BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

ILLINOIS POWER GENERATING COMPANY,	)	
Petitioner,	)	
v.	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	PCB 2024-043 (Petition for review – Alternative Source Determination)
Respondent.	)	

NOTICE OF FILING

To: See Attached Service List (Via Electronic Filing)

PLEASE TAKE NOTICE that the undersigned filed today with the Office of the Clerk of the Illinois Pollution Control Board by electronic filing the following RESPONDENT'S MOTION FOR SUMMARY JUDGMENT, a copy of which is attached hereto and hereby served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

By: /s/ Mallory Meade

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Dated: October 1, 2024

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on October 1, 2024, she caused to be served by electronic mail, a true and correct copy of the following instruments entitled Notice of Filing and Respondent's Motion for Summary Judgment to:

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s/ Mallory Meade
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Under penalties as provided by law pursuant to Section 1-109 of the Code of Civil Procedure, the undersigned certifies that the statements set forth in this Certificate of Service are true and correct, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that she verily believes the same to be true.

s/ Mallory Meade
Mallory Meade
Assistant Attorney General
Environmental Bureau

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

ILLINOIS POWER GENERATING COMPANY,	)	
Petitioner,	)	
v.	)	
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY,	)	PCB 2024-043 (Petition for review—Alternative Source Demonstration)
Respondent.	)	

RESPONDENT'S MOTION FOR SUMMARY JUDGMENT

NOW COMES Respondent, the Illinois Environmental Protection Agency ("Illinois EPA") by and through its attorney, Kwame Raoul, Attorney General of the State of Illinois, pursuant to 35 Ill. Adm. Code Section 101.516, and hereby moves for summary judgment in favor of Respondent and against Petitioner, Illinois Power Generating Company.

I. INTRODUCTION

Petitioner operates a coal ash impoundment, the Primary Ash Pond ("PAP"), at Petitioner's Newton Power Plant in Jasper County, Illinois. Petitioner detected chloride contamination exceeding groundwater protection standards and submitted an alternative source demonstration (ASD) to Illinois EPA ("the ASD submittal"). The ASD submittal asserts that another source was responsible for the contamination. Illinois EPA did not concur in the ASD submittal, because the ASD submittal did not show that an alternative source had caused the contamination and also did not show that Petitioner's impoundment did not contribute to the contamination. In particular, Illinois EPA identified three gaps in the supporting data for the ASD submittal that made concurrence impossible.

Petitioner has filed a Petition with the Board, asking the Board to order Illinois EPA to "issue a new final written response concurring with the Newton ASD." However, this Petition must be denied because Petitioner did not put evidence before Illinois EPA sufficient to meet the requirements for a successful ASD under the Board Rules. Illinois EPA's nonconcurrence was therefore proper as a matter of law.

II. UNDISPUTED MATERIAL FACTS

1. Petitioner IPGC owns and operates the Newton Power Plant, which is located approximately seven miles southwest of the town of Newton in Jasper County, Illinois. R. at R000709.

2. The Newton Power Plant includes a coal combustion residuals ("CCR") surface impoundment known as the Primary Ash Pond ("PAP").

3. The PAP was constructed in 1977 and covers approximately 400 acres. R. at R001612.

4. The PAP is unlined, and receives waste streams including stormwater runoff, bottom ash, fly ash, and low-volume wastewater. R. at R000708.

5. The PAP was built on top of an existing drainage feature that sloped downward from north to south. R. at R000778.

6. The PAP is subject to part 845 of the Board Rules, 35 Ill. Adm. Code pt. 845 ("Part 845") (R. at R000423-562), which includes requirements for regular groundwater monitoring.

7. Part 845 provides, among other things, that if an exceedance of groundwater protection standards (GWPS) is detected in the course of groundwater monitoring at a CCR surface impoundment, within 60 days of the detection, the owner or operator of the impoundment may prepare an ASD, and within 30 days of receiving the ASD submittal (including at least 14 days for

public comment), Illinois EPA must issue a written response either concurring or not concurring in the ASD. R. at R000502-503.

8. Petitioner has constructed a network of groundwater monitoring wells at the PAP to detect any contamination leaking from the PAP. These wells were constructed at various times; wells APW11 through APW18 were constructed in 2021 to meet Part 845 requirements. R. at R000725.

9. Well APW15 is located on the southern edge of the PAP, between the PAP and Newton Lake. R. at R000779.

10. Petitioner conducts quarterly groundwater sampling using its network of groundwater monitoring wells at the PAP. Petitioner conducted sampling for the second quarter of 2023 on April 28, 2023, received the analytical data for these samples on June 8, 2023, and completed statistical analysis on or before August 7, 2023. R. at R001611.

11. The analysis Petitioner completed on or before August 7, 2023 identified numerous exceedances of groundwater protection standards (GWPS) at compliance groundwater monitoring wells at the PAP. These exceedances included exceedances of the GWPS for lithium, sulfate, and total dissolved solids in various wells, as well as chloride in well APW15. R. at R001611.

12. Petitioner proceeded with corrective action on the lithium, sulfate, and total dissolved solids exceedances. R. at R001611.

13. On October 6, 2023, Petitioner submitted the Newton ASD to Illinois EPA, contending that an alternative source was responsible for the chloride exceedance in APW15. R. at R001606-1641.

14. On November 7, 2023, Illinois EPA issued a letter to Petitioner stating that it did not concur in the ASD submittal. R. at R001964-965.

15. The nonconcurrence letter of November 7, 2023 identified three data gaps (R. at R001965):

> 1. Source characterization of the CCR at the Primary Ash Pond must include total solids sampling in accordance with SW846.
>
> 2. Hydraulic conductivities from laboratory or in-situ testing must be collected, analyzed, and presented with hydrogeologic characterization of bedrock unit.
>
> 3. Characterization to include sample and analysis in accordance with 35 IAC 845.640 of alternative source must be provided with the ASD.

16. Petitioner filed the Petition in this case on December 15, 2023, requesting that the Board remand the case to Illinois EPA with instructions to issue a letter concurring in the ASD. R. at R001967-2214.

III. APPLICABLE LAW

A. Summary Judgment Standard

"The purpose of summary judgment is to determine whether a genuine issue of material fact exists." *Adames v. Sheahan*, 233 Ill. 2d 276, 295 (2009). "If the record, including pleadings, depositions and admissions on file, together with any affidavits, shows that there is no genuine issue of material fact, and that the moving party is entitled to judgment as a matter of law, the Board will enter summary judgment." 35 Ill. Adm. Code 101.516(b).

There is a "genuine issue of material fact" if "the material facts are disputed, or, if the material facts are undisputed, reasonable persons might draw different inferences from the undisputed facts." *Adames*, 233 Ill. 2d at 296. "When determining whether a genuine issue of material fact exists, the record 'must be construed strictly against the movant and liberally in favor of the opponent.'" *People ex rel. Raoul v. La Fox BP, Inc.*, PCB 23-9 (Dec. 7, 2023), quoting *Adames*, 233 Ill. 2d at 295-296.

B. Standard of Review

1. The typical standard of review in Board appeals of final Illinois EPA decisions is *de novo* based on the record before the agency.

An appeal of an Agency nonconcurrence in an ASD is governed by Part 105 of the Board Rules. 35 Ill. Adm. Code 845.650(e)(7). Part 105 governs "appeals of final decisions of the Agency" to the Board, including permit appeals. 35 Ill. Adm. Code 105.100(a). In permit appeals, "[t]he Board reviews the information which the Agency relied on in making its decision" and "places the burden on the petitioner to prove that it is entitled to a permit and that the Agency's reasons for denial are either insufficient or improper." *ESG Watts v. Pollution Control Bd.*, 286 Ill. App. 3d 325, 331 (1997). The Board is a technically qualified body, and in a permit appeal, the Board places itself in Illinois EPA's position and reviews the entire record *de novo* without deference to the agency's findings. *City of East Moline v. Ill. EPA,* PCB 86-218 (Sep. 8, 1988), slip op. at 8; *Sierra Club et al. v. Ill. EPA and Midwest Gen.,* PCB 15-189 (Jan. 19, 2017), slip op. at 15. *De novo* review also applies in other appeals of final actions, such as facility siting appeals. *Timber Creek Homes, Inc. v. Village of Round Lake Park*, PCB 14-99 (Aug. 21, 2014), slip op. at 67.

2. The arbitrary and capricious standard is not applicable.

At several points in the Petition, Petitioner argues that Illinois EPA's nonconcurrence decision was "arbitrary and capricious." *See, e.g.,* Pet. ¶¶31, 38, 43, 48, 52, 60; R. at R001979-1989. However, "the Board does not apply the arbitrary and capricious standard to decisions made by the Agency. Rather, the Board reviews the information which the Agency relied on in making its decision." *ESG Watts*, 286 Ill. App. 3d at 331. Accordingly, the arbitrary and capricious standard on which Petitioner relies is inapplicable to this appeal.

3. Illinois EPA's decision to concur or not concur in an ASD submittal is discretionary and should be reviewed for abuse of discretion.

