BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB and PRAIRIE RIVERS NETWORK,	)	
Petitioners,	)	
v.	)	**PCB 22-69**
	)	**APPEAL FROM IEPA**
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and WILLIAMSON ENERGY LLC,	)	**DECISION GRANTING NPDES PERMIT**
Respondents.	)	

NOTICE OF FILING

PLEASE TAKE NOTICE that I have today filed with the Office of the Clerk of the Illinois Pollution Control Board REPLY MEMORANDUM IN SUPPORT OF PETITIONERS' MOTION FOR SUMMARY JUDGMENT and a CERTIFICATE OF SERVICE, copies of which are herewith served upon you.

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November 23, 2022

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REPLY MEMORANDUM IN SUPPORT OF PETITIONERS' MOTION FOR SUMMARY JUDGMENT

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The Illinois Environmental Protection Agency ("IEPA") and Williamson Energy LLC ("Williamson/Foresight" or the "Permittee"), after two rounds of briefing, still have not shown how the record establishes that the Permit granted by IEPA ensures protection of the Big Muddy River or Pond Creek or complies with requirements of the Board rules for issuance of NPDES permits. The evidence in the record presented by Petitioners Sierra Club and Prairie Rivers Network ("Petitioners") demonstrates that the Permit in its current form plainly does not ensure protection of the Big Muddy or Pond Creek or comply with Board rules and the Environmental Protection Act.

The Permit should be remanded to IEPA for modifications. Some of these modifications will be easy and, in a few cases, have practically emerged from the briefing as uncontroversial. Others will require substantial new research and reconsideration by IEPA if a permit can be granted at all.

In this third brief in this matter, Petitioners will dispense with further background facts or law and only address the statements, misstatements and omissions in Respondents filings.[1]

[1] As there has been much paper filed in this matter already without duplicating arguments that have previously been presented, Petitioners will cite to Petitioners' "Memorandum in Support of Petitioners' Motion for Summary Judgment" ("Petitioners' Mem. SJ p. __") and "Petitioners' Response to Respondents' Motion for Summary Judgment" (Petitioners' Response p. __") whenever practicable. IEPA's "Agency's Motion for Summary Judgment" will be cited as "IEPA Motion for SJ __" and IEPA's "Agency's Response to Petitioners' Motion for Summary Judgment" will be cited as "IEPA Response p. __". Williamson/Foresights' "Respondent Williamson Energy LLC's Memorandum in Support of Motion for Summary Judgment" will be cited as "W/F Mem. p.__" and "Respondent Williamson Energy LLC's Response in Opposition to Petitioners' Motion for Summary Judgment" will be cited as "W/F Response p. __".

1. **Respondents ignore Board rules requiring that the Permit must "ensure" protection of all water quality standards and "ensure" that existing uses are "fully protected," as well as the law that the Board does not give deference to the Agency in reviewing permits.**

Before reviewing the specific faults of the Permit presented by the record, it is necessary once again to state the relevant standards for review. Respondents' briefs often implicitly assume that it is good enough to uphold the Permit if there is some evidence in the record suggesting that the Permit is protective and that this matter is like a judicial review of a Board decision in which substantial deference is given to factual findings by the Board. In particular, as will be seen below, Williamson/Foresight frequently cites to some portion of the record, which may or may not have anything to do with what Williamson/Foresight seeks to show, assumes that IEPA must have relied on that information, and implies that the Board's review should end there.

However, as discussed by Petitioners, the Board rules are quite clear that IEPA must "ensure" protection which as a matter of plain English means that IEPA and the Permit must do a lot more than offer a fair chance that things might work out. (Petitioners' Mem. SJ 24, Petitioners' Response 6-7)

Further, as stated by the Board in Sierra Club v. IEPA and Midwest Generation, 2016 Ill. Env. Lexis 93 *23-24

> [T]he Board does not grant IEPA's decision any special deference. IEPA v. IPCB, 115 Ill. 2d 65, 70 (1986). [*24] The Board reviews permits that IEPA issues under a de novo standard of review. City of Quincy v. IEPA, PCB 08-86, slip op. at 39 (June 17, 2010).

The record is large and proving a negative is always difficult, but if Respondents have not, as to each issue raised, been able to point to specific data that satisfies the Board, reviewing the matter de novo, that the IEPA has ensured protection of the Big Muddy and Pond Creek and complied with the Board rules and the law, the Permit should be remanded.

2. IEPA has not set a proper limit for chloride discharges to the Big Muddy although developing a scheme to limit chloride by measuring conductivity is the centerpiece of IEPA's protection of the Big Muddy from chloride toxicity.

