

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, NATURAL)
RESOURCES DEFENSE COUNCIL,)
PRAIRIE RIVERS NETWORK, and)
ENVIRONMENTAL LAW & POLICY)
CENTER)

Petitioners,)

v.)

ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY and)
MIDWEST GENERATION, LLC)

Respondents.)

PCB 2015-189
(Third Party NPDES Appeal)

NOTICE OF ELECTRONIC FILING

To: **Attached Service List**

PLEASE TAKE NOTICE that on October 22, 2015, I electronically filed with the Clerk of the Pollution Control Board of the State of Illinois *Motion for Summary Judgment* on behalf of Sierra Club, Natural Resources Defense Council, Prairie Rivers Network, and Environmental Law & Policy Center, copies of which are served upon you along with this notice.

Respectfully Submitted,



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October 22, 2015

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PETITIONERS' MOTION FOR SUMMARY JUDGMENT

Petitioners Sierra Club, Natural Resources Defense Council, Prairie Rivers Network and Environmental Law and & Policy Center (collectively "Petitioners") respectfully move for summary judgment pursuant to 35 Ill. Adm. 101.516(b) and ask that the Illinois Pollution Control Board ("Board") remand the subject National Pollution Discharge Elimination System ("NPDES") permits to respondent Illinois Environmental Protection Agency ("IEPA" or "the Agency"). There is no genuine issue of material fact, and Petitioners are entitled to judgment as a matter of law as to both counts of the petition.

SUMMARY OF THE ARGUMENT

Petitioners have brought this third-party permit appeal under Section 5/40 of the Illinois Environmental Protection Act, 415 ILCS 5/40(e), because IEPA issued an NPDES permit renewal to the Waukegan Station that does not comply with applicable law regarding thermal discharges or the cooling water intake structure. Instead of requiring Midwest Generation to

submit the demonstrations required to support this re-issuance of its NPDES permit, IEPA is allowing Midwest Generation to delay those submissions until the next permit cycle.

Additionally, instead of applying the applicable regulations concerning thermal discharges and aquatic life impingement and entrainment today, IEPA gave Midwest Generation a pass from complying with the law for at least another five years. Thus, IEPA's issuance of the permit was not supported by substantial evidence, and was arbitrary, capricious, and not in accordance with law.

On the issue of thermal pollution, IEPA purported to renew a variance from thermal effluent limits that was issued by the Board in 1978. The shortcomings of this action peel away like layers of an onion, revealing at each step along the way that IEPA did not have the authority to renew the variance. First, the Board's 1978 316(a) variance is long-expired and not eligible for renewal. Second, IEPA only gained authority to renew a thermal variance in 2014, and it still does not have authority to renew this type of thermal variance. Third, leaving aside the issue of authority, the procedures that would allow IEPA to renew a thermal variance were not followed because Midwest Generation did not submit an application to renew the variance as the rules require. Finally, even if all the previous failings left IEPA with the authority to renew the thermal variance, it still did not have substantial evidence to support its decision because Midwest Generation has not made the demonstrations required by the rules to qualify for a renewed variance. Accordingly, IEPA's Special Condition purporting to renew the thermal variance must be invalidated.

On the issue of impingement and entrainment, IEPA identified the existing cooling water intake structure as the "best technology available to minimize adverse environmental impact." However, there is no evidence in the record to support such a finding – only statements

indicating that the Waukegan Station is doing nothing to minimize the adverse impact of its cooling water structure. Federal regulations require the permittee to submit comprehensive studies that would allow IEPA to identify the “best technology available to minimize adverse environmental impact,” but IEPA did not require those studies before it issued a final permit in 2015. Instead, IEPA gave Midwest Generation four more years to provide the basis that IEPA needs to justify the permit condition in effect today. Accordingly, IEPA’s findings must be invalidated and the permittee must be required to produce the mandated studies prior to permit issuance.

Summary judgment is appropriate where there is no genuine issue of material fact, and the movant is entitled to judgment as a matter of law. The record is devoid of substantial evidence to support IEPA’s actions on these issues, and there is no question that IEPA needed to comply with the applicable regulations at the time the permit was issued. Therefore, Petitioners ask the Board to grant this motion for summary judgment on both counts and remand the permit to IEPA.

STATEMENT OF FACTS

The Waukegan Generating Station (“Waukegan Station”) currently consists of two coal-fired generating units (Units 7 and 8) with a combined generating capacity of 742 megawatts (MW). (R. 0661.) Unit 6 was retired in December 2007. (R. 0987.) Water pollution discharges from the Waukegan Station, including discharges associated with the Waukegan Station’s open-cycle cooling system are governed by National Pollution Discharge Elimination System (NPDES) permit number IL0002259. (R. 0687.) IEPA issued the final NPDES permit renewal that is the subject of this permit appeal on March 25, 2015. (“2015 Final Permit”) (R. 0687.)

The Waukegan Station uses water from Lake Michigan in a once-through circulating system for condenser cooling with a design intake flow of 900 million gallons per day (MGD). (R. 0109.) The 2015 Final Permit allows the Waukegan Station to discharge 739 of effluent that is heated by its once-through cooling system. (R. 0688.) As an alternative to once-through cooling, many power generating stations use what is called closed-cycle cooling. (R. 1135-36.) Midwest Generation reports that at a closed-cycle station it operates, it discharges only a small amount per *year* (R. 0009), virtually eliminating thermal discharges.