Unlike permit decisions, which are required by statute to address specific criteria (*see, e.g.*, 415 ILCS 5/39(a) (2022)), decisions committed to agency discretion are reviewed for an abuse of that discretion. Of the various standards of review, "*de novo* review is the least deferential to the lower tribunal, while the abuse-of-discretion standard is the most deferential." *U.S. Steel Corp. v. Ill. Pollution Control Bd.*, 384 Ill. App. 3d 457, 461-62 (2008).

In *U.S. Steel*, the Appellate Court held that the "unambiguous and plain language" of a Board rule vested discretion in Illinois EPA to determine whether a public hearing was appropriate. *Id.* at 463. The rule at issue there provided that Illinois EPA "must" hold a public hearing "whenever the Agency determines that there exists a significant degree of public interest[.]"*Id.* at 462, *quoting* 35 Ill. Adm. Code 309.115(a). The decision was therefore vested in Illinois EPA's discretion. *Id.* at 464. Likewise here, the Board's Rule provides that Illinois EPA "must" issue a written response to an ASD, but leaves it up to Illinois EPA to determine whether that written response will be "concurring or not concurring" in the ASD. 35 Ill. Adm. Code 845.650(e)(4). Here as in *U.S. Steel*, the Board Rule uses language that is mandatory in form but discretionary in substance: Illinois EPA must issue a written decision, but the content of that decision is committed to Illinois EPA's discretion. The Board should therefore review Illinois EPA's decision for an abuse of discretion.

Moreover, even if the regulation was ambiguous in the degree of discretion granted to Illinois EPA, several considerations favor an abuse of discretion standard. First, 35 Ill. Adm. Code 845.650(e) does not set out any specific standards on which Illinois EPA's decision to concur or not concur should be based, in contrast to permit appeals in which Illinois EPA is required to detail specific grounds for denial. *See, e.g.*, 415 ILCS 5/39(a) (2022) (providing that "[i]f the Agency

denies any permit under this Section, the Agency shall transmit to the applicant within the time limitations of this Section specific, detailed statements as to the reasons the permit application was denied"). Thus, in contrast to permit denials which are subject to a narrow scope of review in which "the Agency's denial letter frames the issues on appeal," *see Aqua Illinois, Inc. v. IEPA*, PCB 23-12 (Dec. 15, 2022), slip op. at 14, it does not appear that such narrow framing would be possible in a nonconcurrence appeal where the nonconcurrence is not subject to any formal requirements. The lack of such a limiting structure suggests an intention to leave the decision to Illinois EPA's discretion. Second, the 30-day timeframe of Section 845.650 militates against Illinois EPA being able to develop the kind of detailed record of decision that undergirds the Board's *de novo* review in a permit appeal.

Thus, the rule's text and context alike call for Illinois EPA's decision to be reviewed for abuse of discretion. But because the deficiencies in Petitioner's ASD submittal are fatal regardless of the standard applied, Illinois EPA directs its arguments in this motion to a *de novo* standard of review.

C. Burden of Proof

In a Board review of a final Agency decision, such as the ASD nonconcurrence in this case, a petitioner bears the burden of proof to show that Illinois EPA has committed reversible error. 35 Ill. Adm. Code 105.112(a); Board Order of January 4, 2024. The Board has characterized the standard of proof in such appeals as "preponderance of the evidence," based on the entirety of the record before Illinois EPA. *Aqua Illinois*, slip op. at 8. Thus, Petitioner must show that, based on the record before Illinois EPA at the time of the decision, it is more likely than not that the facts support reversal of Illinois EPA's decision.

The Board considers evidence "that is material, relevant, and would be relied upon by prudent persons in the conduct of serious affairs[.]" 35 Ill. Adm. Code 101.626(a). The presentation of evidence to the Board is governed by "the rules of evidence as applied in the civil courts of Illinois[.]" 35 Ill. Adm. Code 101.626. Under those rules, "a fact cannot be established through circumstantial evidence unless the circumstances are so related to each other that it is the only probable, and not merely possible, conclusion that may be drawn." *Keating v. 68th & Paxton L.L.C.*, 401 Ill. App. 3d 456, 473 (2010). "[W]here the proven facts demonstrate that the nonexistence of the fact to be inferred appears to be just as probable as its existence, then the conclusion that exists is a matter of speculation, surmise, and conjecture, and the trier of fact cannot be permitted to make that inference." *Id.* A factual inference from circumstantial evidence must be both reasonable and probable, not merely possible. *Westlake v. House Corp.*, 2011 IL App (1st) 100653, ¶ 18. Most importantly for this case, it is well settled in Illinois that "fictional musings as to what might have happened" are "unreliable and totally irrelevant" even when mused by an expert. *Modelski v. Navistar Int'l Transp. Corp.*, 302 Ill. App. 3d 879, 886 (1999).

D. Principles of Regulatory Interpretation

The issues in this ASD appeal turn largely on the parties' interpretations of Section 845.650(e) of the Board Rules, which governs ASDs. "Because administrative regulations have the force and effect of law, the familiar rules that govern construction of statutes also apply to the construction of administrative regulations." *Haage v. Zavala*, 2021 IL 125918, ¶ 43. "As with statutes, an administrative rule must be construed so as to discern and give effect to its intent." *Cent. Ill. Pub. Serv. Co. v. Ill. Commerce Comm'n*, 243 Ill. App. 3d 421, 428 (1993). And "[t]he best evidence of legislative intent is the language used in the statute itself, which must be given its plain and ordinary meaning." *Roselle Police Pension Board v. Village of Roselle*, 232 Ill. 2d 546,

552 (2009). "Where the language of the regulation is clear and unambiguous, we must apply it as written, without resort to extrinsic aids of statutory construction." *People ex rel. Madigan v. Ill. Commerce Comm'n*, 231 Ill. 2d 370, 373 (2008).

Statutes and regulations "should be read as a whole and construed so that no part is rendered meaningless or superfluous." *People v. Lloyd*, 2013 IL 113510, ¶ 25. "[S]everal statutes relating to the same subject matter, or in this case, related regulations" are presumed to be "governed by one spirit and a single policy[.]" *Office of the State Fire Marshal v. Ill. Pollution Control Bd.*, 2022 IL App (1st) 210507, ¶ 34. "A statute is ambiguous if its meaning cannot be interpreted from its plain language or if it is capable of being understood by reasonably well-informed persons in more than one manner." *Id.* at ¶ 33. "A statute is not ambiguous simply because the parties disagree as to its meaning." *Id.*

E. Elements of an Alternative Source Demonstration

The Board Rule on which this appeal turns provides as follows:

> The owner or operator of a CCR surface impoundment may, within 60 days after the detected exceedance of the groundwater protection standard, submit a demonstration to the Agency that a source other than the CCR surface impoundment caused the contamination and the CCR surface impoundment did not contribute to the contamination, or that the exceedance of the groundwater protection standard resulted from error in sampling, analysis, statistical evaluation, natural variation in groundwater quality, or a change in the potentiometric surface and groundwater flow direction. Either type of ASD must include a report that contains the factual or evidentiary basis for any conclusions and a certification of accuracy by a qualified professional engineer.

35 Ill. Adm. Code 845.650(e). By the rule's plain language, an impoundment owner or operator who detects an exceedance of a groundwater protection standard and chooses to submit an ASD to Illinois EPA must "demonstrat[e]" two things:

(1) "a source other than the CCR surface impoundment caused the contamination"

and

(2) "the CCR impoundment did not contribute to the contamination."

Id.

Thus, Petitioner must first prove (by at least a preponderance of the evidence)[1] that a specific alternative source caused the chloride exceedance in monitoring well APW15. Petitioner must then also prove that none of the detected contamination came from Petitioner's impoundment.

IV. ARGUMENT

A. Petitioner's ASD Submittal Is Inadequate on Its Face.

In an appeal of a final agency action, the Board's review is "based exclusively on the Agency record before the Agency at the time the . . . decision was issued." 35 Ill. Adm. Code 105.412. To prevail, Petitioner must show that the record before Illinois EPA when it issued the nonconcurrence decision showed that Petitioner's ASD submittal met the minimum requirements of the Board Rules. An ASD submittal must demonstrate both that "a source other than the CCR surface impoundment caused the contamination" and that "the CCR surface impoundment did not contribute to the contamination." *See* 35 Ill. Adm. Code 845.650(e). For the following reasons, there is no genuine issue of material fact that the ASD submittal failed to meet these minimum

[1]In proving these elements, Petitioner is not starting with a blank slate, but must present sufficient evidence to outweigh and rebut the presumption that the APW15 monitoring well has done what it was designed to do: identify contamination coming from the impoundment. Petitioner must rebut this presumption on both elements. Holding Petitioner to this burden is consistent with USEPA practice in ASDs under the federal rules. *See, e.g.*, *Final Decision: Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio*, EPA-HQ-OLEM-2021-0590-0100 ("A successful ASD must be sufficient to rebut the presumption that the CCR unit is the source of the [statistically significant increase (SSI)] in a downgradient well of a properly designed groundwater monitoring network by demonstrating that a source other than the CCR unit is responsible for the SSI"), *aff'd sub nom. Elec. Energy, Inc. v. EPA*, 106 F.4th 31 (D.C. Cir. 2024)). This federal precedent is relevant because the Board adopted Part 845 under a statutory mandate to, among other things, ensure that the Illinois rules would be "at least as protective and comprehensive as the federal regulations." 415 ILCS 5/22.59(g)(1) (2022). Interpreting the Board Rules to impose a lower burden of proof than the federal rules would flout this mandate.

requirements. Illinois EPA therefore acted correctly as a matter of law in not concurring with the ASD submittal.

