

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

SIRERA CLUB AND	)	
PRAIRIE RIVERS NETWORK,	)	
	)	
Petitioners,	)	
	)	
v.	)	Case No.: PCB 2022-069
	)	
ILLINOIS ENVIRONMENTAL PROTECTION	)	
AGENCY and WILLIAMSON ENERGY LLC,	)	
	)	
Respondents.	)	

**NOTICE OF FILING**

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Pollution Control Board RESPONDENT WILLIAMSON ENERGY, LLC'S MOTION FOR SUMMARY JUDGMENT, RESPONDENT WILLIAMSON ENERGY, LLC'S MEMORANDUM IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT, and CERTIFICATE OF SERVICE, copies of which are herewith served.



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Dated: September 19, 2022

**BEFORE THE ILLINOIS POLLUTION CONTROL BOARD**

<b>SIERRA CLUB and</b>	)	
<b>PRAIRIE RIVERS NETWORKS,</b>	)	
	)	
<b>Petitioners,</b>	)	<b>PCB 22</b>
	)	<b>(Third Party NPDES Appeal)</b>
<b>v.</b>	)	
	)	
<b>ILLINOIS ENVIRONMENTAL PROTECTIVE</b>	)	
<b>AGENCY and WILLIAMSON ENERGY LLC,</b>	)	
	)	
<b>Respondents.</b>	)	

**RESPONDENT WILLIAMSON ENERGY LLC’S  
MOTION FOR SUMMARY JUDGMENT**

Now Comes, Respondent, Williamson Energy LLC (“Williamson” or “Permittee”), by and through undersigned counsel, and, pursuant to 35 Ill. Adm. Code §101.500, §101.508 and §101.516, hereby respectfully moves the Illinois Pollution Control Board (“Board”) to enter summary judgment in favor of Williamson and against the Petitioners, Sierra Club and Prairie Rivers Network (collectively, “Petitioners”), in that there exist no genuine issues of material fact and the voluminous administrative record does not support Petitioners’ allegations that the National Pollution Discharge Elimination System (“NPDES”) permit, as issued, would violate the Illinois Environmental Protection Act (“Act”) or Board regulations. The Petitioners’ inability to sustain their burden entitles Williamson to summary judgment, and the NPDES permit must be upheld. In further support, Williamson files herewith and incorporates herein its Memorandum in Support of Motion for Summary Judgment.

WHEREFORE, Williamson requests that the Board (1) deny Petitioners’ request for review and remand of the Permit; (2) enter summary judgment in Williamson’s favor; and (3) grant such other further relief as the Board deems just and appropriate.



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Dated: September 19, 2022

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing was electronically filed through the *Clerk's Office On-Line (COOL)* system and sent via email on this 19<sup>th</sup> day of September, 2022 to the following:

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<b>SIERRA CLUB and</b>	)	
<b>PRAIRIE RIVERS NETWORKS,</b>	)	
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<b>Petitioners,</b>	)	<b>PCB 22</b>
	)	<b>(Third Party NPDES Appeal)</b>
<b>v.</b>	)	
	)	
<b>ILLINOIS ENVIRONMENTAL PROTECTIVE</b>	)	
<b>AGENCY and WILLIAMSON ENERGY LLC,</b>	)	
	)	
<b>Respondents.</b>	)	

**RESPONDENT WILLIAMSON ENERGY LLC'S  
MEMORANDUM IN SUPPORT OF MOTION FOR SUMMARY JUDGMENT**

Petitioners have filed a scattershot appeal that spans many regulations and countless pages, but nothing in the Petition provides grounds to overturn the well-reasoned decision of the Illinois EPA to issue the permit. Briefly summarized, each of Petitioners' grounds for appeal fail:

1. **Tier 1 Anti-degradation.** Petitioners complain that the Permit fails to protect existing uses in the Big Muddy River. This argument fails because Petitioners have failed to articulate any existing use that will be affected by the Williamson's effluent. All Big Muddy River segments at the discharge site and below are impaired (for non-mining-related reasons) for aquatic life, fish consumption, and primary contact. Williamson's discharge will not further degrade those existing conditions, as revealed by the report of Dr. Mindy Yeager-Armstead, who concluded that no existing aquatic life or other existing use would be negatively affected.
  
2. **Effluent Limitations.** Petitioners complain that the discharge will increase levels of methyl mercury, phosphorus, and cyanobacteria, and decrease dissolved oxygen. But the chemistry (including in the reports by Aquaeter and Dr. Armstead) and water samples discredit

that claim. For example, there is no evidence that the mine’s discharge will contain any phosphorous or oxygen-consuming constituents. It will neither create nor promote cyanobacteria formations.

3. **Tier 2 Antidegradation.** Petitioners claim that the permit does not support important social or economic development. However, they do nothing to rebut the evidence in the record regarding the 700+ jobs supported by the project (in an economically disadvantaged area) or the tax revenue thereby generated. Instead, they make unsupported claims about burning coal in China that is inapposite in an NPDES setting. Their general opposition to coal as a fuel source is not something that this Board should entertain as grounds for a reversal.

4. **Mixing Zone Regulations.** Petitioners make vague assertions about the monitoring requirements, but they point to no rule or regulation that is violated by the real-time monitoring and control mechanisms in the permit.

5. **Protection of Mussels.** Petitioners claim that the discharge does not account for mussels in the Big Muddy River, however, multiple studies in the record indicate otherwise. There are no mussel beds in the mixing zone location. And the permit requires future monitoring to ensure that no material adverse impact to mussels.