Background on Thermal Impacts

Thermal pollution can be very harmful to aquatic life. As set forth in Petitioners' comments on the draft permit,

Thermal discharges can directly affect the physiology of aquatic wildlife, which may ultimately affect food availability and ecosystem dynamics. Numerous studies have shown that thermal discharges may substantially alter the structure of aquatic communities by modifying photosynthetic, metabolic, and growth rates. Elevated temperatures can cause a decrease in the amount of dissolved oxygen in the water. If temperatures increase dramatically, reproductive function and nervous system function may degenerate. Warmer temperatures can also increase aquatic organism susceptibility to certain pathogens or environmental pollutants.

(R. 0477.)

Midwest Generation admits that "The [Discharge Monitoring Reports] show that the Waukegan Station's discharge temperatures do not consistently meet the Lake Michigan thermal water quality standards in 35 Ill. Admin. Code § 302.507, including both the monthly numeric limits and the 3°F maximum temperature rise above natural temperatures." (R. 0205; *see also* Discharge Monitoring Reports at R. 0499.) In its application to renew the NPDES permit, Midwest Generation reported a maximum summer temperature of 95.8° F and a maximum winter temperature of 118.5° F. (R. 0042.) By comparison, the Lake Michigan standard is 80° F

in summer and 45° F in winter. 35 Ill. Admin. Code § 302.507. A 1971 study (the only such study referenced in the record) concluded that the thermal effects of the Waukegan Station extend out several thousand feet into Lake Michigan. (R. 0476-77.)

In an effort to seek a variance from thermal standards, Commonwealth Edison (the prior operator of the Waukegan Station before Midwest Generation purchased the Waukegan Station in 1999 (R. 0026)) submitted “Evidence to Support a 316(a) Demonstration for Waukegan Station” in 1974. (R. 0241-43.) The document lists studies conducted in 1970-1974 (R. 0242-43), but those studies are not included in the administrative record assembled by IEPA. In PCB 77-82, the Board granted a 316(a)¹ thermal variance in an August 3, 1978 Opinion and Order (“the Board’s 1978 316(a) variance”), allowing the Waukegan Station to discharge whatever thermal pollution was consistent with the heat rejection and water usage associated with the operation at that time. (R. 0001-03.) A subsequent decision in PCB 78-72, -73 on September 21, 1978 was presented by Midwest Generation as the “original 316(a) variance,” and is referenced in many places in the record, but that Opinion and Order does not purport to grant such relief. (R. 0216-19.)

Lake Michigan has changed dramatically in the decades since the Waukegan Station’s thermal discharges were studied and the Board’s 1978 316(a) variance was established. (R. 0618.) Non-native species have drastically altered the ecology of Lake Michigan. (R. 0618, 0988, 1029-31, 1032-36, 1042, 0204-05.) Ecological productivity in Lake Michigan is declining, along with populations of yellow perch, alewife and the salmon and trout that feed on those species. (R. 0618.) According to the United States Geological Survey, “[t]otal prey fish biomass

¹ The legal requirements of Section 316 of the Clean Water Act are discussed below.

in 2012 was the lowest since our bottom trawl survey began in 1973, and follows five years of sustained, record low biomass estimates.” (R. 1053.)

Background on Impingement and Entrainment

Once-through cooling can also harm aquatic life through what is called impingement and entrainment. Impingement occurs when aquatic life is trapped against screens at the mouth of cooling water intake structures. (R. 1134.) This often leads to death, especially for young or small organisms. (*Id.*) Entrainment occurs when aquatic organisms, typically very young ones at the egg or larvae stage, are drawn into a power generation facility through its cooling water intake structure. (*Id.*) As with impingement, the usual result is death or serious injury. (*Id.*) Intakes can significantly alter current patterns in lakes, “which may cause organisms to concentrate in the vicinity of an intake, or reduce their ability to escape a current.” (R. 1059.)

According to U.S. EPA, each power generating station on the Great Lakes is estimated to entrain 8,018,657 fish to 526,000,000 organisms annually. (R. 1068.) A study of intake impacts at the station in 1975-76 collected approximately 875,900,000 organisms from thirty species that were impinged or entrained. (R. 0667, 1213-14.) Because Midwest Generation has submitted no current facility-specific studies of impingement and entrainment at the Waukegan Station, these are the best figures available in the record to estimate the harm caused by the Waukegan Station’s cooling water intake. Midwest Generation apparently did some intake-related monitoring in the early 1970s, but Midwest Generation believes that data “may no longer be entirely representative of current conditions” (R. 0004), and at any rate the data are not included in the administrative record.