1. Petitioner's three points of evidence fail to demonstrate that a specific alternative source caused the contamination.

The first of the two elements of an ASD submittal under Section 845.650(e) of the Board Rules, 35 Ill. Adm. Code 845.650(e), is a demonstration that "a source other than the CCR surface impoundment caused the contamination" (here, the elevated chloride concentration in monitoring well APW15). As the authorizing statute makes clear, an owner or operator seeking to avail itself of the ASD exception must "identify[] a specific alternative source of groundwater pollution." 415 ILCS 22.59(g)(11) (2022).

For the following reasons, Petitioner's ASD submittal fails to meet this first requirement, and Illinois EPA was therefore justified as a matter of law in not concurring in the ASD submittal.

a. Petitioner's ASD submittal itself disclaims any showing on the first element.

Petitioner's ASD submittal, which is signed by a Professional Engineer and a Professional Geologist as the rule requires, concludes as follows (R. at R001617):

> This information serves as the written ASD prepared in accordance with 35 I.A.C. § 845.650(e), demonstrating that the chloride exceedance observed at APW15 during the E001 sampling event was not due to the PAP. Therefore, assessment of corrective measures is not required for chloride at the PAP.

Thus, the professionals responsible for the ASD submittal do not claim that the submittal demonstrated that a specific alternative source caused the exceedance. (And they are quite right not to claim that, as discussed below.) Instead, they claim only that "the chloride exceedance . . . was not due to the PAP." By its own terms, therefore, the ASD submittal does not demonstrate the first element and therefore does not meet the requirements of Section 845.650(e).

Petitioner belatedly patches over this omission in its Petition, arguing that the "use of site-specific information and identification of a specific geological feature and likely hydraulic connection between the affected well and chloride-containing bedrock" was "more than sufficient to provide the 'demonstration' required by the rules." Pet. ¶ 43, R. at R001983-1984. The Petition is signed by an attorney, not by a professional engineer or geologist. R. at R001990. And this belated argument was not before Illinois EPA at the time of the nonconcurrence decision.

In any case, the authors of the ASD submittal were right the first time. Although the ASD submittal does not claim to demonstrate that a specific alternative source is responsible for the chloride contamination in APW15, it does briefly set forth three points of evidence on this element. R. at R001617. The Petition argues that these points of evidence showed that Pennsylvanian bedrock below the Newton PAP was "a likely source" of the chloride contamination. Pet. ¶ 17, R. at R001976. Petitioner's three points of evidence, however, show at most a speculative possibility of an alternative source, and are therefore inadequate as a matter of law, for the following reasons.

b. Petitioner's ASD submittal presents no non-speculative evidence that bedrock groundwater near APW15 has a high concentration of chloride.

As the first point of evidence for an alternative source, the ASD submittal states that "[c]hloride is present in Pennsylvanian shale in Jasper County at concentrations ranging from 100 to 5,000 mg/L." R. at R001617.

First, this statement distorts the cited source. It is artfully crafted to imply that Jasper County Pennsylvanian shale contains chloride levels as high as 5,000 mg/L. But the cited source simply uses "100—5,000 mg/L" as the lowest concentration band for classifying groundwater observations. *See* Samuel V. Panno et al., *Recharge and Groundwater Flow Within an Intracratonic Basin, Midwestern United States*, 56 Groundwater 32, 41 (Fig. 7) (2018), *available*

at https://doi.org/10.1111/gwat.12545. The source notes only two observations in Jasper County groundwater, both within this lowest band. *Id.* The source provides no reason to believe that either of these observations were anywhere near 5,000 mg/L. Petitioner's distortions continue in Paragraph 42 of the Petition, where Petitioner spins these two data points into an allegation that "chloride is present at elevated levels in the bedrock throughout Jasper County." R. at R001983.

Petitioner's expert now tries a more nuanced tack, arguing that the isoconcentration line for 1000 mg/L in the Panno article is located at the "top" of the Pennsylvanian bedrock. Expert Report of Melinda Hahn (Aug. 1, 2024) ("Hahn Report") at 16. Visually inspecting the drawing (Hahn Report at 17), however, shows that the line is some distance from the top. Moreover, both of the dots representing Jasper County samples are located *above* this line, indicating that the concentrations measured there, whatever they are, are probably less than 1,000 mg/L. *See Id*. The limited information in the source on which Petitioner and its expert rely would be consistent with both Jasper County measurements being *below* the 270 mg/L measured at APW15.

Second, this data is not site-specific. Even taking Petitioner's implication as true for purposes of this motion, that groundwater chloride concentrations of 5,000 mg/L (or now, according to Petitioner's expert, 1,000 mg/L) exist near the top of the Pennsylvanian bedrock somewhere in Jasper County, Petitioner never demonstrated that such concentrations exist near APW15. According to the Illinois Secretary of State, Jasper County covers 494.4 square miles. *2023-2024 Illinois Blue Book* at 445, *available at* https://www.ilsos.gov/publications/illinois_bluebook/countyofficers.pdf. Even if a concentration of 1,000 mg/L chloride had been detected in Pennsylvanian bedrock groundwater somewhere in those hundreds of square miles, that would at most demonstrate a speculative possibility that similarly high concentrations *might* exist somewhere near APW15. It would not show that such

concentrations are more likely than not to exist at the top of the bedrock near APW15, or to have caused the contamination in that well. Because this information is not site-specific, it cannot rebut the site-specific information provided by the groundwater monitoring results for APW15.

Because the assertion in the ASD submittal that (possibly) elevated chloride exists in bedrock groundwater (somewhere) in Jasper County at most shows only that "the nonexistence of the fact to be inferred appears to be just as probable as its existence," this assertion cannot support an inference of causation. *See Keating*, 401 Ill. App. 3d at 473. Accordingly, even taking this assertion at face value, this point of evidence provides no non-speculative basis for attributing the chloride exceedance in APW15 to an alternative source.

c. Petitioner's ASD submittal presents no non-speculative evidence of fractures or upwelling near APW15.

The second point of evidence for an alternative source in Petitioner's ASD submittal is as follows (R. at R001617):

> Upward vertical hydraulic gradients and fractures near geologic features provide conduits for these chloride-rich waters to migrate. The Clay City Anticline is present east of the PAP and a saline spring has been mapped adjacent to this anticline approximately 10 miles south of the PAP in Clay County.

Petitioner's "demonstration" that cracks in the Clay City Anticline caused the chloride exceedance at APW15 thus boils down to two facts: (1) the anticline "is present" somewhere in the general vicinity east of the PAP, and (2) ten miles from the PAP there is a "saline spring" adjacent to the anticline.

The first fact is notable for what it does not say. It does not say that the anticline is close to the PAP—only that it exists somewhere to the east.[2] It does not say that any cracks are present near APW15 through which brine could migrate, or that any brine actually has upwelled through these cracks—only that such cracks, if present, could provide a mechanism for such upwelling. Petitioner does not present any site-specific data to show that such cracks or upwelling, if they exist, are relevant to chloride levels at the Site. The lack of site-specific data renders Petitioner's first fact down to pure conjecture. The presence of an anticline *somewhere* to the east that *might* have cracks that brine *could* upwell through is not enough to "demonstrate" that these possible cracks are the actual source of the chloride in APW15 as Section 845.650(e) requires.[3]

As to the second fact, a single distant salt spring tells the reader nothing about whether a similar upwelling of brine contributed to the chloride exceedance at the APW15 monitoring well. Indeed, the lack of evidence of such upwelling brine closer than ten miles from the PAP suggests that it would be unlikely for it to coincidentally happen under Petitioner's monitoring well.

In sum, neither of these two facts makes it more likely than not that the specific contamination in APW15 is caused by the Clay City Anticline or by hypothetically cracked bedrock. Thus, these facts, even taken entirely at face value and construed in Petitioner's favor, cannot support an inference that the chloride exceedance in APW15 was caused by an alternative source.

[2] Although not referenced in the ASD submittal, a map included in the Hydrogeologic Site Report that Petitioner submitted with its operating permit application for the Newton PAP indicates that the PAP is roughly equidistant from the Louden Anticline and Clay City Anticline, and on the order of 20 miles from each. R. at R000773.

[3] Curiously, Petitioner's Hydrogeologic Site Report does not mention the Clay City Anticline as a relevant feature. Instead, it describes the PAP as "situated within the Fairfield Basin . . . a smooth floored inner central deep basin[.]" R. at R000713.

d. Petitioner's ASD submittal presents no non-speculative evidence that its "potential" pathway was actually the source of the contamination.