6. **Reasonable Potential Analyses.** Petitioners complain about the outcome of the Reasonable Potential analyses conducting in the permitting process. However, they fail to acknowledge that Illinois EPA applied the generally accepted statistical analyses set forth in its body of regulations for conducting such analyses. They have no evidence that the analyses themselves failed to follow the appropriate statistical models.

For these reasons, Respondent, Williamson Energy LLC (“Williamson” or “Permittee”), by and through undersigned counsel, and, pursuant to 35 Ill. Adm. Code §101.500, §101.508 and

§101.516, hereby respectfully moves the Illinois Pollution Control Board (“Board”) to enter summary judgment in favor of Williamson and against the Petitioners, Sierra Club and Prairie Rivers Network (collectively, “Petitioners”), in that there exist no genuine issues of material fact and the voluminous administrative record does not support Petitioners’ allegations that the National Pollution Discharge Elimination System (“NPDES”) permit, as issued, would violate the Illinois Environmental Protection Act (“Act”) or Board regulations. The Petitioners’ inability to sustain their burden entitles Williamson to summary judgment, and the NPDES permit must be upheld. Therefore, in response to Petitioners’ Petition for Review of an NPDES Permit Decision by the Illinois Environmental Protection Agency (the “Petition”), and in support of its Motion for Summary Judgment, Williamson states as follows:

## **I. INTRODUCTION**

In this matter, Petitioners seek review of the decision by Illinois Environmental Protection Agency (the “Agency” or “IEPA”) to reissue NPDES permit No. IL0077666 (the “Permit”) to Williamson Energy LLC on April 15, 2022. Petitioners request that the Board set aside the Permit as not sufficiently protective of the environment and not in accord with the law, and request that the Permit be remanded to the Agency so that additional conditions may be added to the Permit, which Petitioners believe are necessary to protect water quality standards under federal and state law.

The administrative record, however, does not support Petitioners’ contentions. The Permit is the culmination of seven years of extensive testing and analysis of the waters of the Big Muddy River and Pond Creek, the effluent to be discharged into these water, and aquatic life that may be impacted. The permit development included an extensive and thorough antidegradation review that contained alternative analysis, endangered species consultations, appropriate

presentation of mixing zone and diffuser design considerations, data on employment and tax revenue benefits, and a real-time water quality monitoring plan. The real-time monitoring plan is designed to ensure continuous permit compliance by monitoring real-time upstream and downstream conditions of the Big Muddy River, as well as real-time monitoring of the effluent being discharged into the river. The real-time monitoring system is also computer controlled such that the system will shut down in the event discharges are noncompliant or the flow and volume of the river is either too low or high.

This permit does not allow an open and uncontrolled pipe into the Big Muddy River. Instead, it is a sophisticated, computer-operated diffuser system that only allows discharges when real-time conditions allow it. For example, if the background concentrations upstream of this discharge meet, or are higher than, the water quality standard for chlorides, this permit prohibits discharge.

Further, due to the current status of Pond Creek as impaired for aquatic life, the Permit requires that Williamson construct a reverse osmosis treatment plant to treat all effluent before discharge into Pond Creek. Thus, over twelve miles of Pond Creek are expected to improve to the point of de-listing. Simply put, the administrative record amply supports the Agency's conclusion that discharges into the Big Muddy River and Pond Creek under the Permit will meet or exceed all applicable water quality standards and maintain existing uses of these waters.

Based on this extensive administrative record, Williamson is moving for summary judgment because there are no genuine issues of material fact and because Petitioners cannot meet their burden to show the issuance of the Permit violates the Act or Board's regulations. Rather, the administrative record before the Board conclusively demonstrates that the Agency issued the Permit in compliance with the Act and its regulations. Williamson, therefore,



respectfully requests that the Board enter an Order denying Petitioners' request for review and remand of the Permit, grant Williamson's Motion for Summary Judgment, and dismiss the Petitioners' Petition with prejudice.

## **II. STATEMENT OF FACTS**

The facts before the Board are not in dispute. In February 2015, Williamson applied to the Agency for reissuance of its existing NPDES permit for Pond Creek Mine No. 1 (Permit No. IL0077666). (R08675-R08803). On July 12, 2019, the Agency issued a draft Permit and public hearing notices, and it placed the draft Permit on the IEPA's public notice webpage. (R00037). On October 30, 2019, the public hearing notice was posted. (R00037). On December 18, 2019, a public hearing was held, and comments and questions were received from the public. (R00039).

Petitioners allege that their members participated in the public hearing and also provided written comments. (Petition ¶¶ 4-7). These alleged comments included that (1) the Permit would allow increased discharges of chloride, sulfate, and other pollutants into the Big Muddy River and Pond Creek that would adversely affect existing uses of these waters; (2) it would allow increased levels of methyl mercury, phosphorus, and cyanobacteria, while decreasing the level of dissolved oxygen ("DO"), in the Big Muddy River; (3) it would allow new discharges to the Big Muddy River and Pond Creek that are unnecessary to accommodate important social or economic development; (4) it would permit a mixing zone that will violate water quality standards; (5) it would fail to protect mussels; (6) it did not include adequate monitoring requirements to ensure compliance with the complex dilution scheme contemplated by the Permit; (7) it relied upon an inadequate reasonable potential test; and (8) it relied upon mercury testing data that lacked the sensitivity needed to determine whether the proposed discharges will cause or contribute to violations of water quality standards. (*Id.*).