Uncontested facts with regard to whether the Permit ensures compliance with the existing 500 mg/L acute chloride standard are:

- Protection against acute chloride toxicity is the whole reason for this scheme to move wastewater from the mine 12 miles to be dumped into the Big Muddy (W/F Response p. 1, Petitioners' Mem. SJ p. 5)

- Because chloride concentrations cannot be measured easily on a continuous basis, it must be determined on a site-specific basis what the ratio is of chloride to conductivity in order to use continuous monitoring of conductivity to determine how much chloride can be discharged from outfall 011 and monitoring of chloride below the mixing zone. (R. 2727, Petitioners' Mem. SJ p. 7)

- Although the conductivity/chloride ratio is the centerpiece of IEPA's plan for protection of the Big Muddy, it was not developed before the public comment period so that the public could see any of the science behind this crucial measurement and it still is not done so that the Board can review it. (R.013, R. 2727, Petitioners' Mem. SJ p. 7)

Petitioners have pointed out that allowing the crucial determination which is the whole basis for this permit to be made off-stage, after the Permit is issued and after it can be appealed, obviously frustrates public participation, Board review and Board rules requiring that limits and monitoring be specified in the permit and that the public be able to review important elements of the permit. (35 Ill. Adm. Code 309.141, 309.143, 309.146, Petitioners' Mem. SJ 27, Petitioners' Response 14-15) While admitting that they do not know what the relationship is between chloride and conductivity in the Big Muddy, Petitioners have offered some illustrations as to why it might be difficult to develop the science and effective permit limits.[2]

[2] Williamson/Foresight touts its studies of the *potential effluent* (W/F Response p.6) but those studies do not deal at all with the relationship of chloride and conductivity in the Big Muddy and most of them do not even deal with the relationship between chloride and conductivity in the potential effluent (Cell 417).

Frankly, if IEPA can develop the chloride effluent limit and monitoring in private with Williamson/Foresight in this case, it is hard to see how the whole current process of showing the public a draft permit, allowing the public to comment, and, after an appeal, allowing the Board to review, is not effectively dead. The chloride effluent limit here is the key protection that IEPA offers to the Big Muddy. If it need not develop the chloride limit through the permit notice, comment and appeal process, why should IEPA not in all draft permits simply place an "*" where an effluent limit now is generally placed and state that the effluent limit will be developed by IEPA and the permittee in private and that, if the public is interested in what the limit is, it can file an FOIA request?[3]

Respondents have made a number of responses none of which justify what is proposed here and many of which further show that the Permit should be remanded.

Both Respondents stress that IEPA will review the calibration science once it is done. This completely misses the point. Everybody agrees that IEPA does its best with the limited resources available to it, but if Congress, the General Assembly and the Board thought it sufficient for IEPA to work out NPDES permit terms in a back room with the permittee, there would not be public notice, public participation and Board review requirements set forth in the Clean Water Act and the Board rules. Compliance with the law here would have required working out the numeric effluent limit for conductivity to be used to the meet the chloride standard during the seven years Williamson/Foresight supposedly worked on this problem (W/F Response p. 1) and presenting that effluent limit as part of the draft permit. (Petitioners' Response p. 15-6)

[3] What, if anything, members of the public could do about erroneous effluent limits at that point is entirely unclear.

While admitting that the science necessary to establish the conductivity/chloride relationship has not yet been developed, IEPA and Williamson/Foresight argue that Petitioners' concern that this relationship may be complex should be discounted because Petitioners have not shown that the relationship is not constant. (IEPA Response p.2) Similarly, Williamson/Foresight argues that Petitioners have not established from the record that establishing the chloride conductivity relationship will be impossible. (W/F Response 6-7)

But it is not Petitioners' job to establish the chloride conductivity relationship, or to develop the actual conductivity effluent limit. Petitioners offered publicly-available data regarding swings in conductivity levels[4] simply to show that solving the problem of establishing the relationship between conductivity and chloride concentrations is far from a no-brainer. Because scientists and engineers may differ on how to build the appropriate safety factors into the effluent limit and because there are uncertainties inherent in the estimates of the conductivity/chloride relationship, it is even more clear that this process should not be worked out in a back-room deal.

Adding to these concerns about establishing the chloride/conductivity relationship in the Big Muddy is the fact that after seven years Williamson/Foresight still has nothing to show on the topic, but writes instead of data that it "will utilize" (Williamson Response p.8) to establish the relationship, which will be checked under Special Condition 15(b) by IEPA (without public or Board review) after Williamson/Foresight has begun discharging.[5]

[4] Older such data was presented with Petitioners' Post-Hearing comments. (R. 5447)
[5] In the event that Williamson/Foresight actually provides this data, presumably the public can obtain it months or years after the discharge has begun. This is far too late to comment on problems or appeal to the Board, but then that is the beauty of this scheme from Williamson/Foresight's point of view.

It is IEPA's job to ensure that the chloride conductivity relationship has been established so that discharges can be made to the Big Muddy without violating the 500 mg/L water quality standard and that the Permit effluent limit, which only makes sense when considered with the calibration of the chloride conductivity, can be monitored. 35 Ill. Adm. Code 309.146(a)(2). Moreover, it is IEPA's job to do this on the record so that the public and the Board can review it. Petitioners' Mem. for SJ 27, Petitioners' Response 15-16.

IEPA relies heavily on an Alabama case, *Black Warrior Riverkeeper v. Alabama Dept. of Environmental Management*, 2022 WL 497466 (Ct. Civ. App. 2022) for the proposition that an agency may issue a permit with requirements that can be filled in later by the permittee at least where the agency reviews what the permittee has decided. (IEPA Response p. 4-5)

It is difficult to see what there is in *Black Warrior* that IEPA thinks helps its position here. *Black Warrior* involves storm water, and the court in the case stresses that it is not dealing with a situation where it is feasible for numeric effluent limits to be developed. Contrary to IEPA's position, the court *Black Warrior* goes on to make clear that the effluent limit must be exposed to public comment in a case like this one. *Black Warrior* at *7-10. Here Petitioners have not even challenged the portions of the permit relating to storm water.[6] The chloride limit at issue in this case is a half-baked numeric effluent limit for *dry weather discharges*, albeit a very complicated effluent limit that purports to set the numeric effluent limit based on a formula to be set in the future.