The final point of evidence for an alternative source in Petitioner's ASD submittal is the depth of APW15:

> Well APW15 is located in close proximity to bedrock and screened at a lower elevation than other wells monitoring the [uppermost aquifer (UA)] which *could* explain why this is the only affected well. The screened interval is estimated to be 10 to 15 feet lower than the top of bedrock in adjacent wells. The high hydraulic conductivity of the UA relative to the low hydraulic conductivity of underlying bedrock (Mehnert et al, 1990) at this location provides a *potential* pathway for interaction with upward-migrating chloride-containing bedrock groundwater.

R. at R001617 (emphasis added). The engineer certifying the ASD submittal thus described the location relative to the bedrock as a "potential" pathway. The Petition, however, transmutes the engineer's "could" into "likely":

> Additionally, the Newton ASD evaluated the site-specific groundwater and geologic data to note that the specific location of APW15 made it *likely* that it would be impacted by chloride in the bedrock, explaining the otherwise anomalous fact that APW15 was the only monitoring well affected by a chloride exceedance.

Pet. ¶ 42, R. at R001983 (emphasis added).

There are several puzzles here. First, it is unclear why Petitioner considers the single-well exceedance at APW15 to be "anomalous." As the ASD submittal notes, Petitioner has accepted the need for corrective action for a single-well exceedance for lithium at APW02. R. at R001611. Second, since APW15 is separated from bedrock by a thick layer of glacial till (the Smithboro Till of the Lower Confining Unit, R. at R000776), Petitioner's argument on this point would require assuming without evidence not only that the vertical hydraulic gradient is reversed only at APW15, but *also* that the Lower Confining Unit is for some reason less effective at confining groundwater than the Upper Confining Unit. Third, Petitioner's argument from "proximity to bedrock" is also

speculative, because no bedrock was detected in the APW15 boring and Petitioner's submitted drawings portray at least 25 feet of till between the APW15 screen and bedrock. R. at R000776.

Because this final point of evidence identifies only a speculative "potential pathway for interaction" without any particular evidence that this pathway actually exists, it too cannot support an inference that an alternative source caused the groundwater exceedance in APW15.

e. Taken together, Petitioner's three points of evidence amount to nothing more than speculation.

As reviewed above, Petitioner's three points of evidence on the first ASD element amount to the following: (1) elevated levels of chloride in bedrock groundwater exist *somewhere* in Jasper County and *might* be greater than 270 mg/L; (2) an anticline exists *somewhere* east of APW15 that *might* contain cracks that *might* allow brine to well up into the uppermost aquifer; and (3) APW15's proximity to bedrock *could* give rise to a *potential* pathway for interaction with bedrock groundwater (that *might* be chloride-rich), which *could* explain the elevated chloride levels. None of these amount to more than speculative possibilities. But "fictional musings as to what might have happened" are "unreliable and totally irrelevant" even when mused by an expert. *Modelski*, 302 Ill. App. 3d at 886. Each of Petitioner's three points of evidence identifies, at most, a speculative possibility. They are all therefore unreliable and totally irrelevant to causation. Petitioner's points thus do not even begin to rebut the presumption that the APW15 monitoring well did what Petitioner designed it to do: detect contamination coming from the Newton PAP.

In sum, taking every factual assertion in Petitioner's ASD submittal as true and drawing every reasonable inference in Petitioner's favor, the ASD submittal did not demonstrate that "a source other than the CCR surface impoundment caused the contamination" in APW15. The submittal was therefore inadequate on its face under Section 845.650(e) of the Board Rules. Thus, Illinois EPA acted correctly when it decided not to concur in the ASD submittal.

2. Petitioner's three lines of evidence fail to demonstrate that the PAP did not contribute to the contamination in APW15.

The second element of an ASD submittal under the Board Rules is a demonstration that "the CCR surface impoundment did not contribute to the contamination." 35 Ill. Adm. Code 845.650(e). An exceedance of a groundwater protection standard, in a monitoring well designed and sited to detect contamination flowing from a CCR surface impoundment, creates a reasonable presumption that the impoundment at least contributed to the contamination, even if it was not the sole cause. A successful ASD submittal must rebut this presumption.

Petitioner identifies three lines of evidence that it claims support its conclusion that the Newton PAP is not the source of the chloride contamination in APW15. R. at R001617. For the following reasons, however, Petitioner's lines of evidence also fall short of demonstrating this second element to a preponderance of the evidence.

a. Petitioner's ASD submittal does not show that there is no complete pathway for transport of CCR constituents to APW15.

"Line of Evidence #1" in Petitioner's ASD submittal is that "the PAP is separated from the [uppermost aquifer (UA)] at APW15 by a thick layer of low permeability glacial till." R. at R001615. The till in question is identified as the Vandalia Till Member of the Glasford Formation. R. at R001613. The submittal also presents boring log data for APW15 in support of Petitioner's claim that this till extends 60 feet below the Newton PAP. R. at R001627-1632. The submittal asserts that this evidence shows there is "no complete pathway for transport of CCR constituents to APW15." R. at R001615. The reader is left to puzzle over why Petitioner would build a monitoring well where no contamination from the PAP could ever reach it.

At any rate, this Maginot Line theory of contaminant transport does not stand up to scrutiny. A thick clay layer along the exact path followed by the APW15 drill tells Illinois EPA

nothing about how thick or permeable that clay layer might be in other parts of the PAP, or whether there might be joints or sand lenses through which contaminants could travel from the PAP to APW15.[4] Indeed, Petitioner's operating permit application describes the Vandalia Till as "[s]andy/silty till with thin, discontinuous lenses of silt, sand, and gravel." R. at R000712. Line of Evidence #1 therefore provides no basis for assuming that leachate from the PAP could not reach APW15, and therefore does not support Petitioner's conclusion that the PAP did not contribute to the contamination in APW15.

b. Petitioner's ASD submittal does not show that chloride leaking from the PAP would necessarily be accompanied by elevated boron and sulfate.

"Line of Evidence #2" in Petitioner's ASD submittal is that "[c]oncentrations of primary CCR indicators in APW15 do not exceed background limits and are not increasing." R. at R001615. The submittal explains that:

> Boron and sulfate can be indicators of CCR impacts to groundwater due to their leachability from CCR and mobility in groundwater. Porewater in the NPP PAP is elevated in both boron and sulfate, indicating that these parameters are site-specific key indicators for CCR. [. . . .]
>
> Mann-Kendall (M-K) trend analysis tests were performed to determine whether there are trends in the boron and sulfate concentrations in each well. If groundwater downgradient of the PAP was being affected by CCR but boron and sulfate did not yet exceed background concentrations, boron and sulfate concentrations would be expected to be increasing. No trends in

[4] This is not a hypothetical concern, and has come before the Board before. For example, joints and sand lenses in the Vandalia Till played a role in the failure of the unlined Earthline landfill in Wilsonville, Macoupin County, where hazardous substances escaped through the till despite laboratory results showing very low conductivities. *See, e.g.*, Beverly L. Herzog and Robert A. Griffin, *Investigation of Failure Mechanisms and Migration of Industrial Chemicals at Wilsonville, Illinois*, USEPA Environmental Research Brief (July 1990), EPA/600/M-89/033 (concluding that field-determined conductivity values "were 10 to 1000 times greater than laboratory-determined values," and that vertical joints and horizontal sand lenses created "preferential pathways for downward movement of chemicals"). The lessons learned at Wilsonville were instrumental in the Board's 1990 decision to reject natural liners for landfills and adopt 35 Ill. Adm. Code 811.306 requiring compacted earth liners instead. *See* Scientific/Technical Section, *Appendix A-1: Recommendations for a Nonhazardous Waste Disposal Program in Illinois*, R88-7 (Aug. 17, 1990), at 34, available at: https://pcb.illinois.gov/documents/dsweb/Get/Document-72798 (Board staff recommendation endorsing the new language and citing an earlier Wilsonville report by Dr. Griffin that "found that natural in situ material contains sand lenses, joints, fractures, microstructure and other anomalies that may cause excessive leakage").

> boron or sulfate concentrations were identified by the M-K tests in compliance well APW15.

Id. Notably lacking from Line of Evidence #2, however, is any assertion that chloride is always less mobile in groundwater than boron or sulfate, or that CCR leachate invariably contains elevated concentrations of boron and sulfate. Moreover, given that contaminants have had decades to leak out of the PAP, the fact that boron and sulfate have higher mobilities than chloride raises the possibility that chloride originating from the PAP might separate from boron and sulfate simply by virtue of being less mobile. And while Petitioner's identification of boron and sulfate as "site-specific key indicators for CCR" relies on porewater samples from one corner of the PAP, there is no reason to believe that these samples are representative of the entire PAP, or of all contamination that could come from it (see below, pages 22-23). Illinois EPA would therefore have no basis to infer from a lack of an upward trend in boron and sulfate in APW15 that the PAP did not contribute to the chloride exceedance at that well.

Thus, even taking Line of Evidence #2 at face value and drawing every reasonable inference in Petitioner's favor, this line of evidence also fails to demonstrate that the Newton PAP did not contribute to the exceedance in APW15.

c. Petitioner's ASD submittal does not show that high levels of chloride are absent in the PAP.