On April 15, 2022, the Agency responded to all significant public comments in its Responsiveness Summary (R00035-R00113). That same day, the Agency also issued the final Permit. (R00002-R00033). The Agency made several changes to the Permit in response to public comments and questions. (R00037-R00039). These changes included additional special conditions to the Permit, including that: (1) Williamson may not use Outfalls 009 and 009ES, or the proposed mixing zone, to discharge into Pond Creek due to the impaired status of that creek; (2) Williamson must instead install and operate a one-million-gallons-per-day (“MGD”) reverse osmosis (“RO”) unit for discharges into Pond Creek; (3) Williamson may only discharge RO permeate (water treated at the RO) into Pond Creek through Outfalls 001-008, which will improve rather than adversely affect the water quality of the creek; (4) additional limits are specified for mercury, copper, nickel, iron, cadmium, and zinc for discharges into Pond Creek; (5) Williamson must conduct monitoring for chlorides, sulfates, and metals at the Pond Creek outfalls to ensure WQS are met; (6) the maximum chloride concentration levels are reduced for discharges into the Big Muddy River at Outfall 011; (7) Williamson must conduct additional monitoring for chlorides, sulfates, and other parameters at and around Outfall 011, including real-time monitoring for chlorides both upstream and downstream, to ensure all WQS are met; and (8) Williamson must repeat mussel and macroinvertebrate surveys in the Big Muddy River within one year following initial discharge from Outfall 011. (R00002-R00033).

Petitioners then filed this appeal on May 10, 2022. Petitioners allege that their public comments continue to apply to the final Permit. They further supplement their above comments with the following alleged errors committed by the Agency in issuing the final Permit: (1) the Agency did not set sufficient numeric limits as to iron, sulfate, chloride, nickel, and copper to protect the water quality standards of the Big Muddy River; (2) the Agency failed to place

sufficient limits on chlorides to protect the Big Muddy River from chronic chloride toxicity; (3) the Agency failed to consider the effects that discharged chloride and other pollutants will have on levels of toxic cyano-bacteria in the receiving water; (4) the Permit does not set out a defined method for monitoring chlorides; (5) the Permit contains drafting errors; (6) the Agency failed to take into account Williamson's history of permit violations; and (7) the Agency completely ignored the negative effects of the Permit on the "community at large." (Petition ¶¶ 8-23).

As discussed in detail below, the administrative record does not support Petitioner's alleged errors. Rather, the administrative record demonstrates that the Agency carefully and thoroughly reviewed all the materials and issued the Permit in accordance with the Act and its regulations, warranting summary judgment in favor of Williamson.

### **III. BURDEN OF PROOF**

Section 40(e)(3) of the Act provides that the burden of proof shall be on the petitioner in third party NPDES permits appeals such as this. 415 ILCS 5/40(e)(3). The Board has consistently held that Section 40(e)(3) of the Act unequivocally places the burden of proof on the petitioner, regardless of whether the petitioner is a permit applicant or a third party. *See* 415 ILCS 5/40(e)(3); *see e.g., Prairie Rivers Network v. IEPA and Black Beauty Coal Company*, 2001 WL 950017, PCB 01-112 (Aug. 9, 2001).

A third-party cannot prevail on its appeal of an NPDES permit unless it proves that "the issuance of the permit violates the Act or Board's regulations." *NRDC, et al. v. IEPA and Dynergy Midwest Gen., Inc.*, 2014 WL 2591592, \*34, PCB No. 13-17 (Jun. 5, 2014). Indeed, the Board "must review the entire record relied upon by IEPA to determine whether the third party has shown that IEPA failed to comply with criteria set forth in the applicable statutes and regulations before issuing or denying the NPDES permit." *IEPA and the Village of New Lennox*

*v. IPCB*, 896 N.E.2d 479, 487 (3d Dist. 2008). Although the IEPA’s decision to issue a permit must be supported by substantial evidence, “this does not, however, shift the burden away from the petitioners (Environmental Groups), who alone bear the burden in their appeal before the Board to prove that the permit, as issued, violated either the Act or the Board’s regulations.” *Id.* at 486. Additionally, in examining what constitutes “substantial evidence” for purposes of administrative decisions, the Board has stated that “the main inquiry is whether on the record the agency could *reasonably* make the finding.” *Waste Management, Inc. v. IEPA*, 1984 WL 37589, \*7, PCB 84-45 (Nov. 26, 1984) (emphasis added.)

#### **IV. SUMMARY JUDGMENT STANDARD**

The Illinois Environmental Protection Act (“Act”) and the Board’s regulations require that the Board’s review of permit appeals be limited to the administrative record. 415 ILCS 5/40(e); 35 Ill. Adm. Code § 105.214(a). Accordingly, when the administrative record in a permit appeal demonstrates that there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law, summary judgment is appropriate. *City of Quincy v. IEPA*, 2010 WL 2547531, \*26, PCB 08-86 (Jun. 17, 2010).

In the instant case, the record establishes that there is no genuine issue of material fact regarding Petitioners’ challenge to the Permit, and the administrative record supports the Permit as issued. Accordingly, summary judgment is the appropriate means of upholding the Agency’s decision to renew the Permit.

## V. ARGUMENT

### A. The Permit does not violate the Act or Board Regulations

The Petitioners argue remand is appropriate because they allege the Permit as written does not ensure compliance with Illinois water standards and permitting rules. Each one of Petitioners' arguments is flawed for the reasons addressed below:

1. The Agency considered comments pertaining to existing uses and included Special Conditions in the final Permit which ensure the Permit is protective of existing uses.

Petitioners first allege that the Permit violates 35 Ill. Admin. Code 302.105(a) because increased discharges of chloride, sulfate, total suspended solids, copper, iron, nickel, selenium and other pollutants and flow changes will adversely affect existing uses of the Big Muddy River and Pond Creek and other creeks in the area. (Pet. Memo. ¶ 6). This comment was properly considered during the public hearing process and was addressed by the Agency in the Responsiveness Summary. (R00103-R00106).