Black Warrior makes clear that where there are feasible numeric effluent limits expressed as formulas, as is proposed in this case, the Clean Water Act requires that those formulas be

available for public review and comment before the permit is issued. *Black Warrior* distinguished *Waterkeeper Alliance v. U.S. EPA*, 399 F.3d 486 (2d. Cir. 2005) on the basis that numeric limits were feasible in the NPDES permits that would be governed by the rules involved in *Waterkeeper*. It was only because *Black Warrior* found that numeric limits were not feasible as to the storm water permit before it that *Black Warrior* allowed a portion of the permit to be developed without opportunity for public comment.

Here, we are not dealing with stormwater and Respondents do not claim that numeric limits are not feasible. On the contrary, Respondents vociferously insist that a numeric limit is feasible for chloride under a formula to be based on a relationship between conductivity and chloride. Respondents just do not want to have to develop the relationship - the guts of the numeric effluent limit that is claimed will protect the Big Muddy - before they issue the permit so as to allow public comment and Board review.

To defend the lack of an established chloride effluent limit, Williamson/Foresight points to its expert's claim that preliminary data of the relationship between chloride and conductivity is "suggesting high confidence in the ability to develop a predictive relationship between chloride and conductivity, which can be measured in real time." (W/F Response p.6) But the expert has only looked at seven samples. None of those samples were drawn from the Big Muddy, but instead came from the expected effluent. Perhaps most damning, even Williamson/Foresight's own expert does not claim that the relationship has yet been established in the effluent, only that she thinks it can be.

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[6] The portions of the Permit that pertain to stormwater discharges are those allowed from Outfall 01 to 08 into tributaries of Pond Creek during various high levels of precipitation. See e.g. R11 Discharge Conditions II, III and IV. Petitioners have appealed the lack of chronic limits for dry weather flows, Discharge Condition I.

In any case, the question at this point is not whether a proper permit can be developed, it is only to recognize that no such permit limit has been developed and that it cannot legally be developed as a private matter between the Permittee and IEPA.

Williamson/Foresight argues that Petitioners had a full opportunity to review the Permit. (W/F Response p. 9) To the contrary, Petitioners were only able to review a draft document (R. 2801-41) which, as they pointed out, was missing critical pieces (R. 2735, 4256). Then, after two years and creation of much paperwork that should have been available before the hearing, IEPA produced a document from which the essential pieces were still missing.

Offering some unintentional humor, Williamson/Foresight cites *Prairie Rivers Network v. Ill. Pollution Control Board*, 335 Ill. App. 3d 391 (4th Dist. 2002) that it seems to believe supports the proposition that IEPA could make substantial decisions as to a NPDES permit without allowing public comment or Board review. (W/F Response p. 9). It is true that the 2002 Fourth District *Prairie Rivers* case held that the Board rules as then in effect could be interpreted in a way that frustrated public participation. This is why, in order to comply with Clean Water Act requirements and protect public participation, the Board two years later adopted 35 Ill. Adm. 309.120 to specifically require re-opening of public comment on permit terms that had not been aired during the public comment period.[7]

Williamson/Foresight states that the Permit is the culmination of seven years of exhaustive research (W/F Response p. 1), but if that research included several years of monitoring of the chloride conductivity relationship in the Big Muddy, that science should have

been presented to the public. If Williamson/Foresight did much or all of the necessary work to establish the chloride conductivity relationship in the Big Muddy in secret, it should be relatively quick and easy for Williamson to present the research and formulas to IEPA and the public after a remand of this incomplete and unprotective permit by the Board.

3. The Permit also fails to ensure protection of water quality because of drafting problems.

A NPDES permit is interpreted like a contract and insofar as important terms designed to protect the environment are not included in a permit or are ambiguously worded, the permit does not ensure anything. (Petitioners' Response p.8, 23) As discussed above, the biggest drafting problem in the Permit in issue is that the conductivity effluent limit, which is supposed to prevent violations of the numeric chloride, copper, sulfate, iron and nickel standards, has not been drafted or included in the Permit except as a plan to develop limits. However, as Petitioners have explained, there are additional basic faults in the drafting of the Permit. Some of these problems can be fixed fairly easily, particularly given Respondents' briefs which make clear what IEPA intended to put in the permit. Others cannot.

Special Condition 15(b)(ii) apparently contemplates eliminating downstream monitoring based on 10 sampling events and includes chloride monitoring as monitoring that can be eliminated. This arguably would allow elimination of the downstream monitoring of conductivity/chloride in Special Condition 15(a) which states:

> In addition, the permittee shall install a continuous conductivity monitor located within ten (10) feet of the edge of the mixing zone downstream of Outfall 011 to

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[7] As noted (Petitioners' Response p. 16, n. 9), this provision does not come into play here only because the Permittee and IEPA still have not worked out the critical permit terms so there is nothing yet to show the public in a re-opened public comment period. Public comment should naturally be allowed after remand and after Williamson/Foresight and IEPA have developed the numeric effluent limit based on measuring conductivity that they claim will prevent violation of the numeric water quality standards for chloride, sulfate, iron, copper and nickel.