"Line of Evidence #3" in Petitioner's ASD submittal is that "[c]oncentrations of chloride at APW15 are greater than source concentrations." R. at R001616. The submittal presents a table of composite porewater results from sampling at "porewater locations XPW01, XPW02, XPW03, and XPW04" within the Newton PAP. *Id.*

The porewater concentrations shown in Petitioner's table are, indeed, much lower than the groundwater concentrations measured at APW15. But Petitioner does not present any information

that would allow Illinois EPA to make an informed comparison between these values. The ASD submittal does not contain any analysis of possible chemical differences that might affect solubility, nor even of possible pH variations over time and space, even though as Petitioner's expert notes, "[d]istinctive patterns in leaching behavior have been identified over a range of pH values that would plausibly be encountered for CCR management." Hahn Report at 8. Nor does the ASD submittal present any reason to believe that the porewater and groundwater results were obtained by commensurable techniques. The submittal's porewater results are unaccompanied by any documentation of the sampling techniques used, chain of custody, or extraction techniques.[5] Without all this information, Illinois EPA could not directly compare the groundwater and porewater results.

And even supposing that the porewater and groundwater results can meaningfully be compared, Line of Evidence #3 falls short. As Petitioner's ASD submittal notes, the Newton PAP covers 400 acres and contains diverse waste streams deposited over more than 40 years. R. at R001612. The four wells Petitioner used for its composite porewater samples are all clustered at the PAP's north end, while APW15 is located near the PAP's south end. R. at R001621. Petitioner provides no reason to assume that this small cluster of wells at one end of the PAP is representative of the entire 400-acre PAP.

Moreover, Petitioner's own documentation suggests that this data is unlikely to be representative. According to the Hydrogeologic Site Report that Petitioner submitted with its operating and construction permit applications, the creek bottom "was to be filled" to a minimum elevation of 504 feet before operation began, but the northern areas where the porewater wells are now located were on much higher ground, with historic elevations of 531 to 547 feet. R. at

[5] As discussed in footnote 7 below (page 23), this documentation was only placed in the record before the Board as an attachment to Petitioner's expert report of August 1, 2024, and was not part of the record before the Agency.

R000778. That fact alone gives ample reason to expect that this well cluster would not be representative, because the lower-lying parts of the PAP are likely to contain older and potentially distinct waste streams. And as Petitioner's expert notes, research on CCRs has shown that "[t]here is great variability in both the range of total constituent concentration values and in leaching values (orders of magnitude)." Hahn Report at 8. Thus, it is critical to ensure that source characterization actually characterizes the correct waste. Moreover, rainwater percolating downward through the ash would tend to percolate toward the lower, southern areas of the PAP. Petitioner's expert's argument that "the porewater data are representative of the range of leachate quality potentially leaving the PAP because they were collected at the base of the SI" thus fails on its own terms. Hahn Report at 14. Because the samples do not actually come from the lowest part of the impoundment, by Petitioner's expert's own argument these samples are *not* "representative of the range of leachate quality potentially leaving the PAP." Accordingly, even setting aside any other concerns about the use of porewater techniques and the limited number of samples, Petitioner has presented no reason to assume the results from the porewater wells on the northern edge of the PAP would reflect porewater chloride concentrations closer to APW15 on its southern edge.

Thus, Line of Evidence #3 also does not support Petitioner's conclusion that the PAP did not contribute to the contamination in APW15.

i. Porewater data provides insufficient waste characterization to support Petitioner's ASD submittal.

Waste characterization requires an analysis of the chemical constituents found within the CCR, an analysis of the CCR itself, as well as all waste streams or additives entering the surface impoundment in accordance with Sections 845.230(a)(16), 845.230(d)(2)(B) and 845.230(d)(2)(C) of the Board Rules. Subpart F of Part 845 provides regulatory requirements for groundwater characterization and corrective action, which include a hydrogeologic

characterization of the area (which includes the geology, hydrogeology, groundwater flow, precipitation influx, etc.) of the site (35 Ill. Adm. Code 845.620), design and construction of a groundwater monitoring program (35 Ill. Adm. Code 845.630), and a sampling and analysis program when sampling for the groundwater protection standards (35 Ill. Adm. Code 845.640).

Part 845 does not regulate porewater, does not define porewater, and does not mention porewater in the context of groundwater monitoring or waste characterization. There are no porewater protection standards in Part 845. Porewater data alone cannot characterize the CCR or non-CCR waste streams at the PAP, or the groundwater, which are the only media Part 845 regulates. Therefore, the CCR porewater would not accurately show whether a CCR waste stream does or does not cause contamination or contribute to the contamination.[6]

ii. The provided porewater data contains critical gaps in documentation, leaving Illinois EPA unable to concur in Petitioner's ASD submittal.

But even if sufficient information was provided for Illinois EPA to use the porewater results to assess the groundwater contamination at issue, Illinois EPA would still have had to issue a nonconcurrence because the Petitioner failed to adequately document or source its findings. The porewater results were presented in the ASD submittal without the laboratory reports or the description of sampling methods and analytical methods required by SW-846. R. at R001636-1639.[7] SW-846 provides three methods for extracting porewater from a solid sample as follows:

[6] At various points in this appeal, Petitioner has cited various federal risk assessment documents that support the use of porewater measurements as a risk assessment tool. *See, e.g.*, Hahn Report at 9. Petitioner's reliance on these documents is misplaced, however, because it misses a key distinction: the federal CCR rule is risk-based and therefore relies on risk modeling. In contrast, the portions of Part 845 that are relevant here are not risk-based, but apply the strict numerical groundwater protection standards listed in 35 Ill. Adm. Code 845.600.

[7] Some of this missing information appears to have belatedly materialized as an exhibit to Petitioner's expert's report, filed on August 1, 2024. *See* Hahn Report at 1898-1901, 1929. It was not, however, presented in Petitioner's ASD submittal (nor even in Petitioner's public comment or petition for review), and therefore was not before the Agency at the time of the nonconcurrence decision.

Method 1314 is a method for liquid-solid partitioning (LSP) as a function of liquid-solid ratio, which may show concentrations and/or cumulative release as a function of the liquid-solid ratio. R. at R000033-062. Method 1315 is a method for mass transfer rates of constituents in compacted materials which uses diffusion-controlled release conditions as a function of leaching time. R. at R000064-100. Method 1316 is another method of liquid-solid partitioning (LSP) as a function of liquid-solid ratio, but the focus is on how the constituent leaches relatives to the volume of the solid material and the pH. R. at R000102-121. SW-846 also provides methods for analysis of the liquid or solid sample for the purpose of determining the amount of each constituent of concern that is in the sample. *Id.* Moreover, SW-846 provides a method for collecting porewater samples, LSASDPROC-513-R5. R. at R001560-R001604. Petitioner, however, does not appear to have employed any of these methods in either collecting or analyzing its porewater samples, and did not provide any documentation of low-flow sampling with the ASD.

Taken together, Petitioner's three lines of evidence amount to the following: (1) a thick layer of low-permeability glacial till would block contaminated groundwater from traveling along the exact path followed by the APW15 borehole (but not necessarily other paths), (2) there is no upward trend in boron and sulfate in APW15 (but also no evidence to show that such an upward trend should always be expected), and (3) samples taken from porewater on the far end of the PAP show lower levels of chloride than the groundwater samples from APW15 (which were analyzed by different methods). Even taken together, these lines of evidence cannot rebut the presumption that when contamination is detected in a monitoring well that was set up to detect contamination leaking from the PAP, the PAP is likely to be at least a contributing source of that contamination.

Petitioner's ASD submittal therefore failed to demonstrate that "the CCR surface impoundment did not contribute to the contamination" as the Board's Rules require. *See* 35 Ill.

Adm. Code 845.650(e). Accordingly, for this reason as well, Illinois EPA acted correctly when it decided not to concur in the ASD submittal, and is therefore entitled to summary judgment in its favor.

B. Illinois EPA Identified Three Independently Sufficient Grounds For Rejecting Petitioner's ASD Submittal.

To concur in an ASD, Illinois EPA must be satisfied that no critical piece of data is missing from the evidence submitted. A quantity of data cannot compensate for a lack of quality in data. Illinois EPA's letter of nonconcurrence in Petitioner's ASD submittal identifies three "data gaps," on which Petitioner failed to provide sufficient evidence to demonstrate that the Newton PAP did not contribute to the chloride exceedance in APW15. R. at R001996. First, that "[s]ource characterization of the CCR at the Primary Ash Pond must include total solids sampling in accordance with SW-846" ("Data Gap 1"). Second, "[h]ydraulic conductivities from laboratory or in-situ testing must be collected, analyzed, and presented with hydrogeologic characterization of bedrock unit" ("Data Gap 2"). Third, "[c]haracterization to include sample and analysis in accordance with 35 IAC 845.640 of alternative source must be provided with ASD" ("Data Gap 3"). As detailed below, each of these three data gaps provides an independently sufficient reason for Illinois EPA to have rejected the ASD submittal.

Petitioner's expert argues that "Part 845 would be impossible for owners and operators to comply with if the Agency has significant internal data requirements that are not spelled out in the rule." Hahn Report at 18 n.56. This argument, however, misses the point. Petitioner's ASD submittal failed because it fell short of satisfying the elements of an ASD under 35 Ill. Adm. Code 845.650(e). Illinois EPA's data gaps simply detail certain specific ways the ASD submittal fell short. And those data gaps are justified, for the following reasons.