As noted by the Agency, the waters of the Big Muddy River and Pond Creek are designated as General Use. Under 35 Ill. Adm. Code 302.105, the Agency must consider the types of uses that must be protected for waters classified as General Use—aquatic life, wildlife, agricultural use, secondary contact use, and most industrial uses—and the applicable water quality standards (“WQS”) to protect these uses.

The record demonstrates that the Permit contains terms and conditions to ensure that the discharge from the mine facility will comply with all applicable WQS for General Use Waters. Thus, the Permit protects the existing uses of the Big Muddy River and Pond Creek (R00048-R00049). The Agency further updated the final Permit to include several special conditions to ensure existing uses will be protected, including Special Condition No. 13 (monitoring requirements for discharge rates, chlorides, sulfates, and hardness for Pond Creek); Special

Condition No. 14 (installation of the RO for discharges into Pond Creek); Special Condition No. 15 (chloride, sulfate, and iron (dissolved) monitoring requirements for Outfall 011, discharge limits and restrictions for Outfall 011 based on the volume and water flow levels of the river, and the installation of conductivity monitors to provide real-time monitoring of chloride levels); Special Condition No. 16 (real-time downstream monitoring requirements for Outfall 011 and restrictions on discharges if certain pollutants exceed WQS); and Special Condition No. 18 (metal monitoring requirements for Outfalls 006, 007, and 011 with additional limits for these pollutants). (R00103-R00106). The administrative record and final Permit fully support the Agency's conclusion that discharges from the mine facility will be compliant with WQS for General Use waters, and that these discharges will not adversely affect existing uses of the Big Muddy River and Pond Creek.

Additionally, Dr. Mindy Yeager-Armstead, a professor and expert in aquatic ecology, conducted a review of the permitting procedures employed in the permit issuance and reviewed the potential for biological effects from the permit. (R00505-R00519). She concurred with the Agency's conclusion that the discharge would attain water quality standards and maintain existing uses of the stream based on the information provided by Williamson and the additional information provided in public comments. (R00509).

2. The Agency addressed Petitioners' comments and determined that the Permit does not cause violations of narrative water quality standards.

Next, the Petitioners allege that the Permit violates 35 Ill. Admin. Code 304.105, 309.141(d) and 309.143 by increasing the levels of methyl mercury and phosphorus, decreasing DO levels, and causing violations of narrative standards in the Big Muddy. (Pet. Memo. ¶ 6). Again, the Agency fully addressed this comment in the Responsiveness Summary. (R00103-R00109, R00072-R00073). The Agency performed the reasonable potential analysis to determine

that the following contaminants do not have a reasonable potential to exceed the WQS in the effluent: arsenic, chromium (total), cyanide (available), iron (dissolved), lead, manganese, mercury, phenols, silver, zinc, and selenium. (R00048; R00211-R00224; R00226-R00501). However, as a protective measure, the Agency modified the draft Permit to include a limit of 12 ng/L for mercury at Outfall 001 and monitoring requirements for mercury and other metals during the entire five-year term of the Permit at Outfalls 006, 007, 008, and 011. (R00005; R00029).

Likewise, the Agency determined that the effluent does not have sufficient deoxygenating chemicals or sufficient phosphorus to contribute to the DO impairment or potential impairment of phosphorus and will, thus, not cause a violation of the WQS. (R00108). The Agency, further, addressed public concerns raised about cyanobacteria, concluding that this concern is based on the assumption that the cyanobacteria will be caused by an increase in phosphorus from discharges. However, there will be no increase in phosphorus because the mine discharge does not contain phosphorus. (R00105). Thus, the Agency correctly concluded there will not be an increase of cyanobacteria. (*Id.*).

As for narrative standards, the regulations require that, “Waters of the State shall be free from sludge or bottom deposits, floating debris, visible oil, odor, plant or algal growth, color or turbidity of other than natural origin.” 35 Ill. Adm. Code 302.203. The Agency determined that the mine’s discharges contain nothing that will cause a violation of this narrative standard. (R00106-R00109). However, to ensure violations will not occur, the Agency modified the Permit to incorporate a 32.2 mg/L for total suspended solids for Outfall 011, which standard is in compliance with the State’s identified target for the Big Muddy River (R00107).

3. The Agency completed an anti-degradation assessment satisfying 35 Ill. Adm. Code 302.105.

Next, Petitioners allege the Permit would violate 35 Ill. Adm. Code 302.105(c) because it would harm social and economic development in the community at large by further wedding the local economy to the coal mining industry, and by increasing the emission of greenhouse gases. (Pet. Memo. ¶ 6). However, the Agency completed an antidegradation assessment satisfying 35 Ill. Adm. Code 302.105, and Williamson provided updated and enhanced data for the alternative analysis that is required in the antidegradation assessment. (R00087-R00090). The antidegradation review contained alternatives analysis, endangered species consultation, appropriate presentation of mixing zone and diffuser design considerations, and a real-time water quality management strategy. (R00508).

As for alternative analysis, Williamson provided supplemental information on the alternatives for the antidegradation analysis on December 17, 2019. (R05886-R05969). These alternatives included reverse osmosis, deep well injection of mine water, evaporation, and crystallization. (R00087-R00090). No alternative was feasible as a long-term solution for the mine with a flow of 3.5 million gallons per day. However, to address the impaired status of Pond Creek, the Agency added Special Condition No. 14 to the Permit, which requires that Williamson install and operate a 1.0 million RO unit for outfalls into Pond Creek. (*Id.*; R00026).