Intakes located in nearshore areas have a greater ecological impact than those located offshore. (R. 1059, 1064-65.) This is because nearshore areas are more biologically productive and have higher concentrations of organisms. (R. 1059.) This is especially true in the Great Lakes, where U.S. EPA estimates 80% of fish use the littoral (near-shore) zone for at least part of the year. (R. 1066.) “During the spring, many fish species inhabit shallow, warmer waters where temperatures are closer to their thermal optimum. As water temperatures increase, these species migrate to deeper water. For species that are near the northern limit of their range, the availability of shallow, sheltered habitats that warm early in the spring is probably essential for survival.” (*Id.*)

Other attributes that affect the number of fish and other organisms that are killed or harmed by intake structures include: intake velocities over 0.5 feet per second, intake location near the discharge outfall, and the presence of critical habitats near the intake’s zone of influence. (R. 1059.)

Many options are available that can reduce the impact of cooling water intakes. The Board acknowledged the potential for a design change at the Waukegan Station as early as 1978. (R. 0002.) Closed-cycle cooling can reduce the volume of water withdrawn by 96%. (R. 1060.) Other design options include traveling screens modified with fish collection systems (e.g. Ristroph screens), passive intake systems such as wedge-wire screens and radial wells, behavioral barriers such as velocity caps and underwater strobe lights, or modifying the orientation, volume, timing, duration or frequency of the intake. (*Id.*)

Because IEPA has not required Midwest Generation to submit detailed information, little is known about the intake structures at the Waukegan Station. We do know that the intake is an

onshore structure (R. 0512, 0666) with a design intake flow of 900 MGD (R. 0109) that withdraws water from the entire water column (R. 0512). The design intake velocity is reported as 2.0 and 1.8 feet per second for Units 7, and 8, respectively. (R. 0666.) The intakes are equipped with travelling screens. (*Id.*) However, as Midwest Generation reported to IEPA in 2005, “Waukegan Station cooling water intake system does not appear to include any control technologies specifically designed to reduce impingement mortality or entrainment below the calculation baselines” and “does not appear to use any operational measures specifically designed to reduce impingement mortality or entrainment.” (R. 1209-10.) Midwest Generation proposed to evaluate “[w]hether the Station has implemented any operational controls, including flow or velocity reductions, which reduce impingement mortality or entrainment” (R. 1210), but the record does not show that any such evaluation has ever been provided to IEPA.

Permit History

On July 19, 2000, IEPA issued the previous NPDES permit, which became effective July 31, 2000. (“2000 Permit”) (R. 0109.) The 2000 Permit is not included in the administrative record, but we note for clarity that it did purport to continue the Board’s 1978 316(a) variance. That permit expired July 31, 2005. (R. 0109.) Midwest Generation submitted a permit renewal application on January 25, 2005. (R. 0025-0108.)

On December 2, 2011, IEPA put a draft NPDES permit for the Waukegan Station on public notice. (“2011 Draft Permit”) (R. 0171-91.) The draft permit introduced thermal effluent limits consistent with Lake Michigan standards for the first time. (R. 0177, 0185.) The draft permit also included a special condition requiring Midwest Generation to submit information about impingement and entrainment and the Waukegan Station’s intake system, but did not

contain a determination that, in IEPA's best professional judgment, the Waukegan Station was employing the best technology available to minimize adverse environmental impact from the cooling water intake structure. (R. 0185-86.) Petitioners submitted comments on the draft permit during the public notice period, objecting that the permit did not adequately address the Waukegan Station's thermal discharges and impingement/entrainment impacts. (R. 1132-46.)

On January 12, 2011, Midwest Generation sent IEPA its comments on the 2011 Draft Permit, arguing that the thermal effluent limits would cause Midwest Generation a "substantial hardship," and that the Waukegan Station would be "unable to comply" with the proposed thermal limitations. (R. 0202.) The letter characterized IEPA's thermal effluent limits as "a clear abuse of discretion and a violation of applicable law." (R. 0206.) Nonetheless, Midwest Generation did not present updated studies to support renewal of the thermal variances under current circumstances, only arguments as to why IEPA could not change course from the decades-old thermal variance. (R. 0201-07.)

IEPA acquiesced. On February 8, 2013, IEPA put another draft NPDES permit on public notice. ("2013 Draft Permit") (R. 0251-70.) Counsel for Midwest Generation was allowed to draft a special condition continuing the Board's 1978 316(a) variance (R. 0240, 0245, 0247), and that special condition appeared verbatim in the draft permit, along with two introductory sentences (R. 0264). IEPA stated that a thermal demonstration was made in the 1978 Board proceeding, and did not contend that Midwest Generation had made any subsequent demonstration as to the appropriateness of the variance. (*Id.*) As in the 2011 Draft Permit, a different special condition required Midwest Generation to submit information "in order for the agency to evaluate the potential impacts of cooling water intake structure operation." (R. 0265.) The permit fact sheet stated, "In the Best Professional Judgment of the Agency, it must be

assumed that the design of the cooling water intake structure met the equivalent of Best Technology Available at the time of its construction.” (R. 0251.)

Petitioners objected to IEPA’s proposed treatment of the thermal and impingement/entrainment issues in comments filed March 11, 2013 (R. 0473), at a public hearing held July 31, 2013 (R. 0705-0843 (full hearing transcript including many public comments from members), and in post-hearing comments submitted August 30, 2013 (R. 0995-98). Petitioners detailed the reasons the continuation of the Board’s 1978 316(a) variance was not in accordance with law (R. 0996-97), and why IEPA’s use of the words “Best Professional Judgment” in the fact sheet did not amount to a current determination on the legal question of the best technology available to minimize impingement and entrainment. (R. 0097-98.)

