
7	the whole thing of soil excavation, hauling, and	13:45:39
8	backfill. That's my interpretation of that.	13:45:46
9	Q. And what's your basis for saying that?	13:45:48
10	A. These are from Patrick.	13:45:50
11	Q. Well, one of them is from Patrick?	13:46:01
12	A. Right. One of them is from Patrick.	13:46:03
13	The other ones are from BidTabs where they	13:46:06
14	actually dug up the soil, hauled it to a	13:46:08
15	landfill, and then backfilled, and I have given	13:46:11
16	those -- I have given those documents that I	13:46:14
17	used, those BidTabs.	13:46:17
18	Q. Well, we will get to the BidTabs in a	13:46:18
19	second. Let's talk about the Patrick that you	13:46:21
20	just mentioned.	13:46:23
21	Patrick, you cite a cost of 42.95, and	13:46:24
22	you note in the footnote that that does not	13:46:28
23	include backfilling.	13:46:30
24	A. That's correct.	13:46:31

1 Q. So you use that as a high cost? 13:46:32

2 A. Yes. 13:46:32

3 Q. Even though it doesn't include a large 13:46:34

4 portion of what it would cost to remedy this 13:46:37

5 property? 13:46:40

6 A. I don't know whether I would use a 13:46:40

7 large portion, but it does include a portion, 13:46:42

8 possibly, yes. But backfilling could be on-site 13:46:44

9 soils, too. We don't know -- I don't know that 13:46:48

10 for sure. 13:46:49

11 Q. Do you believe there are on-site soils 13:46:50

12 available for backfilling? 13:46:54

13 A. Maybe one site, Powerton. 13:46:56

14 Q. Which would that be? 13:46:57

15 A. Powerton. 13:46:57

16 Q. So your high figure does not include 13:47:02

17 backfilling? 13:47:04

18 A. Correct. But, remember, the idea here 13:47:04

19 was to compare the sites and kind of compare 13:47:07

20 what it would cost. 13:47:13

21 Q. Right. 13:47:14

22 But using a high of 42.95, that doesn't 13:47:15

23 include the component of backfilling. It is 13:47:18

24 not, then, the high. 13:47:21

1	agree?	13:49:19
2	A. I don't think so. I don't think that	13:49:20
3	they bid on a project if they weren't going to	13:49:23
4	charge the client for disposing.	13:49:26
5	Q. So it is your assumption that it is in	13:49:31
6	there?	13:49:41
7	A. Yes.	13:49:41
8	MS. NIJMAN: Okay. We will take a look at	13:49:42
9	those once Kristen gets back.	13:49:44
10	MS. CASSEL: This was Exhibit 19.	13:49:53
11	THE WITNESS: Well, in fact, hauling and	13:49:55
12	backfill.	13:49:57
13	BY MS. NIJMAN:	13:50:03
14	Q. Okay. Let me show you your bid	13:50:03
15	documents that you referred to.	13:50:06
16	A. I have it here, and it clearly says	13:50:07
17	soil excavation, hauling, and backfilling, but	13:50:10
18	they have to haul it somewhere and dump it.	13:50:13
19	They can't just haul it.	13:50:16
20	Q. They do have to haul it somewhere, and	13:50:17
21	then they have to pay for it to be disposed of	13:50:19
22	when they get to that location, correct?	13:50:21
23	A. Why wouldn't they include that in a	13:50:23
24	BidTab? That's -- that's my question.	13:50:24

1 Q. Well, isn't it true for hauling, it is 13:50:25
2 going to depend upon the distance of the 13:50:29
3 landfill, correct? The hauling costs are the 13:50:31
4 transportation costs of how far you have to 13:50:33
5 travel to the landfill? 13:50:35
6 A. But these are final bid tabulations 13:50:36
7 that were presented to the client, and the 13:50:39
8 client would certainly like to know what it is 13:50:41
9 going to cost him. 13:50:43
10 Q. And isn't it true that in many cases 13:50:44
11 the client pays the disposal costs directly to 13:50:48
12 the landfill? 13:50:51
13 A. It is possible, yes. 13:50:52
14 Q. So you can't assume, then, that 13:50:53
15 disposal costs are included in these bids? 13:50:54
16 A. Possibly not. 13:50:57
17 Q. Turning to Page 4 of your 13:51:22
18 rebuttal -- excuse me, I'm turning now to your 13:51:26
19 rebuttal report. I am on Page 4 of that report, 13:51:30
20 and we have marked this Deposition Exhibit 5. 13:51:48
21 All right. On Page 4, you say on the 13:51:53
22 first line, under "Leachate Tests That Seymour 13:52:07
23 Utilized" -- do you see that heading in the 13:52:11
24 middle of the page? 13:52:13

EXHIBIT 8

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:)	
)	
SIERRA CLUB, ENVIRONMENTAL)	
LAW AND POLICY CENTER,)	
PRAIRIE RIVERS NETWORK, and)	
CITIZENS AGAINST RUINING THE)	
ENVIRONMENT)	
)	PCB No-2013-015
Complainants,)	(Enforcement – Water)
)	
v.)	
)	
MIDWEST GENERATION, LLC,)	
)	
Respondent.)	