Williamson further provided data showing the mine directly employs over 235 persons with a payroll of \$20.2 million annually and an additional 100 persons as truck drivers, engineers, and support personal. Further, the State utilized an economic formula accepted in the State that shows an additional 705 persons are indirectly employed as a result of the mine. (R00090). The Agency concluded that the antidegradation assessment, which took into account the information and data supplied by Williamson, satisfied all of the requirements of 35 Ill. Adm. Code 302.105. (*Id.*)



Furthermore, the Agency is not required to consider the impacts of increasing emissions of greenhouse gases caused by burning coal in China or elsewhere outside the community in issuing an NPDES permit or in conducting an antidegradation assessment. The antidegradation regulations address increased pollutant loading in bodies of water in the State. *See* 35 Ill. Adm. Code 302.105. Specifically, the regulations require that “the activity that results in an increased pollutant loading [in waters of the State] will benefit the community at large.” The Agency considered all the impacts of the proposed increase in pollutant loading and determined that issuing the Permit would benefit the community at large by providing jobs for the community, tax revenue for federal, state, and local governments, and energy for the State and region. (R00125-R00127).

Likewise, there is no basis for Petitioners’ argument that the Agency failed to consider stream flows, land subsidence, coal dust and noise as part of the antidegradation assessment. (Pet. Memo. ¶ 19). Coal mining exploration, extraction, site reclamation and related mining activities and their potential impacts on stream flows, land subsidence, coal dust, and noise are not topics properly considered in the NPDES permitting process and are instead regulated by the Illinois Department of Natural Resources. (R00056-R00057).

Petitioners further argue that the employment numbers provided by Williamson are temporary. (Pet. Memo. ¶ 20). However, Williamson has operated this mine since 2005, successfully emerged from bankruptcy in 2020 without disruption to mining operations, and has a considerable future given today’s coal market. Furthermore, the Act and Board regulations do not provide the Agency with the authority to consider the financial assurance of a mining company in granting an NPDES permit. (R00055). The Agency is required to issue a permit upon proof that the proposed facility or equipment will not cause a violation of the Act or

promulgated regulations. *See* 415 ILCS 5/39(a). Here, Williamson provided data on employment and alternative treatment and storage options, and data demonstrating that discharges will comply with all applicable WQS. The Permit further contains limits and conditions to ensure the discharges meet the applicable WQS, which are protective of existing uses. (R00056).

The extensive and thorough anti-degradation analysis and supporting documents provided by Williamson were reviewed by the Agency for permit development. The Agency conducted a review based on antidegradation regulations (35 Ill. Adm. Code 302.105) and concluded that the discharge would attain water quality standards and maintain existing uses of the stream based on the information Williamson provided and pursuant to additional information provided in public comments. (R00093-R00094).

Further, Dr. Mindy Yeager-Armstead, who conducted a review of the permitting procedures employed in the permit issuance and reviewed the potential for biological effects from the permit, concluded that the record demonstrates that the Permit was developed using appropriate methods consistent with industry standards and protective of in-stream water quality criteria. Dr. Yeager-Armstead concurred with the Agency's conclusion that the discharges would attain water quality standards and maintain existing uses of the stream. (R00508-R00509). Thus, Petitioner's argument is unfounded, and the Permit was properly issued.

4. The Permit does not violate 35 Ill. Adm. Code 302.105(a), 304.105, 309.141(d), 309.143, or 309.146.

Petitioners argue that the Permit violates 35 Ill. Adm. Code 302.105(a), 304.105, 309.141(d), 309.143, and 309.146 by allowing a mixing zone that would result in violations of applicable water quality standards outside the mixing zone and by allowing increased discharges subject only to implementation of a complex dilution and monitoring formula. (Pet. Memo. ¶ 6). The Agency considered this comment and concluded that the permit does not violate 35 Ill.

Adm. Code 302.105(a), 304.105, 309.141(d), 309.143, or 309.146 because the draft permit has been modified to eliminate the proposed mixing zone for Pond Creek and discharges from Outfalls 009 and 009ES into Pond Creek and its tributaries. (R00109-R00110). Additionally, to address the impaired status of Pond Creek, Williamson must install and operate a 1.0 MGD RO unit by December 31, 2023, and only discharge treated water that exceeds the existing water quality into the creek. (*Id.*).

The Agency further modified the draft Permit to include additional monitoring requirements for the mixing zone at Outfall 011, monitoring requirements for outfalls discharging into Pond Creek, and limits for mercury at Outfall 001, copper and nickel at Outfall 002, iron (dissolved) at Outfall 003, copper at Outfall 004, nickel at Outfall 006, iron (dissolved), nickel, and zinc at Outfall 007, and copper, nickel, and zinc at Outfall 008, all of which will ensure that WQS for the Big Muddy River and Pond Creek will be compliant with the Clean Water Act. (*Id.*). Thus, Petitioners have not met their burden to prove that the Permit, as issued, violates either the Act or the Board's regulations.

5. There is no evidence that the Permit fails to protect mussels.

While Petitions argue the Permit violates 35 Ill. Adm. Code 302.102(a), 302.105(a), 304.105, 309.141(d), and 309.143 by failing to protect mussels, the Petitioners fail to acknowledge the comprehensive mussel studies that were included in the final Permit and Responsiveness Summary. (R00066-R00068). Williamson provided a mussel study performed in the Big Muddy River Basin titled "Freshwater Mussels of the Big Muddy River" that was published on March 7, 2012. (R00066-R00067). An additional mussel study was also conducted in April and June 2020, which found that no mussel beds were located in the mixing zone. (R00151-R00164). The Agency and the Illinois Department of Natural Resources also routinely

collect a variety of samples of fish and macroinvertebrates in the Big Muddy Basin both upstream and downstream of the mixing zone. (R00067-R00068). Last, the Agency concluded that Williamson's discharges will be compliant with applicable WQS and, as such, will not adversely affect mussels located in the Big Muddy River. (R00070).