On March 25, 2015, IEPA issued a final NPDES permit to the Waukegan Station that expires on March 31, 2020. (R. 0687-0703.) Special Condition 4, governing thermal discharges, is identical to the one in the 2013 Draft Permit (which was largely drafted by the permittee), but includes an additional sentence contemplating that the permittee may choose to seek thermal relief other than a 316(a) variance in the future. (R. 0695-96. *Cf.* R. 0264, 0247.) IEPA’s Responsiveness Summary rationalizes the purported continuation of the thermal variance as follows:

The permit controls thermal discharges in accordance with PCB 78-72, -73 Consolidated dated September 21, 1978. Unit 6, rated at 100 MW, was retired on December 21, 2007, eliminating any discharge from the unit and further reducing the thermal load to Lake Michigan. To ensure the nature of the thermal discharge has not changed and the alternative thermal effluent limitation granted by the Board has not caused appreciable harm to a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is made, the reissued permit requires specific activities and studies

(R. 0662.)

On the impingement and entrainment issue, Special Condition 7 sets forth a more detailed list of information the permittee must submit regarding the Waukegan Station's intake structure and its impacts on aquatic life, and contains this new statement:

Based on available information, the Agency has determined that the operation of the cooling water intake structure meets the equivalent of Best Technology Available (BTA) in accordance with the Best Professional Judgment provisions of 40 CFR 125.3 and 40 CFR 125.90(b), based on information available at the time of permit issuance.

(R. 0696-97.) The Responsiveness Summary reveals that the “information available at the time of permit issuance” consists of data from studies conducted in 1975 and 1976. (R. 0666.)

Midwest Generation submitted two paragraphs of information about the cooling water intake structure in 2013 (R. 0512), but there is no indication that IEPA considered any other updated information about the changed ecosystem in Lake Michigan or current impacts of the cooling water intake.

The permit does not contain a reopener clause that would allow IEPA to add necessary permit conditions based on the additional information required by Special Condition 4 and Special Condition 7 at any time prior to the permit's expiration in July 2020.

Petitioners filed this timely third-party permit appeal on April 29, 2015.

STANDING

Pursuant to Article XI of the 1970 Illinois constitution, Petitioners have standing to seek administrative review of the renewal of NPDES permit No. IL0002259 to Waukegan Station. Article XI provides, “Each person has the right to a healthful environment. Each person may enforce this right against any party, governmental or private, through appropriate legal

proceedings subject to reasonable limitation and regulation as the General Assembly may provide by law.” Ill. Const. art. XI, § 2. This constitutional right eliminates the need for individual plaintiffs to demonstrate personalized injuries in actions seeking to protect a healthful environment. *See Glisson v. City of Marion*, 188 Ill. 2d 211, 228 (Ill. 1999) (“It was the intent of the committee to broaden the law of standing by eliminating the traditional special injury prerequisite for standing to bring an environmental action.”). Further, paragraphs 1-5 of the April 29, 2015 Petition for Review set forth Petitioners’ organizational interests in this matter.

STANDARD OF REVIEW

The Board has authority to review IEPA’s issuance of a permit “exclusively on the basis of the record before the Agency.” 415 ILCS § 5/40(e)(3); *Ill. Env’tl. Protection Agency v. Ill. Pollution Control Bd.*, 896 N.E.2d 479, 487 (Ill. App. Ct. 3d 2008) (Review of agency decision based “solely on the evidence in the IEPA record”). The Board must review “the entirety of the record to determine (1) if the record supports the IEPA’s decision, and (2) that the procedures used by the IEPA are consistent with the Act and Board regulations. The Board does not affirm the IEPA’s decision on the permit unless the record supports the decision.” *Des Plaines River Watershed Alliance v. IEPA*, PCB 04-88 at 12 (April 19, 2007) (aff’d sub nom. *IEPA v. IPCB*, 896 N.E.2d 479). IEPA permitting decisions must be supported by substantial evidence. *IEPA v. IPCB*, 896 N.E.2d 479 at 486.

A third-party permit appellant bears the burden of proof that the Permit as issued will violate the Environmental Protection Act or Board regulations, but IEPA's decision to issue the Permit is not awarded any special deference by the Board. 415 ILCS 5/40(a)(1). *See also Des Plaines River Watershed Alliance v. IEPA*, PCB 04-88 at 12 (April 19, 2007) (aff’d sub nom.

IEPA v. IPCB, 896 N.E.2d 479). The petitioners in a permit appeal can carry their burden of proof by showing that the record shows that the IEPA failed to comply with one or more of the regulations governing the issuance of permits. *IEPA v. IPCB*, 896 N.E.2d at 487.

Summary judgment is appropriate, in a permit appeal or other matter, when there is no genuine issue of material fact and the record before the Board, including the pleadings, exhibits, discovery documents, and affidavits, demonstrates a clear right to judgment as a matter of law. 35 Ill. Admin. Code 101.516(b); *Clayton Chemical Acquisition L.L.C. v. IEPA*, PCB 98-113 at 3 (March 1, 2001) (citing *Outboard Marine Corp. v. Liberty Mut. Ins. Co.*, 607 N.E.2d 1204 (Ill. 1992)). The Board has observed that the language of 35 Ill. Admin. Code § 101.516(b) makes summary judgment mandatory where there are no genuine issues of material fact. *City of Quincy v. IEPA*, PCB 08-86 at 27 (June 17, 2010).