> ensure that the chloride concentration (correlated to the conductivity value) stays within the water quality standard.

As this conductivity monitoring being used to determine chloride levels is the only pretense in the Permit to making the Permit enforceable and avoiding a blatant violation of 35 Ill. Adm. Code 145(a)(2), Petitioners do not believe that IEPA wishes to allow elimination of that monitoring. On remand, this problem could be addressed with simple word changes to 15(b)(ii).

As has been noted (Petitioners' Mem. SJ p. 17, n.8, p.28 n.16), the wording of Special 16(d) and (e) (R.28) has obviously been botched insofar as it calls for something to happen when the "water quality standard" exceeds the "water quality standard" by 20% or 40 %, which is clearly impossible.[8] Petitioners are unsure whether these problems can properly be labelled "typographical errors," but nonetheless welcome Williamson/Foresight's willingness to allow IEPA to correct typographical errors. (W/F Response p. 24) In any event, this error can be corrected easily.

As has been explained by Petitioners (Petitioners' Mem. for SJ pp. 28-9, Petitioners' Response 18-9), there is also a fatal flaw in the Permit in the wording of Special Condition 16 (d) and (e), which IEPA describes as its "automatic cease and desist" provision, given the ambiguity in the meaning of "can be met." IEPA now states that under the Permit it "would not approve resumption of the discharge unless Williamson demonstrates that the cause of its inability to comply with Special 15 has been rectified." (IEPA Response 11). This language (or something stronger), instead of "can be met," is what should have gone into the Permit and can be used after a remand of the Permit to the agency.

[8] It is unclear if the monitoring required by Special Condition 16 can be eliminated under Special Condition 15(b)(ii) which is something else that must be clarified.

4. The Board should require third-party monitoring of the chloride levels below the mixing zone.

Petitioners asked that third-party monitoring be required in this case (R. 4369) but monitoring by a party that did not stand to gain through non-reporting was not required by IEPA. Instead, it included Special Condition 16, which, in addition to being vague and to some degree unintelligible, leaves all the monitoring in the hands of Williamson/Foresight.

To be clear here, with Williamson/Foresight we are not dealing with a company that just happened to have had a one-time violation which it self-reported promptly and ended promptly. IEPA describes numerous violations lasting over a decade at the Pond Creek Mine not counting other Foresight operations. (R. 49, R, 5645) The Illinois Attorney General has charged Williamson with numerous violations at Pond Creek including reporting violations. (R. 5481) Indeed, IEPA itself has made clear that even after the public hearing held in this matter, IEPA discovered more violations, stating:

> Illinois EPA has referred Williamson Energy, LLC to the Illinois Attorney General's Office based on a February 6, 2020 violation notice for violations observed during a compliance inspection including the discharge of contaminants into receiving streams from outfalls at Pond Creek in violation of effluent and WQS. On May 25, 2021, Illinois EPA issued a violation notice to Williamson Energy, LLC following numerous bypass notices and subsequent inspections in which Illinois EPA inspectors observed the discharges of contaminants into receiving streams from outfalls at Pond Creek in violation of effluent and WQS. As there is an active enforcement case that is ongoing, the Agency cannot further elaborate on the details of the enforcement case. (R. 54)

The Board should note that these violations found by IEPA were not discovered as a result of Williamson/Foresight self-reporting but were discovered as the result of IEPA inspections. In short, we are dealing with the environmental law equivalent of a bad actor who commits numerous acts of larceny while out on bail. To avoid a cease and desist order under

Special Condition 16, Williamson/Foresight does not need to file a false report, it can just fail to file a report at all as it has done so many times in the past. (R. 3103-04, 4369, 5481)[9]

IEPA's basic response is that 415 ILCS 5/39(a) does not require third-party monitoring. True, it grants the Agency discretion, subject, of course, to review by the Board. Here it is as crystal clear as it could be that third-party monitoring is needed. It was a clear abuse of discretion for IEPA to rely on an entity that has at least 15 years of violations, including violations of monitoring requirements and a history of being caught red-handed, to self-report.

Williamson/Foresight claims it has no history of misreporting (W/F Response p. 18). This, like Williamson/Foresight's unsubstantiated repeated claim that mining has not affected water quality in the area, is at very best a half-truth as shown by the record discussed above. See also, IEPA 8/29/2019 inspection report. (R. 5827-39) and (R582, 5554-56)

Williamson/Foresight also claims that third-party monitoring would be "burdensome and costly." Assuming however that Williamson/Foresight intends to do the monitoring and promptly report violations, there is no reason to believe that third-party monitoring would be more burdensome or costly than Williamson/Foresight doing the monitoring work. Williamson/Foresight certainly does not have more experience at conductivity monitoring than the United States Geological Survey, the Illinois State Water Survey or other entities.