Dr. Mindy Yeager-Armstead also reviewed the mussel survey and studies provided by Williamson. (R00509-R00510). She concluded that due to the poor habitat conditions already existing in the Big Muddy River, heavy sedimentation, and historic and ongoing anthropogenic impacts in the watershed, "it is not likely that mussel communities will be adversely impacted by this discharge." (R00510). Her review determined that the existing mussel communities are tolerant of the current conditions and are likely to continue to persist if water with the proposed discharge is in compliance with the permitting conditions. (R00511).

The above studies demonstrate there is ample evidence on native mussel and invertebrate species that the Agency relied on in concluding that mussels will not be adversely impacted by discharges at Outfall 011. The Agency's conclusion is also supported by the fact that Williamson's discharges will be compliant with WQS such that they will not contain acutely high concentrations of contaminants that can gravely harm the fish, macroinvertebrates, mussels, plants, and other wildlife that depend on the Big Muddy River. (R00068-R00070). Further, the Permit requires that Williamson repeat a mussel and invertebrate study one year from the initial discharge from Outfall 011. (R00002). Petitioners provide no argument explaining why these comprehensive studies and permit requirements lack sufficient evidence to support the Agency's decision concerning mussels.

6. The monitoring requirements in the NPDES Permit satisfy the requirements of Section 309.146.

Petitioners argue the Permit violates 35 Ill. Adm. Code 309.146 by failing to require monitoring adequate to determine compliance with the complex dilution scheme contemplated by the Permit. (Pet. Memo. ¶ 6). However, Petitioners' argument fails to acknowledge the monitoring requirements in the final Permit are adequate under the Act as demonstrated by the extensive and real-time monitoring requirements under the Permit. (R00068-R00070, R00074-R00075). The Permit requires, for example, the monitoring of total suspended solids, iron, and manganese which are reported as a daily maximum and monthly average; monitoring of the effluent at Outfall 011 for sulfate, iron and chloride three (3) times per week when that outfall is discharging; and performing continuous conductivity real-time monitoring both upstream and 10 feet downstream of the edge of the mixing zone of Outfall 011. (R00002, R00028). The real-time monitoring system is computer controlled such that the system will shut down in the event discharges are noncompliant or the flow and volume of the river is either too low or high. (R00508-09, 511).

In Dr. Mindy Yeager-Armstead's review of the permitting procedures employed in the permit issuance, she concluded that the Permit's requirement for the utilization of advanced sensor technology that supports monitoring of real-time stream conditions will reliability protect the stream from chloride excursions. (R00509). She opined that the state-of-the-art, real-time monitoring of Outfall 011 will ensure compliance with permit conditions and protect aquatic life from toxicity. (R00509, R00511).

Further, Williamson must develop a site-specific database that correlates the conductivity and chloride concentrations for the Big Muddy River and for the treated effluent. The database must include monthly chloride samples and conductivity measurements in the Big Muddy River (both upstream and downstream) and in the effluent to ensure that the calibration curve relating

to conductivity and chloride concentrations remains accurate. Further, the Agency must approve the calibration curves before discharge, after six months of operation, and annually thereafter. (R00098).

The Agency concluded that the testing and sampling parameters under the final Permit satisfy the monitoring requirements of Section 309.146. (R00110, R0068-R0070, R00074-R00075, R0071). Petitioners provide no argument as to why the Agency's conclusion is flawed.

7. The final Permit, as drafted, meets the requirements of 35 Ill. Adm. Code 302.102, 302.105(a), 304.105, 309.141(d) and 309.143.

Petitioners argue the Permit violates 35 Ill. Adm. Code 302.102, 302.105(a), 304.105, 309.141(d) and 309.143 because the reasonable potential test on which the draft Permit relied was not properly performed at least with regard to mercury, copper, iron, nickel, and selenium, and failed to properly consider the combined effects of these pollutants and others. (Pet. Memo. ¶¶ 6). However, the Petitioners fail to acknowledge the Responsiveness Summary and information contained in the administrative record that specifically address the soundness of the reasonable potential test and the Agency's conclusion that the combined effect of these pollutants will not violate WQS for the Big Muddy River and Pond Creek. (R00110-R00111). The final Permit also contains parameters for all of these pollutants and detailed monitoring and real-time monitoring requirements to ensure WQS compliance. (R00002-R00033).

8. The Agency determined the final Permit, as drafted, meets the requirements of 35 Ill. Adm. Code 302.102, 302.105(a), 304.105, and 309.141(d) and 309.143 with regards to mercury.

Petitioners argue the Permit violates 35 Ill. Adm. Code 302.102, 302.105(a), 304.105, 309.141(d) and 309.143 because the testing done for mercury was not done with sufficient sensitivity to determine whether there was a reasonable potential for permitted discharges to cause or contribute to violations of the applicable 12 ng/L water quality standard. (Pet. Memo. ¶¶

6). However, at the direction of Agency, Williamson conducted additional sampling for mercury in response to public comments. (R00111). The minimum detection limit in the additional sampling was .5 ng/L. (R00208). Based on the additional sampling results, the NPDES permit was modified to include a limit for mercury of 12 ng/L for Outfall 001. The data further indicated that there is no reasonable potential for Outfalls 002 through 008 to exceed the WQS for mercury. (R00072). However, as a protective measure, the Agency included Special Condition No. 18 in the final Permit, which requires Outfalls 006, 007, 008, and 011 to be monitored for mercury during the entire five-year term of the NPDES Permit. (R00072-R00073). Thus, Petitions have failed to meet their burden to prove that the Permit, as issued, will allow discharges of mercury in violation of either the Act or the Board's regulations.