ARGUMENT

This case presents two instances where the terms and conditions of the 2015 Final Permit do not comply with the law in force at the time the permit was issued. With respect to thermal limits, IEPA has “renewed” a nearly-40-year-old variance without either legal authority to do so, or the necessary information to support that determination. With respect to impingement and entrainment, IEPA knows it does not have the information it needs from the permittee to make the requisite findings, so the 2015 Final Permit requires submission of that missing information in advance of the *next* permit renewal. But IEPA does not comply with the law now by preparing to issue a legally-valid permit in the future.

IEPA’s position that it cannot demand that a permit applicant provide information to support the conditions it requests is meritless. To the contrary, there is ample regulatory authority for

IEPA to request whatever information it needs to supplement a permit application. 35 Ill. Admin. Code § 309.103 (Agency may reasonably require of an NPDES applicant “additional information in order to determine that the discharge or proposed discharge will be in compliance with applicable state and federal requirements.”); 40 C.F.R. § 122.21(e)(1) (NPDES permit application is not complete until agency has received “any supplemental information . . . to his or her satisfaction.”); 40 C.F.R. § 122.21(e)(13) (“In addition to the information reported on the application form, applicants shall provide to the Director, at his or her request, such other information as the Director may reasonably require to assess the discharges of the facility and to determine whether to issue an NPDES permit.”). IEPA does not need to put those information requests into a permit condition and wait until the next permit is issued in order to comply with the law. In fact, “[i]f IEPA does not require this proof from the permit applicant, IEPA has not complied with its own duties under the Act.” *IEPA v IPCB*, 896 N.E.2d 479, 486 (2008).

Furthermore, the burden to present such information is *squarely* on the applicant seeking the permit. *IEPA v IPCB*, 896 N.E.2d 479, 486 (2008). (“[t]he application for an NPDES permit must contain sufficient information for the IEPA to determine that the proposed discharge will be in compliance with all State and Federal requirements.” (quoting *ESG Watts v. Pollution Control Bd.*, 586 N.E.2d 1320,1322 (Ill. App. Ct. 3d 1992))); *Joliet Sand & Gravel Co. v. Pollution Control Bd.*, 516 N.E.2d 955, 958 (Ill. App. Ct. 3d Dist. 1987) (affirming IPCB holding that permit applicant must prove that no violation of the Illinois Environmental Protection Act would occur if the requested permit was issued).

Here, fifteen years passed between the issuance of the previous permit and the 2015 Final Permit, yet Midwest Generation failed to produce the studies and information IEPA would need to issue legally-valid permit conditions regarding either Waukegan Station’s thermal discharges

or the operation of its cooling water intake structure. Inexplicably, IEPA's response to this failure to produce the required information was to give Midwest Generation another permit cycle to make the demonstrations it should have been prepared to make when it applied for permit renewal in 2005. Effectively, IEPA has given Midwest Generation a pass from complying with the law.

I. COUNT ONE: The Purported Grant of a Thermal Variance in the Final Permit Was Not Valid

Illinois regulations governing thermal variances, including those promulgated by the Board in 2014, have consistently vested authority to grant thermal variances in the Board, not IEPA. Those regulations, prescribing extensive procedures and documentation requirements to ensure that a variance is fully justified, were wholly ignored here. Even aside from the stringent requirements of those regulations, the facts and data that could support a continuing variance are simply not there. The Board's 1978 variance from thermal effluent standards was at least in part based on the fact that Midwest Generation's predecessor "has promised to continue studying possible damaging effects on the Lake in the future." (R. 0002.) Decades later, Midwest Generation has nothing to show for that promise.

As will be discussed below, the law requires that any permittee who desires to extend a thermal variance for another permit term must be prepared with documentation to support the continuation of the variance. Midwest Generation was not prepared with studies based on its actual operating experience in 2005 when it applied for the renewal of its NPDES permit. IEPA did not require Midwest Generation to supply that information in 2005, nor at any time in the decade that intervened before the 2015 Final Permit was issued. Instead, IEPA has effectively allowed Midwest Generation 14 extra years to make the demonstrations it should have presented

in 2005. By the time those studies are due, the Board's 1978 316(a) variance would be 41 years old, and the data supporting it nearly 50 years old.

Although a permittee who desires special treatment in the form of a thermal variance bears the burden of proof in supporting that variance each and every time an NPDES permit is renewed, Midwest Generation has displayed a wholly unjustified, and legally unsupported, confidence in entitlement to relief from the Lake Michigan thermal standards. In its letter threatening IEPA with legal action for putting thermal effluent limits in the 2011 Draft Permit, Midwest Generation asserted that:

Every NPDES permit issued for the Waukegan Station since the Board's granting of the 316(a) variance has contained and continued the variance. The most recent Waukegan Station NPDES renewal application for the Waukegan Station contained the same substantive information concerning thermal discharges as has every prior NPDES renewal application. . . . The Agency has never questioned its continuance nor required any additional submissions from the permit applicant as a condition of its continuance.