IEPA had an easy way to assure that compliance with numeric standards were monitored properly at the edge of the mixing zone and reported, but for reasons that do not appear in the record, declined to take this obvious step. IEPA placing this fox in charge of the chicken coup was a clear abuse of discretion.

[9] It is clear that the $80,000 fine levied against this multi-billion-dollar corporation (See Order of May 30, 2019 in PCB 2019-85) did not serve to deter further violations.

5. The Permit does not protect Pond Creek from chronic toxicity

The Permit simply does not ensure against violation of chronic water quality standards for cadmium, copper, nickel, iron and zinc in Pond Creek or tributaries to Pond Creek. (Petitioners' Mem. SJ 18, 34, Pet's Response 22-3) This can be seen both in the fact that the limits in Outfall 001 to 008 were set at acute toxicity levels, even for discharges during dry weather conditions and where the Permit contains no load limits, (Discharge Condition I) (R.5, 6, 7, 8, 9, 10, 11, 12) as well as in the reasonable potential analysis done by IEPA (R.211-20) which calculates the reasonable potential to violate as to a number of pollutants and set limits based on the acute standard even where reasonable potential was found.[10]

What the Permit provides is not really subject to controversy. One can simply view the Permit. IEPA has claimed that it believes the discharge will be "non-continuous" and "intermittent" (IEPA Motion for SJ Br. 10) but there is nothing in the Permit to limit the timing or extent of the discharges from outfalls 01 to 08. On the contrary, all limits are stated as concentrations. It does not ensure protection of standards for IEPA to rely on unwritten understandings. (Petitioners Response p.23)

As explained by Petitioners (Petitioners' Response 23), IEPA's failure to assure that the Permit conforms to its understandings can be easily addressed on remand in a number of ways. It must be addressed, however, because the Permit as written clearly does not ensure protection of numeric water quality standard as to the pollutants discussed.

[10] Williamson/Foresight states that the limits are more stringent than necessary to protect acute standards. (W/F Response p. 16) If this is not a misrepresentation, Williamson/Foresight must be referring to discharges during wet weather period which, as to a few pollutant parameters are (properly) limited using the acute standard.

6. Deoxygenating wastes (i.e. NBOD in the form of toxic ammonia) and phosphorus are not properly limited by the Permit.

Petitioners raised the issue that the discharge would harm dissolved oxygen levels in their Post-Hearing comments, filed 2020, (R. 4353) and in their appeal to the Board filed May 10, 2022 (pp. 3, 4, 7, 10).[11] At that time, Petitioners were not aware that IEPA's statement (R. 105) in the Responsiveness Summary that there is no deoxygenating waste in the expected 011 discharge is false. (Petitioners' Response 24).[12]

Presumably out of ignorance, IEPA violated 35 Ill. Adm. Code 302.105(f)(1)((B) and (f)((3)(A) by failing to identify for the public and consider the increased load of ammonia. Apparently, still unaware at the time of its response brief that documents in the record show high levels of deoxygenating waste in the form of toxic ammonia, IEPA naturally did not address this issue. The need for ammonia and phosphorus limits should be addressed on remand. (Petitioners' Response 25-6)

7. Existing Uses are not protected by the Permit contrary to 35 Ill. Adm. Code 302.105 and 35 Ill. Adm. Code 309.141.

Petitioners have repeatedly explained, in their hearing comments (R.3104, 4353) and in briefs in this appeal (Petitioners' Mem. SJ p. 9-14, 31-5, Petitioners' Response pp. 26-41), how just requiring compliance with numeric quality standards (if the Permit did that) is not good enough either to protect the environment or comply with the Board rules. That explanation will not be repeated here.

But IEPA keeps coming back to the numeric chloride standard and even goes so far as to suggest that it would be an affront to the Board to require more for protection of the Big Muddy

than the Board numeric chloride standard of 500 mg/L (IEPA Response 13). No, what would be an affront to the Board rules would be ignoring numerous provisions in which the Board has made perfectly clear that compliance with numeric standards is not always good enough. In particular, the Board antidegradation rules explicitly require both that the Agency "assure" that numeric standards will be protected *and* that all "existing uses will be fully protected." 35 Ill. Adm. Code 302.105(c)(2)(B)

Williamson/Foresight keeps focusing on whether anything will be harmed by chloride toxicity within the mixing zone (W/F Response 10-11) and implies that as the Big Muddy is already impaired nothing it could do to it matters. (W/F Response p.15) But the existing uses sought to be protected can be found in the hundreds of comments letters filed by people concerned about impacts to the biology of the river as a whole (Petitioners' Mem S.J 6 -7, R.2842 -3298, 5550,) and the widespread public use of the river for fishing and other activities shown in those comments (see e.g. R.2856, 2889, 2905-08, 2913, 2923), refutes the argument that any water that is impaired is worthless and may be further polluted without risk.[13] The evidence shows that there will be damage in the mixing zone and that there will systemic effects far downstream.