1. Illinois EPA reasonably declined to concur in an ASD submittal that did not use standard methods for source characterization.

Illinois EPA's first data gap is that "[s]ource characterization of the CCR at the Primary Ash Pond must include total solids sampling in accordance with SW-846." R. at R001965. Source characterization of the CCR at the Newton PAP is necessary to meet the second ASD element under Section 845.650(e), namely, to demonstrate that the PAP did not contribute to the chloride contamination in APW15. For such evidence to be persuasive, it must use methods that are consistent and comparable with groundwater sampling and analysis. In particular, total solids sampling is needed to ensure that the CCR, which is the presumptive source of the chloride exceedance, can be fairly ruled out as a source. Under Part 845 these groundwater methods are governed by SW-846. 35 Ill. Adm. Code 845.640(j). And as chapter 1 of SW-846 provides, "[g]iven the significant decisions to be made based on environmental data, it is critical that the data are of sufficient quantity and quality for their intended use and can support decision-making based on sound science." Supp. R. at R002219. Because Petitioner provided incomplete data, Illinois EPA simply did not have the information needed to issue a concurrence in line with SW-846.

Petitioner contends, however, that SW-846 is inapplicable to the ASD process: "The only substantive provision of Part 845 specifically requiring analysis using SW-846 is Section 845.640(e), which applies to analyzing groundwater monitoring samples under a groundwater monitoring program and is not at issue here." R. at R001980. But Section 845.640(j) makes SW-846 applicable to "[a]ll groundwater samples taken under this Subpart", which relevantly includes both Section 845.640 and Section 845.650. Thus, all sampling conducted for the ASD had to be analyzed using SW-846 methodology, and any analysis conducted by other methods was unusable in Agency determinations.

SW-846 is incorporated by reference in Section 845.150 of the Board Rules, 35 Ill. Adm. Code 845.150. Representativeness is a mandatory data quality indicator under SW-846. Supp. R. at R002225. According to SW-846, representativeness is defined as "a measure of the degree to which data accurately represent a characteristic of a population, a parameter variation at a sampling point, a process condition, or an environmental condition." Supp. R. at R002225. Any sampling done in accordance with SW-846, then, must be site-specific and include assurances that the data accurately represents the CCR in question. *See* 35 Ill. Adm. Code 845.230(a)(16) and (d)(2)(C). This representative waste characterization is a prerequisite to any technical regulatory decision on an ASD submittal, because without it Illinois EPA would have no way to evaluate the second ASD element (whether the impoundment contributed to the contamination). Here, Petitioner failed to conduct representative waste characterization pursuant to the Board Rules, and Illinois EPA therefore reasonably declined to concur in Petitioner's ASD submittal.

Petitioner also argues that SW-846 methods are not mandatory for ASD submittals because "Chapter 2 of SW-846 states that the methods in that document are not 'mandatory' unless specifically specified as such by regulation." R. at R001980. However, this is inaccurate. The cited chapter states that "analysts and data users are advised that, *except where explicitly specified in a regulation*, the use of SW-846 methods is not mandatory in response to *Federal* testing requirements." Supp. R. at R002247 (emphasis added). The Newton ASD is subject to state requirements, *and* those state requirements specifically require the use of SW-846 in relation to groundwater samples. 35 Ill. Adm. Code 845.640(j).

Petitioner further argues that "[t]hat sampling would have included laboratory simulated and/or indirect analysis of potential leaching from material in the PAP, while the methodology utilized for the Newton ASD included a direct analysis of porewater to determine what constituents

are actually leaching from the PAP." R. at R001981. Petitioner's arguments call on Illinois EPA to disregard "potential" leaching as too far-fetched a possibility to be considered in an ASD submittal (R. at R001981), yet also to give full weight to the "potential" pathway for groundwater migration on which Petitioner's ASD submittal relies (*see* R. at R001617). But Petitioner's priorities are upside down. To protect public health and the environment, as mandated by 415 ILCS 5/22.59(a) (2022), the Board and Agency must weigh the possibility that the CCR in the Newton PAP *could* release higher levels of chloride than observed to date in the four porewater wells clustered at one end of the PAP, and must also hold Petitioner to its burden of showing that the putative alternative source is *actually* and not just potentially responsible. It is Petitioner's job, in its ASD submittal, to eliminate these possibilities and potentialities and present Illinois EPA with direct evidence that the PAP is not the source of contamination in the well. Petitioner failed to provide this evidence.

For the foregoing reasons, Illinois EPA reasonably declined to concur in an ASD submittal that did not use include total solids sampling of CCR in accordance with SW-846.

2. Illinois EPA reasonably declined to concur in an ASD submittal that did not include adequate hydrogeologic characterization of the bedrock unit together with hydraulic conductivity data.

The second data gap Illinois EPA identified in its nonconcurrence is that "[h]ydraulic conductivities from laboratory or in-situ testing must be collected, analyzed, and presented with hydrogeologic characterization of bedrock unit." R. at R001965. This is a reasonable requirement because Petitioner's arguments rely heavily on hydraulic conductivity. "Line of Evidence #1" in the Newton ASD submittal is that "the PAP is separated from the UA at APW15 by a thick layer of low permeability glacial till." R. at R001615. Likewise, the ASD submittal's second and third data points supporting bedrock groundwater as the chloride source (pages 14-16 above) rest on

hydraulic conductivity. R. at R001617. Because Petitioner's arguments turned on hydraulic conductivity, Illinois EPA reasonably required additional hydraulic conductivity information. And because Petitioner's arguments turned on a bedrock source for the chloride contamination, Illinois EPA reasonably required characterization of the bedrock. Hydrogeologic characterization of the bedrock accompanied by bedrock hydraulic conductivity information forms the basis of Petitioner's arguments; without it, Illinois EPA could not concur in the ASD submittal.

Petitioner claims that "[c]ollecting and analyzing hydraulic conductivity data with a hydrogeologic characterization of the bedrock unit or conducting groundwater sampling and analysis of the bedrock would not change the conclusion of the Newton ASD." R. at R001983. This would be true if the data supports the ASD submittal, and false if it does not; but without the data there is no way for anyone to know which is the case. For Illinois EPA to accept this argument would be to ignore all scientific sense and simply accept Petitioner's arguments as truth.

a. The data Illinois EPA requested was also required in the operating permit application and is essential to the Part 845 regulatory scheme.

Related regulations must be interpreted as "governed by one spirit and a single policy." *Office of the State Fire Marshal*, 2022 IL App (1st) 210507, ¶ 34. Consistent with this principle, the ASD rule in Section 845.650(e) presumes that Illinois EPA's decision on an ASD submittal will be made with reference to comprehensive information that other provisions of Part 845 require the owners of CCR surface impoundments to collect: on waste properties, site geology and hydrology, and background concentrations of potential groundwater contaminants. And the information Illinois EPA requested in the second data gap is information that all owners or operators of CCR surface impoundments are required to collect at some point. *See, e.g.*, 35 Ill. Adm. Code 845.610(b)(1)(A) (requiring hydrogeologic site characterization for existing

impoundments), 845.620 (detailing requirements for hydrogeologic site characterization including identification of potential migration pathways, chemical and physical characterization of geologic layers to a *minimum* depth of 100 feet, and "[a]ny other information requested by the Agency that is relevant to the hydrogeologic site characterization"), and 845.630 (requiring a groundwater monitoring system to, among other things, "[a]ccurately represent the quality of background groundwater that has not been affected by leakage from a CCR surface impoundment").

Petitioner submitted a proposed hydrogeologic site characterization and groundwater monitoring system as part of its operating permit application (R. at R000564-1587). This application remains under Illinois EPA's review and has not been approved. Petitioner's arguments in the ASD submittal imply that Petitioner's groundwater monitoring wells are inadequate in at least two respects: that APW15 is so poorly placed that it can never receive contamination from the PAP and was therefore incorrectly characterized as downgradient from the PAP, and that APW15 is also somehow the only well to accurately reflect the local background concentration of chloride. These arguments can only cast doubt on the adequacy of the hydrogeologic data Petitioner has provided, and thus support Illinois EPA's request for additional data.

Although the Board Rules require Petitioner to provide any "information requested by the Agency that is relevant to the hydrogeologic site characterization" (35 Ill. Adm. Code 845.620(b)(18)), Petitioner contends that "IEPA's request for a complete characterization of the surrounding bedrock is unfounded, unexplained, and . . . practically infeasible." R. at R001984. But hydrogeologic site characterizations, including conductivity data, are a standard part of the initial operating permit application that all similarly situated owners and operators must submit for an existing CCR impoundment. 35 Ill. Adm. Code 845.610(b)(1)(A).