(R. 0201.) This statement encapsulates the very root of this legal challenge: IEPA has never required Midwest Generation to submit updated information concerning its thermal discharges, and has never questioned the continuance of the thermal variance or required any additional submissions to support that continuance. Yet it still purported to grant a thermal variance to Midwest Generation in 2015. For the reasons set forth below, that action was arbitrary, capricious, and not in accordance with law.

This section begins with a discussion of the federal and state rules that must be followed to obtain a variance from thermal effluent limits. The remainder of the section demonstrates that 1) the Board's 1978 316(a) variance expired many years ago; 2) that IEPA lacks the authority to renew the Board's 1978 316(a) variance even under the Board's new rules; 3) that Midwest

Generation has not submitted an application that renders it eligible for continuation of a thermal variance; and 4) that Midwest Generation has not made the demonstrations required to obtain continuation of a 316(a) variance.

A. Rules Governing Thermal Variances

Under Clean Water Act rules, an NPDES permit must ordinarily include all effluent limits necessary to “ensure compliance with” state water quality standards. 40 C.F.R. § 122.4 (2015) (“No permit may be issued...When the conditions of the permit do not provide for compliance with the applicable requirements of CWA, or regulations promulgated under CWA” or “When the imposition of conditions cannot ensure compliance with the applicable water quality requirements of all affected States.”); 35 Ill. Admin. Code § 309.141 (2015) (“In establishing the terms and conditions of each issued NPDES permit, the Agency shall apply and ensure compliance with” technology-based effluent limitations and “any more stringent limitation, including those necessary to meet water quality standards.”). IEPA complied with these rules when it proposed thermal effluent limits in the 2011 Draft Permit calculated to meet Lake Michigan water quality standards in 35 Ill. Admin. Code § 302.507. (*See* R. 0177, 0185.) IEPA’s decision to later remove those effluent limits in the final permit was arbitrary, capricious, and not in accordance with law.

Clean Water Act Section 316(a) does contemplate a mechanism for a discharger to obtain relief from thermal effluent limitations, but only if certain procedures are followed. 33 U.S.C. § 1326 (a) (2015). To obtain relief under 316(a) the discharger must, after opportunity for public hearing, demonstrate that the thermal effluent limitations that would otherwise apply are “more stringent than necessary to assure the [protection] and propagation of a balanced, indigenous

population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made.” *Id.* The statute authorizes the U.S. EPA Administrator, “or, if appropriate, the State,” to set alternate thermal effluent limits that will protect a balanced, indigenous population of fish, shellfish, and wildlife in the receiving water. *Id.*

A Section 316(a) variance is an NPDES permit condition that expires along with the NPDES permit. (R. 0489 (U.S. EPA 316(a) Guidance, Oct. 28, 2008².) IEPA has acknowledged this to the Board in another proceeding. (R. 0474). Clean Water Act regulations require that “[a]t the expiration of the permit, any discharger holding a section 316(a) variance should be prepared to support the continuation of the variance with studies based on the discharger's actual operation experience.” 40 C.F.R. § 125.72 (2015). (*See also* R. 0489 (U.S. EPA 316(a) Guidance); 1011 (U.S. EPA comments on Coffeen permit); 1017 (U.S. EPA Office of Inspector General Report).) Any request to renew a Section 316(a) variance must be included in the permittee’s application to renew the permit, 40 C.F.R. § 122.21(m)(6) (2015); (*See also* R. 0489 (U.S. EPA 316(a) Guidance); 1011 (U.S. EPA comments on Coffeen permit); 1017 (U.S. EPA Office of Inspector General report).) The burden of proof to demonstrate that the variance is still warranted is on the permittee. (R. 0488 (U.S. EPA 316(a) Guidance).)

In Illinois, authority to grant a variance under Section 316(a) has long resided with the Illinois Pollution Control Board, not IEPA. For many years, the Board’s NPDES Effluent Standards at 35 Ill. Admin. Code § 304.141(c) stated:

The standards of this Chapter shall apply to thermal discharges unless, after public notice and an opportunity for public hearing, in accordance with 316(a) of the CWA and applicable federal regulations, **the Administrator and the Board**

² We note that the Clean Water Act regulations specifically require consideration of U.S. EPA guidance on these issues. 40 C.F.R. § 125.72(e).

have determined that different standards shall apply to a particular thermal discharge.

35 Ill. Admin. Code § 304.141(c) (2013) (emphasis added). On February 26, 2014, the Board promulgated a new rule establishing procedures for issuance and renewal of thermal variances:

The standards of this Chapter shall apply to thermal discharges unless, after public notice and opportunity for public hearing, in accordance with section 316 of the CWA, applicable federal regulations, and procedures in 35 Ill. Adm. Code 106.Subpart K, **the Board has determined** that different standards shall apply to a particular thermal discharge.