Moreover, Williamson/Foresight's reliance on this point on its expert is entirely misplaced, most obviously because that expert did not even review the expert comments placed

[12] To be clear, Petitioners are not accusing IEPA of intentionally misrepresenting the facts. It appears presently to Petitioners that ammonia and phosphorus were not expected to be in the 011 discharge and the potential effluent was only tested for those pollutants in a few samples taken shortly before and after the public hearing.

into the record by Petitioners, but also for a host of other reasons. (Petitioners' Response pp. 38-41)

To summarize the ways in which the Permit does not protect existing uses:

- *The target used by IEPA in setting limits, the Illinois chloride toxicity standard, is not protective.*

Neither IEPA nor Williamson/Foresight have denied that the Outfall 011 Big Muddy discharge, particularly in combination with discharges by the Sugar Camp Mine upstream, the Pond Creek discharge and chloride from other sources, may massively increase chloride concentrations downstream well below the mixing zone (R. 3023, 4355-56[14], Petitioners' Mem. SJ p.10, Petitioners' Response p. 33) Petitioners have presented recent U.S. EPA studies showing that the 500 mg/L Illinois chloride standard is not protective and that the *chronic* chloride U.S. EPA criteria is less than half of 500 mg/L. (Petitioners' Mem. SJ p.10, 32 Petitioners' Response p. 33). Illinois does not even have a chronic chloride standard.

- *IEPA ignored the cumulative effects of many pollutants and the other pollution coming into the Big Muddy in addition to Outfall 011.*

As has been explained by Petitioners, the chloride pollution cannot be considered in isolation from other pollution being allowed under the Permit and other permits. Studies by U.S. EPA and others have shown that increases in total conductivity and other pollution such as that allowed here can damage aquatic broadly many miles downstream from the discharge. Petitioners' Mem. SJ pp.9-10, 32; Petitioners' Response 31-33)

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[13] In fact, the most recent IEPA report on the Big Muddy shows that segment N-99 for now is fully supporting aquatic life uses which is consistent with the personal testimonials of numerous people using that segment of the river. Segment N-16 into which Outfall 011 will dump more wastes, including deoxygenating wastes, is impaired for aquatic life because of low dissolved oxygen among other reasons. https://www2.illinois.gov/epa/topics/water-quality/watershed-management/tmdls/Documents/A1_Streams_FINAL_5-26-22.pdf at p.7

- *Dissolved Oxygen levels will be further impaired in violation of law requiring that new pollution not be allowed that will exacerbate existing impairments.*

The Outfall 011 discharge may hammer already impaired Big Muddy dissolved oxygen levels and cause unlawful violations of numeric dissolved oxygen standards by increasing phosphorus levels in the water column. This in turn may encourage algal growth by raising phosphorus from sediments (Petitioners Motion for SJ p. 33), by increasing oxygen respiration (R. 4365, 4416) and, now we know, by directly assaulting dissolved oxygen levels with discharge of ammonia, (R. 1296-1301, Petitioners' Response 24-6)[15]

- *There is a serious risk that mercury levels in the impaired Big Muddy will be raised still higher as a result of the discharge.*

The Big Muddy is listed as impaired by mercury in all of the segments downstream of the proposed Outfall 011 discharge and the discharge of Pond Creek into the River. (R.51)[16] Petitioners have repeatedly explained how increased chloride and sulfate will raise levels of mercury in the water column by releasing mercury from sediments even if there is no discharge of mercury from the Pond Creek Mine. (Petitioners' Motion for SJ 12-3, 34, Petitioners' Response 35) IEPA's claim that there is no interaction between the bottom sediments and the

[14] Petitioners must note that at Petitioners' Mem. SJ p. 34 the record cite is incorrectly given as R. 455-56 when it should be R. 4355-56.
[15] Allowing an increased discharge of pollutants of a type that is already causing an impairment violates the Clean Water Act absent unusual circumstances not present here. See cases cites at Petitioners' Response p.25 and a new decision *San Carlos Apache Tribe v. Arizona* 2022 WL 16938292, ¶¶ 66-71 (Ct. App. Arizona Nov. 15, 2022)
[16] There is also a fish advisory for Methyl Mercury for the Big Muddy. https://dph.illinois.gov/topics-services/environmental-health-protection/toxicology/fish-advisories/map/advisory.html?bodyofwater=5

water column is supported by nothing.[17] It is also inherently implausible given that everyone agrees that there is too much mercury in the Big Muddy now.[18] The notion that, while the sediment is anoxic, the water column has no low oxygen conditions is inconsistent with the agreed fact that Segment N-16 of the Big Muddy is impaired by low oxygen.

- *The discharges allowed by the Permit would increase the potential for toxic cyano-bacteria in three ways.*

IEPA insists that there is no problem with the discharge increasing potentially toxic cyano-bacteria because there will no addition of deoxygenating wastes or phosphorus. (R. 105, IEPA Response 15, W/F Response 14-5).[19] There are two fatal problems with this argument:

- The data shows that there are deoxygenating wastes and phosphorus in the Outfall 011 effluent which will reduce dissolved oxygen levels and fuel cyanobacteria (Petitioners' Response 24-6), and
- the discharge would increase the extent of potentially toxic cyanobacteria anyway because of the effect of chloride in giving cyanobacterial a competitive advantage. (Petitioners' Mem. SJ p. 11-12, 33; Petitioners' Response 33-4)

[17] W/F cites a series of documents that it claims support the thesis that there is no interaction (W/F Response pp 11,14), but two of them are just IEPA's unsupported and implausible claim that there will be no interaction. R. 1296-1301 are the documents that actually show that there will be deoxygenating waste in the discharge, and the other documents are long mixing zone studies that relate to mixing of the effluent with surface waters and do not seem to have any bearing on the issue of interactions of sediments with the water column at all.