The information provided in Petitioner's permit application and ASD submittal lacks site-specific bedrock information characterized for fracture flow, i.e., hydraulic conductivity. The Newton PAP does not have any wells screened within the bedrock confining unit. R. at R000720. Moreover, although several wells (including APW15) were drilled in 2021 to meet Part 845 requirements (R. at R000725), no field or laboratory tests of bedrock hydraulic conductivity were performed at that time. R. at R000722-723. In addition, "[n]o bedrock samples were collected for geotechnical testing or chemical analysis." R. at R000718. Yet Sections 845.620(b)(13) and (15) require validation of site-specific geology to a minimum depth of 100 feet, "including lithology and stratigraphy" and "chemical and physical properties of the geologic layers." Petitioner chose not to collect this required information, which could have confirmed or denied the bedrock-chloride theory on which the Newton ASD relies. But in the absence of this information, it was impossible for Illinois EPA to concur in the ASD submittal.

Petitioner submitted additional information in the form of a Comment Letter past the 60-day deadline set by §845.650(e).[8] Even if Illinois EPA could consider the hydraulic conductivities that Petitioner belatedly submitted, the same boring log was provided instead of any further hydrogeologic characterization of the bedrock unit, leaving out information that would have been critical to the issuance of a concurrence. R. at R002015, R001787.

In sum, because Petitioner failed to timely provide adequate characterization for both hydraulic conductivity and a bedrock source for the chloride contamination as Section 845.650(e) requires, Illinois EPA reasonably declined to concur in the ASD submittal.

[8] Other concerns with Petitioner's Comment Letter are discussed below at page 33.

3. Illinois EPA reasonably declined to concur in an ASD submittal that did not adequately characterize the alternative source.

The third data gap Illinois EPA identified in its nonconcurrence is that "[c]haracterization to include sample and analysis in accordance with 35 IAC 845.640 of alternative source must be provided with ASD." R. at R001965. Section 845.640(a) provides as follows:

> a) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide an accurate representation of groundwater quality at the background and downgradient wells required by Section 845.630. The owner or operator of the CCR surface impoundment must develop a sampling and analysis program that includes procedures and techniques for:
>
> 1) Sample collection;
>
> 2) Sample preservation and shipment;
>
> 3) Analytical procedures;
>
> 4) Chain of custody control; and
>
> 5) Quality assurance and quality control.

To show that a specific alternative source (in this case, chloride-rich bedrock groundwater) was responsible for the contamination in APW15, Petitioner needed to show that the source exists and that it has the properties that Petitioner claims. For that information to be valid, Petitioner needed to provide the standard documentation specified in Section 845.640(a). Chains of custody typically also document sample collection, preservation and shipment, analytical procedures, and quality control/quality assurance, which are all also required by 35 Ill. Adm. Code 845.640(a)(1), (2), (3), and (5). But Petitioner not only failed to provide this data, it did not provide any site-specific documentation showing the existence of the alternative source at all.

Petitioner argues that there is no "requirement to conduct groundwater monitoring of an alternative source in accordance with Section 845.640 as part of an ASD." Pet. ¶42, R. at R001982.

This seems to go hand in hand with Petitioner's insistence that it is not required to identify the alternative source, since it is difficult to imagine how Petitioner could show that a specific alternative source is responsible for the contamination without characterizing that source.

Petitioner's failure to adequately record the procedures and techniques it used in developing its ASD submittal introduces doubt as to whether its data was consistent, complete, or accurate. Given the lack of even the most basic documentation, Illinois EPA could not have conscionably concurred in the ASD submittal without departing from its mission of environmental protection. Therefore, Illinois EPA reasonably declined to concur in an ASD submittal that did not adequately characterize the alternative source.

4. Petitioner's arguments against Illinois EPA's data gaps are founded on untimely and improper data

a. Petitioner's Comment Letter, which failed to address Illinois EPA's data gaps, was untimely.

Petitioner claims that the three data gaps in Illinois EPA's nonconcurrence letter are "similar" to points discussed in a Comment Letter submitted on November 3, 2023. Pet. ¶30, R. at R001979. However, the report Petitioner submitted as part of its ASD submittal on October 6, 2023 was required to "include . . . the factual or evidentiary basis for any conclusions." R. at R001979; 35 Ill. Adm. Code 845.650(e). Not only does Petitioner's Comment Letter fail to address the data gaps identified by Illinois EPA, but any additional information submitted in the Comment Letter is irrelevant to Illinois EPA's determination because it was submitted past the ASD submission deadline of October 6, 2023.

Deadline compliance matters because the Illinois ASD timeline moves swiftly. First, an exceedance is detected. Second, the facility owner (if it chooses to do so instead of proceeding with corrective action) presents its ASD to Illinois EPA within 60 days of detecting the

exceedance. 35 Ill. Adm. Code 845.650(e). Third, the public is given at least 14 days to weigh in on the ASD. 35 Ill. Adm. Code 845.650(e)(3). Fourth, Illinois EPA issues its decision within 30 days of the ASD submittal. 35 Ill. Adm. Code 845.650(e)(4). This unforgiving schedule exists for good reason: to protect the public health and environment of Illinois from the substantial dangers created by CCR impoundments. *See* 415 ILCS 5/22.59(a) (2022).

If a facility owner could use the public comment period to supplement an ASD submittal, the timeline would be turned on its head: the owner could moot all other public comments by filing its own at the last minute (as Petitioner did here), thus superseding the earlier ASD submittal to which other public comments had been directed. This would not only render the public comment period a nullity, it would also be contrary to legislative intent of ensuring "meaningful participation of State residents." *See* 415 ILCS 5/22.59(a)(5) (2022). And under these circumstances the already short timeline for Illinois EPA's review would be even shorter: the ASD submittal would not be final until *after* public comment had closed. Only then could Illinois EPA begin its review. Therefore, Petitioner's use of public comment to supplement its ASD submittal was improper and the Comment Letter should be given no weight in the Board's review of Illinois EPA's nonconcurrence.

Moreover, allowing such a belated submission of data in support of the Newton ASD would have imposed a significant practical burden on Illinois EPA, which already has limited time to thoroughly process the high amount of information associated with ASDs while keeping up with its multitudes of other duties. Illinois EPA was therefore justified in keeping a firm cut-off point past which more data could not be submitted. To do otherwise would have opened the door to endless streams of supplemental information, defeating the urgency of Section 845.650. Therefore, Petitioner's Comment Letter is extraneous to the issues at hand because Illinois EPA's review of

Petitioner's ASD submittal was confined to the information Petitioner included in the October 6, 2023 Submittal. Thus, Board's review is also limited to the information in the submittal. *See* 35 Ill. Adm. Code 105.412.

b. Petitioner's refusal to gather required data left Illinois EPA unable to concur with the ASD submittal.

Petitioner frequently raises arguments that presume that its ASD submittal was adequate and therefore it should not have been required to do more. For example: "The information would not lead to a different result, and the fact the data was not submitted is inadequate to support the Agency's nonconcurrence with the Newton ASD." R. at R001979. But these arguments are valid only as tautologies: they show that the ASD submittal would have been sufficient if it was sufficient. Petitioner cannot know whether additional information would have fixed the ASD submittal's insufficiencies, because Petitioner's refusal to adequately engage in the multiple lines of evidence approach before the deadline to submit information into the Record left the data gaps standing unaddressed. Given Petitioner's failure to meet its burden of proof with the ASD submittal, Illinois EPA had no choice but to issue a nonconcurrence based on the identified data gaps.

C. Policy Considerations Also Support Illinois EPA's Nonconcurrence Decision.

1. The legislative and rulemaking background of Part 845 supports Illinois EPA's decision.

As discussed above (pages 9-10), 35 Ill. Adm. Code 845.650(e) requires an ASD submittal to show that a specific alternative source caused the contamination, and *also* that the CCR impoundment did not contribute to the contamination. Illinois EPA was therefore justified in deciding not to concur in Petitioner's ASD submittal, because Petitioner failed to provide the necessary evidence on either point. In particular, Illinois EPA was justified in identifying the three

data gaps in its nonconcurrence letter, since these would have been essential to making an adequate showing on either element. But even if there were any ambiguity in the rule, the context in which the rule was adopted would resolve it—and not in Petitioner's favor.

The statute that authorized the Board's Part 845 rulemaking observed, among other things, that "CCR generated by the electric generating industry has caused groundwater contamination and other forms of pollution at active and inactive plants throughout this State." 415 ILCS 5/22.59(a) (2022). It stated its purpose as "to promote a healthful environment, including clean water, air, and land, meaningful public involvement, and the responsible disposal and storage of coal combustion residuals, so as to protect public health and to prevent pollution of the environment of this State." *Id.* And it provided that its provisions "shall be liberally construed" to carry out that purpose. *Id.*

In particular, the legislature instructed the Board to adopt rules that, at a minimum, "describe the process and standards for *identifying a specific alternative source* of groundwater pollution when the owner or operator of the CCR surface impoundment believes that groundwater contamination on the site is not from the CCR surface impoundment." 415 ILCS 5/22.59(g)(11) (2022) (emphasis added). Any interpretation of 845.650(e) that presumes that the Board flouted its statutory mandate, or that a regulation and statute governing the same subject matter should be given opposite interpretations, would be highly questionable. Thus, Illinois EPA was justified in requiring Petitioner to show that a specific alternative source was responsible for the contamination, and also in identifying the missing data that would have been necessary for such a showing.