35 Ill. Admin. Code § 304.141(c) (2015) (emphasis added). Neither the old nor the new version of this rule gives authority to IEPA to grant (as opposed to renew) alternative thermal standards to a discharger; and the pre-2014 version vested authority for variance renewals solely in the Board (and US EPA) as well. However, the Board's new 35 Ill. Admin. Code 106 Subpart K rules, which also took effect on February 26, 2014, for the first time allow IEPA to *renew* a variance initially granted by the Board, but only if certain stringent informational requirements are met. 35 Ill. Admin. Code §§ 106.1100-1175 (2015).

With respect to the granting of an initial variance, the Subpart K rules set forth detailed requirements and procedures for the variance determination, including information that must be submitted and studies that must be completed before a petition can be filed, 35 Ill. Admin. Code §§ 106.1115-1120, requirements for any petition filed with the Board, 35 Ill. Admin. Code §§ 106.1125-1140, a requirement that IEPA submit a detailed recommendation to the Board once a petition is filed, 35 Ill. Admin. Code § 106.1145, and public hearing procedures. 35 Ill. Admin. Code §§ 106.1150-1155. The

Board may ultimately grant a variance if the petitioner makes a satisfactory alternative effluent demonstration, and the alternate thermal limits “will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water.” 35 Ill. Admin. Code § 106.1170 (a).

As in the federal Section 316(a) rules, under Illinois law the burden of proof is on the petitioner to demonstrate that an alternative thermal effluent limitation³ is warranted. 35 Ill. Admin. Code § 106.1160. If the discharger wishes to continue the 316(a) variance beyond the expiration of its NPDES permit, it must apply for renewal of the variance as part of its NPDES permit renewal application by making particular demonstrations under Section 106.1180. 35 Ill. Admin. Code §§ 106.1170 (c), 106.1180.

With respect to variance *renewals*, these new Subpart K rules give IEPA, for the very first time, authority to continue a 316(a) thermal variance previously issued by the Board, but only if 1) the thermal variance was granted by the Board pursuant to the new Subpart K rules, 35 Ill. Admin. Code § 106.1180(a); 2) the discharger submitted a complete application (including required documentation) requesting continuation of the thermal variance as part of its NPDES permit renewal application, 35 Ill. Admin. Code §§ 106.1180(a)–(b); 3) IEPA finds that the permittee has demonstrated that the nature of the thermal discharge has not changed, 35 Ill. Admin. Code §§ 106.1180(c)–(d); and 4) IEPA finds the alternative thermal effluent limitation has not caused appreciable harm to a balanced, indigenous population of shellfish, fish, and wildlife. 35 Ill. Admin. Code §§ 106.1180(c)–(d).

³ Because the Board rules regarding “alternative thermal effluent limitations” implement the thermal variance provisions of Section 316(a) of the Clean Water Act, we generally refer to the Board’s “alternative thermal effluent limitations” as a “thermal variance” to minimize confusion.

The information that a permittee is required to submit under Subpart K to justify continuation of a Section 316(a) variance is not trivial. Specifically,

Any application for renewal should include sufficient information for the Agency to compare the nature of the permittee's thermal discharge and the balanced, indigenous population of shellfish, fish, and wildlife at the time the Board granted the alternative thermal effluent limitation and the current nature of the petitioner's thermal discharge and the balanced, indigenous population of shellfish, fish, and wildlife. The permittee should be prepared to support this comparison with documentation based upon the discharger's actual operation experience during the previous permit term.

35 Ill. Admin. Code § 106.1180(b) (2015).

B. The 1978 IPCB Variance Expired in 2000, at the Latest

In the 2015 Final Permit, IEPA purported to grant a thermal variance to the Waukegan Station based on a Section 316(a) variance granted by the Board 37 years ago in IPCB 77-82 (Aug. 3, 1978). However, this characterization is devoid of legal basis.

As a threshold matter, IEPA had no basis to conclude that any thermal variance exists at all that IEPA could have possibly renewed in 2015. The Clean Water Act does not contemplate permanent variances from thermal effluent limits. (R. 1009 (U.S.EPA states “A 316(a) alternate thermal limitation is a variance and not a permanent limitation.”).) A variance issued under the authority of Section 316(a) expires along with the NPDES permit with which it is associated. (R. 0489 (U.S. EPA 316(a) Guidance, Oct. 28, 2008⁴), 1009.)

⁴ We note that the Clean Water Act regulations specifically require consideration of U.S. EPA guidance on these issues. 40 C.F.R. § 125.72(e).

Under Clean Water Act rules, NPDES permits may be issued for a term no longer than five years. 40 C.F.R. § 122.46(a) (2015). As far as can be ascertained from the record, the first time the Waukegan Station NPDES permit was renewed subsequent to the Board's 1978 316(a) variance was on July 31, 2000. (R. 0109.) The previous NPDES permit may have expired many years before that, but at latest, must be deemed expired on the date the 2000 Permit was issued. Therefore, at latest, the Board's 1978 316(a) variance expired on July 31, 2000.

Pursuant to 35 Ill. Admin. Code 304.141(c) (2000), only the Illinois Pollution Control Board or the U.S. EPA Administrator had the authority to grant or continue a Section 316(a) variance in Illinois at the time the 2000 Permit was issued. Yet, without action or approval by the Board, IEPA itself apparently granted a thermal variance as a condition in the 2000 Permit.