[18] It is also suggested in the record that there is no reason to be worried about mercury because it will all flow downstream and there is no more mercury coming into the system. (R.183) Petitioners certainly wish that atmospheric deposition of mercury and other mercury pollution has ended, but unfortunately there is nothing in the record to support such a cheerful claim.

[19] In addition, IEPA states that the polluted conditions favoring cyano-bacteria identifies by Petitioners exist in many waters of the state. IEPA Response p. 15. This is undoubtedly true as are the facts that there are harmful algal blooms (HABs) in many waters in the state and that we do not know the extent of the problem because such HABs are not monitored well. Neither of these facts favors of increasing the risk on HABS in the Big Muddy.

8. IEPA did not properly consider alternatives to the toxic discharge into the Big Muddy.

Counsel for Petitioners must apologize, at least one of the Petitioners' counsel,[20] because Respondents are correct that the record does contain a document dated December 17, 2019, (R.5887-5894) that provides cost estimates for more of the alternatives to allowing a toxic discharge into the Big Muddy than were considered in 2016 by Williamson/Foresight's consultants and IEPA. However, while Petitioners cannot deny Respondents a moment of triumph, it is still more clear from review of the December 2019 cost statements that IEPA did not seriously consider alternatives that would eliminate or minimize the new pollution and that one or more of the alternatives probably should have been adopted.

To be clear, neither Williamson/Foresight's consultants nor IEPA did anything like what they should have done to consider alternatives. The issue is whether the pollution is necessary to accommodate the purported benefit, the jobs that are supposed to result from continuing to operate the mine. The question as to each alternative and combination of alternatives is whether having to spend the money to reduce pollution would render the mine unprofitable and thus kill the project and the purported important social or economic development. This is spelled out in a U.S. EPA guidance that there should be a financial impact analysis to determine the costs of the alternative with regard to its potential impact on the financial value of the project.[21] It is also supported by common sense. Pollution is not necessary to accommodate an economic activity if one can have the activity without the pollution and pollution has not been "minimized" under 35 Ill. Adm. Code 302.105 (c)(2)(B)(iii) if there are feasible steps available to reduce it.

[20] The old guy, of course.

[21] https://www.epa.gov/sites/default/files/2016-03/documents/econworkbook-complete.pdf (at page 3-3); see also, https://www.epa.gov/system/files/documents/2022-02/2022-proposed-fca_feb-2022.pdf.

Petitioners cannot do the financial analysis that Williamson/Foresight and IEPA should have done because the data regarding Williamson/Foresight costs and potential profits have not been shared with the public. However, a preliminary estimate can be made comparing the costs of alternatives with potential mine revenues while assuming that all the unsupported figures given by Williamson/Foresight are absolutely correct.

In their 2016 analysis, the only number provided for the cost of an alternative was $0.25 per gallon for crystallization. (R. 8330) Given an average of 2.7 MGD per day of water to be treated. (R.56), that one alternative considered in 2016 does seem kind of pricey.[22] However, it seems that after the public hearing on this matter, estimates for other alternatives came into view.

In particular, the new figures given to IEPA by Williamson/Foresight the day after the hearing are:

- Reverse osmosis with crystallization -capital cost $79 million and annual operating costs $9.10 millions (R. 5891)
- Deep well injection $39 million capital costs with annual operating costs of $0.9 million per year (R. 5892)
- Crystallization – capital costs $65 million with annual operation budget of $6.70 (R. 5894)[23]

These numbers might scare someone who was unfamiliar with big business, but would not impress a number of major league baseball players.[24] More in line with the U.S. EPA guidance, these numbers should be compared with potential revenues from the Pond Creek Mine.

[22] 365 x 2.7 million gallons x $0.25 is about $670,000,000, which is a lot of money although it is uncertain that the people using the Big Muddy would agree that their river is worth less than that. Moreover, it is considerably less than the Williamson/Foresight profit from the mine assuming that coal prices remain high.

[23] None of these figures in either the 2016 or the 2019 documents are supported by anything in other than the say-so of Williamson/Foresight and Petitioners do not know why the crystallization cost figure seems to have fallen dramatically. Again, Petitioners are not purporting to do the work here that IEPA should have done under the rules. We are only pointing to what might have been found if the work had been done to reinforce the conclusion that it should be done.

Just making a simple comparison of stated cost of alternatives with revenues, one finds, according to the figures of Williamson/Foresight's consultants, that 7.5 million tons of coal can be produced by the Pond Creek Mine every year for 20 years. (R. 8310) When Williamson/Foresight's consultant wrote their antidegradation analysis, coal prices were $50/ton but coal prices at the time IEPA issued the Permit were close to $200/ton.[25] Nobody knows what coal prices will be over the next 20 years but to make the math simple, it will be assumed that prices will be half of what they are today (=$100/ton). This leads to the estimate that revenue will be $750,000,000 per year.