9. The Agency placed chloride limits in the Permit which protect existing uses of the Big Muddy.

Despite Petitioners' argument to the contrary, the Agency placed chloride limits in the Permit which protect existing uses of the Big Muddy. (Pet. Memo. ¶ 11). In response to public comments, the Agency required additional sampling by Williamson and modified the final Permit to include Special Condition No. 15, which reduced the maximum chloride concentration for Outfall 011 from 12,000 mg/L to 5,000 mg/L, and 500 mg/L at the edge of the mixing zone. (R00068-R00070, R00097-R00098). The Permit also includes several mechanisms to ensure that WQS are met. (R00065-R00066, R00068). For example, Special Condition No. 15 was added to the Permit, which requires real-time monitoring for Outfall 011 for chlorides and discharge limits and restrictions based on the volume and water flow levels of the river, and Special Condition No. 16, which requires that discharge from Outfall 011 cease under certain conditions, such as when chloride levels exceed WQS. (R00068-R00070).

Petitioners also argue that the Agency ought to have followed federal chloride limits rather than State limits. But an NPDES permit requires the permittee comply with the State's WQS for chloride. Federal limits unconnected to the conditions and limits required for waters of the State are not part of Illinois law and, therefore, not required by the Act or Board regulations. The final NPDES permit, as drafted, contains limits and conditions to ensure that the discharge meets the State's WQS, which are protective of the existing uses of the Big Muddy River. (R00093).

10. The Agency sufficiently addressed public comments regarding cyano-bacteria levels in the Responsiveness Summary.

There is no merit to Petitioners' argument that the Agency did not consider that discharges of chloride and other pollutants would promote increased toxic cyano-bacteria levels. (Pet. Memo. ¶ 12). In response to Question 103 in the Responsiveness Summary, the Agency explained that the claim that there will be an increase in cyanobacteria is based on the assumption that there will be an increase in phosphorus. The Agency noted, however, that this assumption is false because the mine discharge doesn't contain phosphorus. Thus, the Agency concluded there will not be an increase of cyanobacteria. (R00105). Additionally, Williamson provided the Agency with a report on the ecological effects of the Permit, conducted by Dr. Mindy Yeager-Armstead. (R00505-R00519). In this report, she considered public comments about the impacts of increased chloride levels and noted that the references provided in the public comments were not consistent with the chloride concentrations that will actually be present in the Big Muddy River. (R00513). Moreover, the reference in the public comments applies specifically to lakes, with no outflow, and are not applicable to flowing stream environments like the Big Muddy River. (*Id.*) Rather, in flowing systems, dissolved salts disperse downstream, generally becoming more diluted. (*Id.*) Based on the studies referenced in



the public comments, Dr. Yeager-Armstead confirmed the safety of the chloride discharges in concentrations that will be present in the Big Muddy River outside of the mixing zone. (*Id.*).

11. Agency has a reasonable method of verifying the accuracy of calibration curves.

The Agency has included requirements in the Permit to ensure the calibration curves necessary to monitor chloride levels remain accurate. As noted by Dr. Yeager-Armstead in her report, the use of mixing zones is acceptable under federal and state law to achieve permit compliance and are particularly desirable when pollutants are not persistent or bio-accumulative, such as with salts that are not toxic in lower levels. (R00508). Dr. Yeager-Armstead further discussed the feasibility of establishing calibration curves to monitor the mixing zone in the Big Muddy River, concluding calibration curves can be established here because of the consistency of chlorides to other solids found in the seven samples taken by the mine. Dr. Yeager-Armstead explained:

Additionally, the consistent relationship between individual salts and specific conductivity, once established, will allow for real-time monitoring of stream and discharge constituent concentrations. Generally, the relative mineral concentrations of water from the same source are consistent allowing specific conductivity, a surrogate measurement, to represent chloride in permit evaluations. This consistency is demonstrated with 7 samples collected from the holding basin location (417) on sampling dates from October 25, 2019, to January 13, 2020. Major ion concentrations (alkalinity, sulfate, chloride, and hardness) were summed to estimate total dissolved solids that was not determined. The relative contribution of chloride to the total ions ranged from 34.1% to 37.9% in these 7 samples with this minimal variability suggesting high confidence in the ability to develop a predictive relationship between chloride and conductivity, which can be measured in real-time. (R00508-R00509).

The Permit further requires that Williams develop a site-specific database that correlates the conductivity and chloride concentrations monitored in the Big Muddy River and for the treated effluent. (R00097-R00098, R00068). Based on the samples and database, the Agency must approve the calibration curves before discharge, after six months of operation, and annually

thereafter. As a result, the calibration curves and underlying data supporting them are reasonable to ensure chloride levels will be compliant with WQS. This data will be a part of the permit record and is available to the public for review via a FOIA request. (R00066). However, contrary to Petitioners' suggestions, there is no requirement in the Act or the Board regulations that requires public participation in the development of calibration curves. Thus, the calibration curves used to monitor chloride are adequate under the Act and regulations.

12. The Permit contains enforceable numeric limits and sufficient monitoring requirements.

There is no merit to Petitioners' argument that the Permit lacks enforceable numeric limits or monitoring requirements. The Permit contains limits and conditions based on the Board's WQS. (R00085). The Agency performed the reasonable potential analysis to determine which contaminants do not have a reasonable potential to exceed the WQS in the effluent. The Agency further modified the final Permit to include limits for mercury at Outfall 001, copper and nickel at Outfall 002, iron (dissolved) at Outfall 003, copper at Outfall 004, nickel at Outfall 006, iron (dissolved), nickel, and zinc at Outfall 007, and cadmium, copper, nickel, and zinc at Outfall 008, as well as additional monitoring requirements for these chemicals. (R00085). Likewise, the Permit requires limits and monitoring at Outfall 011 for chlorides, mercury, and total suspended solids and other parameters. (R00013; R00027-R00029). The Agency concluded that these limits and monitoring requirements relating to Williamson's effluent under the final Permit are adequate and in compliance with the Act and Board regulations. (R00086-R00087). Petitioners set forth no grounds for a contrary conclusion.