The Board's rulemaking history also favors Illinois EPA. As the Board observed in agreement with the legislature's Joint Committee on Administrative Rules, an ASD "is not a

mandatory step upon confirming a groundwater exceedance but rather an exception for which the owner or operator might qualify." *In the Matter of: Standards for the Disposal of Coal Combustion Residuals in Surface Impoundments: Proposed new 35 Ill. Adm. Code 845*, R20-19 (Feb. 4, 2021), slip op. at 81. Notwithstanding Petitioner's arguments that Illinois EPA's interpretation of the rule would render it "meaningless," an optional exception for which an owner/operator *might* qualify is not "meaningless" simply because Petitioner does not qualify for it. Illinois EPA thus acted correctly in requiring Petitioner to show that it qualified for the ASD exception, rather than treating the ASD as something to which Petitioner was automatically entitled.

2. Illinois EPA's nonconcurrence is also consistent with federal practice under the federal ASD rules.

The Board adopted Part 845 under a legislative mandate to ensure that the state rules would be "at least as protective and comprehensive" as the federal regulations. *See* 415 ILCS 5/22.59(g)(1) (2022). Accordingly, the burden of proof that Part 845 imposes on ASD proponents must be at least as heavy as that imposed under the federal rules. As detailed below, federal practice requires proponents to identify and characterize a specific alternative source, which is consistent with Illinois EPA's nonconcurrence decision in this case.

The United States Environmental Protection Agency (USEPA) issued its first (and thus far only) final decision on an ASD submittal under the federal rules in 2022. *Final Decision: Denial of Alternative Closure Deadline for General James M. Gavin Plant, Cheshire, Ohio,* EPA-HQ-OLEM-2021-0590-0100 (Nov. 21, 2022) (*aff'd sub nom. Elec. Energy, Inc. v. EPA*, 106 F.4th 31 (D.C. Cir. 2024)), at 54-75. As USEPA explained in *Gavin*:

> A successful ASD must be sufficient to rebut the presumption that the CCR unit is the source of the [statistically significant increase (SSI)] in a downgradient well of a properly designed groundwater monitoring network by demonstrating that a source other than the CCR unit is responsible for the SSI. An ASD requires conclusions that are supported by site-specific

> facts and analytical data in order to rebut the site-specific monitoring data and analysis that resulted in an SSI. Speculative or theoretical bases for the conclusions are insufficient.

Id. at 49-50. In federal practice, an ASD submittal "must contain information to support the conclusion that an alternative source exists[.]" *Id.* at 55. Specifically, in *Gavin*, USEPA rejected the impoundment owner's claim that exceedances of chloride and other contaminants were caused by discharges of "elevated concentrations of these constituents" from "regional bedrock," because the owner had provided "no site-specific data [. . .] to substantiate the existence of bedrock discharges of these constituents." *Id.* at 59. Moreover, "no samples of on-site bedrock were analyzed." *Id.* at 60. Likewise here, Petitioner provided no site-specific data to substantiate the existence of bedrock discharges of chloride, and did not analyze any samples of on-site bedrock.

As the *Gavin* decision shows, under the federal rules an owner/operator of a CCR impoundment who believes that an alternative source is responsible for an exceedance must provide site-specific, *non-speculative* support for that belief. Any interpretation of Part 845 that would impose a lower proof requirement for ASDs under the Illinois rule than the federal one risks falling short of the Board's statutory mandate.

In sum, the Illinois ASD rule at 35 Ill. Adm. Code 845.650(e) is clear on its face in requiring concrete proof of both ASD elements. Any doubt on that score is dispelled by the policy background under which the Board adopted it. And the *Gavin* decision, which applied the analogous federal provisions to analogous facts, further confirms that impoundment owner/operators must be held to their burden of proof to show that an alternative source exists and is likely responsible for the contamination—which necessarily requires providing sufficient site-specific evidence to characterize that source, showing that it exists and is a likely cause of the

contamination, *and* also sufficient site-specific evidence to rebut the presumption that the impoundment contributed to the contamination.

3. Petitioner's reading of the ASD rule is contrary to basic rules of statutory interpretation and Petitioner's policy arguments are unavailing.

As detailed above (page 9-10), an ASD must prove two elements: (1) that an identified alternative source caused the contamination, and (2) that the impoundment did not contribute to the contamination. 35 Ill. Adm. Code 845.650(e). Petitioner alleges, however, that reading the regulation to require both elements is "arbitrary and capricious and also ignores reality." Pet. ¶47, R. at R001985. Further, that this interpretation "make[s] the entire ASD provision meaningless, as it would be impossible for any owner or operator to submit a sufficient ASD." Pet. ¶48, R. at R001985.

Petitioner instead favors a reading of Section 845.650(e) in which the two elements are synonymous: the owner/operator only needs to show that its impoundment did not cause or contribute to the contamination, and is not required to identify an alternative source. *See, e.g.,* Pet. Ex. C at 10, R. at R002034 ("there is no requirement [. . .] in Part 845 to identify [. . .] an alternative source"); Pet. Ex. D at 10, R. at R002202 ("Parts 845 and 257 do not even require identification of the alternate source"). Petitioner's interpretation fails for two reasons. First, it ignores the rule's plain language. Second, it renders the first ASD element meaningless, because any source that "causes" contamination necessarily "contributes" to it. It therefore runs afoul of the principle that statutes and regulations should be construed "so that no part is rendered meaningless or superfluous." *Lloyd*, 2013 IL 113510, ¶ 25. By collapsing the two elements of the rule, Petitioner creates a self-serving regulation that defeats the purpose of the ASD process: to determine the source of contamination in CCRs for rapid remediation. Petitioner's single-element reading of Section 845.650(e) must therefore be rejected.

Petitioner also raises policy arguments for its single-element reading of Section 845.650(e) based on expert and financial testimony. Pet. Ex. E (Affidavit of Cynthia Vodopivec), R. at R002213-2214; Expert Report of Melinda Hahn (Aug. 1, 2024) ("Hahn Report"). These factual arguments miss the mark because the interpretation of statutes and rules is a pure question of law. *Haage*, 2021 IL 125918 at ¶ 41. They also fail for more specific reasons.

Petitioner's expert Melinda Hahn argues that there is no "scientific basis" for considering Section 845.650(e) to require two elements rather than just one. Hahn Report at 11. She claims that this is a technical rather than a legal opinion. *Id.* But Dr. Hahn's discussion of the rule glosses over the importance of the standard of proof: the two elements would be arguably redundant *if* it could be shown to 100% certainty that an impoundment did not cause or contribute to contamination. This is virtually impossible. Therefore, requiring ASD proponents to provide sufficient evidence in support of both elements provides a crucial check to ensure protection of the public health and environment of Illinois. And that is an important consideration, because the Board adopted Part 845 pursuant to a statutory mandate to, among other things, "promote a healthful environment, including clean water, air, and land, meaningful public involvement, and the responsible disposal and storage of coal combustion residuals, so as to protect public health and to prevent pollution of the environment of this State." 415 ILCS 5/22.59(a) (2022). Thus, contrary to Dr. Hahn's opinion, reading the statute and regulations as a whole and in accordance with their stated purpose, both ASD elements are necessary in order for the ASD process to sufficiently protect the public health and environment of Illinois.

Petitioner also raises financial arguments that appear to be intended to show that requiring it to identify an alternative source would be unreasonably burdensome. Pet. Ex. E, R. at R002213-2214 (affidavit of Cynthia Vodopivec, setting forth the time and expense involved in various

measures that could be taken to characterize an alternative source). But even taking this evidence at face value, it does not show that the regulation as drafted would "ignore[] reality" as Petitioner argues. R. at R001985. As discussed above in Section IV.C.1 (pages 36-37), the Board intended ASDs to be a limited exception for which some owners or operators may qualify. R20-19 (Feb. 4, 2021), slip op. at 81. At most, Petitioner's financial arguments show that in Petitioner's specific situation it might be prohibitively expensive to satisfy both ASD elements. But that just means, again, that Petitioner may not qualify for this limited exception.

In sum, Petitioner's policy arguments cannot overcome the rule's plain language and stated intent. Therefore, in accordance with the plain meaning of Section 845.650(e), Petitioner's ASD submittal was required to demonstrate both that a specific identified alternative source was responsible for the chloride exceedance in APW15, and that the PAP did not contribute to the chloride contamination.

D. Conclusion

Petitioner cannot carry its burden on appeal because the ASD submittal did not identify a specific alternative source for the chloride contamination in APW15, and also because the ASD submittal did not demonstrate that the Newton PAP did not contribute to the contamination. Moreover, Illinois EPA acted correctly in identifying three gaps in the submittal that would all need to be filled before Illinois EPA could reasonably concur. Petitioner's arguments to the contrary, if accepted, would indicate that its network of monitoring wells was not adequately constructed and its hydrogeologic site characterization was inadequate, which would only further undercut its submittal. Illinois EPA therefore acted correctly in declining to concur in Petitioner's ASD submittal.

The material facts underlying this conclusion are not in dispute. Illinois EPA is therefore entitled to summary judgment as a matter of law. Respondent, the Illinois Environmental Protection Agency, accordingly requests the Board enter a final order granting summary judgment against Petitioner, Illinois Power Generating Company, and in favor of Illinois EPA.

Respectfully Submitted,

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