Williamson/Foresight will have total operating costs that cannot be known given the data shared but they appear to under $150 million per year as shown by the wage, supplies, services and tax figures given by Williamson/Foresight. (R. 8324) Thus, assuming that the price of coal falls by 50% and rounding up all the costs that were supplied by Williamson/Foresight, it appears that the capital costs and all the O&M costs for the whole 20 years for the most expensive alternative ($79 million + (9.10 million x20) = $261 can be easily covered by the first year of revenue.[26]

Further, Williamson/Foresight apparently still has never provided an estimate of the cost of treatment wetlands although such wetlands would have multiple benefits. Similarly, neither Williamson/Foresight nor IEPA considered combining a number of the alternatives and explicitly rejected a few alternatives, including treatment wetlands, because use of the alternative

[24] The average MLB salary in 2022 was over $4 million. https://frontofficesports.com/average-salaries-for-mlb-players-increase-in-2022/

[25] Current (11/15/22) spot coal prices are $205/ton. https://markets.businessinsider.com/commodities/coal-price?op=1

could not do the whole job by itself to eliminate the pollution. (Petitioners' Mem. SJ p. 36, Petitioners' Response pp. 43-4)

Still further, Williamson/Foresight's explanation (W/F Response p. 20) of how the 1 MGD of wastewater that is required under the Permit to go through reverse osmosis is more tantalizing than satisfying as to the question of consideration of alternatives. While reverse osmosis was rejected as an alternative by IEPA because the reject water is "hazardous" (R.88), Williamson/Foresight claims it to be treatable enough such that reject water from 1 MGD of it can be dumped into the Big Muddy.[27] Assuming that what Williamson/Foresight writes is true, it is not apparent why treating 1.0 MGD is feasible but treating 2.7 MGD (or 3.5 MGD) with reverse osmosis would be infeasible. Other mines dealing with comparable amounts of wastewater meet much lower chloride levels (< 218 mg/L) using reverse osmosis, even in West Virginia of all places. (R.5511-5517)

Of course, these are all back-of-the-envelope calculations based on unsupported estimates provided by the Permittee. But there is nothing else in the record that shows why Illinois should sacrifice the Big Muddy River for less than the price of some shortstops.[28]

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[26] Of course, this may be a wild overestimate of costs as it assumes all the numbers provided by Williamson/Foresight are correct although it had every incentive to exaggerate the costs of alternatives, does not amortize the capital costs, or address the present value of the 20 years of O&M costs. Yet again, this estimate is only offered as an indication of what might be found.

[27] The basis for Williamson/Foresights' claim that IEPA did a reasonable potential analysis that considered the R.O. reject waste is unclear. It appears that IEPA's reasonable potential analysis was focused entirely on Cell 417 as the source of the water that is to go into the Big Muddy, but Cell 417 does not currently receive R.O. reject wastes. To do a reasonable potential analysis of the discharge with the reject water, IEPA would have had to estimate the pollution levels in the reject water and then add that pollution into the reasonable potential analysis done for Cell 417 water.

[28] https://money.cnn.com/2016/08/10/news/a-rod-retirement-salaries/index.html

9. The record does not show that the increased pollution benefits the community as a whole

Petitioners commented at length in their January 2020 Post-Hearing comments that IEPA had to consider collateral damage that will be done by the mine in determining whether the new pollution to be authorized by the NPDES permit benefitted the "community at large." 35 Ill. Adm. Code 302.105(b)(3)(B)(ii) (R. 4359-64). In their Memorandum in Support of their motion for summary judgment, Petitioners pointed out that IEPA had not done this and itemized a number of factors that IEPA ignored, including damage to neighbors, injuries to fishing and climate change. R. 2967, 3048, 3583, 3695, 4308-09, 4363, 5650, Petitioners' Mem. SJ p.23, 36, see also, Petitioners' Response 44-5.

Respondents have not responded with any cites to the record where IEPA considered this collateral damage in determining whether the pollution will benefit the "community at large." Instead, in defiance of the language of the Board rule, insist that IEPA only had to look at the employment and tax figures presented by the Permittee and were free to ignore damage to others.

In addition, IEPA argues that Petitioners did not write enough on this in their motion to preserve the issue. (IEPA Response p. 18) While Petitioners are stunned by the accusation that they have not been sufficiently verbose, they must insist that not many words are needed to write that there is nothing in the record to show IEPA considered the social and economic costs of mining at Pond Creek."[29] Respondents have confirmed Petitioners' words through their silence.

[29] Petitioners do not believe that the speech of the little boy in the Hans Christian Anderson story who blurted out "the Emperor is naked" would have been improved with more words, and in this case the types of items missing was provided repeatedly by Petitioners.

CONCLUSION

The NPDES permit (No IL0077666) issued to Williamson Energy LLC on April 15, 2022 is not sufficiently protective of the environment and was not issued in accordance with law. The Board should direct that IEPA reconsider the permit in order to establish conditions and limits necessary to ensure protection of Illinois water quality standards, including protection of existing uses in the Big Muddy River, and in order to bring the Permit into compliance with the Federal Water Pollution Control Act, 33 U.S.C. §1251 et seq., and Illinois law.

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November 23, 2022

CERTIFICATE OF SERVICE

The undersigned herby certifies that a copy of the foregoing was electronically filed through the Clerk's Office COOL system and sent via email on this 23rd day of November, 2022 to the following:

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