13. The Permit does not authorize acutely toxic conditions in the Big Muddy River in violation of 35 Ill. Adm. Code 304.105, 309.141 and 309.143

Petitioners argue that the Permit appears to authorize continuing acutely toxic conditions in the Big Muddy River in violation of 35 Ill. Adm. Code 304.105, 309.141, and 309.143. (Pet. Memo. ¶ 15). This is factually inaccurate because the Permit requires a mixing zone in the Big Muddy River that is designed to prevent this very concern. As the Agency explains in the Responsiveness Summary, the acute criterion must be met at the edge of the mixing zone immediately surrounding an outfall, which is often referred to as the acute mixing zone or ZID. (R00049). The acute mixing zone was sized to prevent lethality to passing organisms in order to protect the designated use of the waterbody as a whole. (*Id.*) In the mixing zone itself, the acute criterion must be met, but the chronic criterion may be exceeded. (*Id.*) However, at the edge of the mixing zone, both chronic criterion and acute criterion must be met. (*Id.*) The Agency ensured that the mixing zone was adequately sized to protect the designated use of the waterbody as a whole and that discharges will be compliant with WQS. Thus, there is no merit to Petitioners' argument.

14. To extent the Permit contains any typographical errors, that is not a sufficient reason to remand the Permit.

Only violations of the Act or Board regulations provide a basis for remanding a permit. *See NRDC, et al. v. IEPA and Dynergy Midwest Gen., Inc.*, 2014 WL 2591592, \*34, PCB No. 13-17 (Jun. 5, 2014) (explaining that a third-party cannot prevail on an NPDES permit appeal unless it proves that “the issuance of the permit violates the Act or Board’s regulations.”). Petitioners’ complaint about alleged drafting errors is inapplicable to a permit appeal and does not provide grounds for remanding a permit. (Pet. Memo. ¶ 16).

15. The Act and Board regulations do not require the Agency to consider past permit violations as a criteria for an NPDES permit issuance.

Petitioners argue that Agency failed to take into account Williamson's history of permit violations in establishing monitoring requirements. (Pet. Memo. ¶ 17). However, historic permit violations are not an NPDES criteria for permit issuance because, among other reasons, the Acts procedures for permitting and enforcement are separate and distinct. (R00046-R00047). As the Agency explained in the Responsiveness Summary, it does not consider the enforcement-related history of an applicant as part of the permit review process. (R00046). In fact, the Illinois Third District Appellate Court has affirmed a Board decision holding that it is improper to deny a permit as a substitute for enforcement procedures for previous alleged violations of the Act. *E.P.A. v. Pollution Control Bd.*, 252 Ill. App. 3d 828, 624 N.E.2d 402 (1993).

Furthermore, Petitioners have failed to show that there is any deficiency with the monitoring requirements in the Permit. Rather, the administrative record demonstrates that the Agency placed terms and conditions in the NPDES permit, including monitoring requirements, to ensure that WQS are met. (R00086-R00087).

16. The Agency properly considered alternatives for addressing chloride discharges.

Petitioners have not met their burden of establishing that the Agency did not properly consider alternatives for addressing chloride discharges. The Responsiveness Summary fully addresses this concern. (R00087-R00090). Williamson provided supplemental information on the alternatives for the antidegradation analysis on December 17, 2019. (*Id.*; R05886-R05969). These alternatives included reverse osmosis, deep well injection of mine water, evaporation, and crystallization. (R00087-R00090). No alternative was feasible as a long-term solution for the mine with a flow of 3.5 million gallons per day. However, to address the impaired status of Pond Creek, the Agency added Special Condition No. 14 to the Permit, which requires that

Williamson install and operate a 1.0 million RO unit for outfalls into Pond Creek. (R00002; R00026; R00088).

17. The Responsiveness Summary is supported with scientific evidence in the Administrative Record.

Petitioners complain prematurely that they cannot fully analyze the Agency's reasoning without the Administrative Record. (Pet. Memo. ¶ 21). For example, Petitioners complain that without the Administrative Record, they cannot analyze the Agency's conclusion that the water column is not expected to interact with the anaerobic or anoxic parts of the sediment where methylation is expected to occur. (*Id.*) Petitioner's complaint is premature and unwarranted because the Agency released the administrative record on August 17, 2022, which included additional sampling conducted by Williamson that served as the basis for the Agency's conclusion that the water column is not expected to interact with the anaerobic or anoxic parts of the sediment where methylation is expected to occur. (R00226-R00501). The administrative record supports the Agency's decision.

In sum, Petitioners have failed to meet their burden of proving that granting the Permit would result in a violation of the Act or the Board's regulations. As such, the Agency's grant of the Permit must be upheld.

## **VI. CONCLUSION**

For all the reasons stated above, Williamson requests that the Board (1) deny Petitioners' request for review and remand of the Permit; (2) enter summary judgment in Williamson's favor; and (3) grant such other further relief as the Board deems just and appropriate.



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Dated: September 19, 2022

**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing was electronically filed through the *Clerk's Office On-Line (COOL)* system and sent via email on this 19<sup>th</sup> day of September, 2022 to the following:

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