COMPLAINANTS’ RESPONSE TO RESPONDENT MIDWEST GENERATION, LLC’S MOTION *IN LIMINE* TO EXCLUDE JONATHAN SHEFFTZ OPINIONS

Pursuant to 35 Ill. Adm. Code 101.500, Complainants offer the following response to Midwest Generation, LLC’s Motion *in Limine* to exclude Jonathan Shefftz Opinions (“MWG Motion”). MWG’s Motion demonstrates a misunderstanding of the nature and purpose of Mr. Shefftz’s testimony, and bases its extreme request—to completely remove crucial expert testimony that sets forth a process by which penalties should be calculated from this case—on an incomplete and ultimately unreliable retelling of the relevant caselaw.

I. Expert Testimony May Be Based on Circumstantial Evidence and Reasonable Assumptions

It is well established that “[e]xpert testimony is admissible if the proffered expert is qualified as an expert by knowledge, skill, experience, training, or education and the testimony will assist the trier of fact in understanding the evidence.” *Taylor v. Cty. of Cook*, 2011 IL App (1st) 093085, ¶ 32, 957 N.E.2d 413, 426 (internal quotations omitted). Indeed, this statement of

MWG Mot. at para. 8–12. The first set of assumptions can be defended easily: the remedy cost figures are drawn directly from an expert report that was submitted by Complainants' expert Dr. Kunkel, and which is heavily supported by extensive documentation and expert analysis. The idea that it would be improper for Mr. Shefftz to base his economic benefit calculation on such a fully reasoned remedy report, even one that MWG disagrees with, is absurd.

The second set of assumptions Mr. Shefftz relied on that MWG takes issue with is the hypothetical compliance schedule MWG would have followed had it immediately remediated the groundwater contamination for which it has now been found liable, as well as the compliance schedule MWG will follow should it now remediate the groundwater contamination for which it has been found liable. These two schedules provide the inputs necessary for Mr. Shefftz to perform his analysis, because the economic benefit of noncompliance by its nature must compare the costs associated with a remedy with the costs the company would have incurred had it pursued that remedy in the first place, instead of waiting for a court to order them to do so. The economic benefit typically comes from the monetary windfall the violating entity has gained by delaying the process of cleaning up its violations. *See generally* Jonathan S. Shefftz, Expert Opinion on Economic Benefit of Noncompliance and Economic Impact of Penalty Payment and Compliance Costs (Jan. 25, 2021) (“Shefftz Initial Report”) (Ex. 1 to MWG Mot.). As an initial matter, Mr. Shefftz assumed that the coal ash removal should have begun when MWG first began groundwater sampling because that is the time when MWG first became aware of its ongoing groundwater contamination—the contamination that the Board has now confirmed violated the Illinois Environmental Protection Act. In turn, Mr. Shefftz's assumption regarding the start of a possible remedy is based on the present calendar date, assuming the Board requires such a remedy. Mr. Shefftz has already updated his expert opinion to reflect the continued

passage of time while MWG does nothing, and he can do so again should it aid the Board.

Mr. Shefftz also relied on a 10-year construction schedule that was provided to him by Complainants' counsel as a schedule that he could rely on for purposes of his economic benefit analysis. This assumption, while a simplifying one because MWG has not offered how long it would take to organize removal of coal ash from its sites, is well "within the realm of circumstantial or direct evidence, as supported by the facts or reasonable inferences." *Carter v. Johnson*, 247 Ill. at 297. Specifically, Dr. Kunkel's report laying out the costs of coal ash removal also discusses the scope of activities that would be required. With this context, as well as Complainants' Counsel's knowledge of how long similar cleanup projects have taken at other sites and in other states, a 10-year removal timeline represented a reasonable hypothetical timeline from which to base Mr. Shefftz's opinions.

The third set of assumptions MWG takes issue with is that there is ongoing groundwater contamination causing violations of the Illinois Environmental Protection Act at each of the sites. This assumption of course goes beyond Mr. Shefftz's field of expertise, but it is also supported by extensive and ongoing groundwater monitoring at each of the four sites in this case, which Complainants have received through supplemental discovery and will be entering into evidence at the forthcoming remedy hearing in this matter. Thus, there can be no reasonable dispute with Mr. Shefftz relying on this information.

The final set of assumptions to which MWG objects relates to Mr. Shefftz's reliance on Counsel's representations that MWG would have relined ponds and conducted groundwater monitoring even in Mr. Shefftz's hypothetical compliance scenario. MWG Mot. at para. 12. Mr. Shefftz's hypothetical to calculate economic benefit assumed MWG removed coal ash from the ponds and fill areas at the four sites when it first became aware of the groundwater