The opportunity to challenge IEPA's issuance of a thermal variance in 2000 has obviously long since passed. But IEPA cannot be allowed to daisy chain together a string of errors for twenty additional years. Since the Board's 1978 316(a) variance expired on July 31, 2000, and was not properly renewed, no valid variance existed in 2015 that was available to be renewed by IEPA (or anyone else) without a new demonstration to support that variance. The Board should therefore invalidate Special Condition 4 of the 2015 Final Permit and direct IEPA to establish water quality-based effluent limits to meet the Lake Michigan thermal standards.

Nonetheless, if the Board decides that IEPA's granting of a 316(a) variance in the 2000 Permit somehow breathed new life into the Board's 1978 316(a) variance, there are multiple reasons, as explained below, to invalidate the 316(a) variance that IEPA purported to renew in the 2015 Final Permit.

C. The 2014 Board Rules Do Not Grant IEPA Authority to Renew the Board's 1978 316(a) Variance

Even with the adoption of the Board's 2014 Subpart K rules, IEPA does not have the authority to renew **all** existing thermal variances. 35 Ill. Admin. Code § 106.1180(a) (2015) states: "The permittee may request continuation of an alternative thermal effluent limitation granted by the Board, **pursuant to this Subpart**, as part of its NPDES permit renewal application." (emphasis added). Given that Subpart K did not exist until 2014, there is no way the Board's 1978 316(a) variance qualifies for renewal under the plain language of 35 Ill. Admin. Code § 106.1180. Further, because Section 106.1180 is the only source of authority for IEPA to renew a 316(a) variance, IEPA does not have authority to renew 316(a) variances that were not granted by the Board pursuant to Subpart K. Therefore, the Board should invalidate the 316(a) variance that IEPA purported to renew in Special Condition 4 of the 2015 Final Permit and direct IEPA to establish water quality-based effluent limits to meet the Lake Michigan thermal standards.

D. Midwest Generation Did Not Submit a Timely—or Any—Application to Renew a 316(a) Variance

Applying for continuation of a Section 316(a) variance prior to the expiration of the current permit is an important prerequisite to obtaining a renewal of that variance. Under the federal Clean Water Act 316(a) regulations, a permittee may request a renewal of its 316(a) thermal variance prior to the expiration of its NPDES permit. (R. 0489 (U.S. EPA 316(a) Guidance).) The permittee "should be prepared to support the continuation of the variance with studies based on the discharger's actual operation experience." 40 C.F.R. § 125.72 (2015). (*See also* R. 0489 (U.S. EPA 316(a) Guidance).) Under the Board rules that would allow IEPA to

renew a 316(a) variance, the application to continue the variance must be submitted “as part of its NPDES permit renewal application.” 35 Ill. Admin. Code § 106.1180(a).

Here, Midwest Generation did not submit an application to establish or renew a Section 316(a) variance with its January 25, 2005 NPDES permit renewal application. (*See* R. 0025-0108.) In fact, there is no mention of a thermal variance in the entire application. Midwest Generation did not subsequently submit a late application for renewal of a 316(a) variance, or otherwise indicate that it was prepared to support the continuation of that variance with studies based on its operation experience. In its comments on the 2011 Draft Permit, Midwest Generation did threaten IEPA with legal action if it did not receive the variance it contended it was entitled to (R. 0202, 0206), but that could hardly be characterized as an “application.”

E. Midwest Generation Has Not Made the Demonstrations Required to Grant a 316(a) Thermal Variance

Even setting aside all of the failings catalogued to this point, in the end IEPA still did not make the determinations it would have to make in order to renew a variance under its new 35 Ill. Admin. Code §§ 106.1180 authority. There are two key findings that IEPA must make: 1) that the nature of the thermal discharge has not changed and 2) that the variance has not caused appreciable harm to a balanced, indigenous population of fish, shellfish and wildlife. 35 Ill. Admin. Code §§ 106.1180(c)-(d). If IEPA finds the nature of the thermal discharge has changed materially, or that appreciable harm has resulted from the discharges, it is prohibited from renewing the variance. 35 Ill. Admin. Code § 106.1180(d).

IEPA’s acknowledgment that it does not have enough information to make a § 106.1180(c) determination is baked into the relief it did grant the discharger. Special Condition

4 purports to extend the Board's 1978 316(a) variance for the current permit term, and then requires studies that IEPA could use to justify yet another extension of the thermal variance the *next* time IEPA considers a permit renewal. In the Responsiveness Summary issued with the 2015 Final Permit IEPA explains that it is relying on the old variance, but

[t]o ensure the nature of the thermal discharge has not changed and the alternative thermal effluent limitation granted by the Board has not caused appreciable harm to a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is made, the reissued permit requires specific activities and studies

(R. 0665.) However, those future studies do not change the fact that IEPA has no basis for *this* extension of the thermal variance. Nor do those future studies remedy the fact that Midwest Generation was not "prepared to support the continuation of the variance with studies based on the discharger's actual operation experience" in 2005 when it applied for NPDES permit renewal, and did not act to remedy that lack of information at any point in the ten years between when it applied for the permit renewal and when the permit was actually issued in 2015.

To make up for a lack of current basis for the thermal variance, IEPA claims to have reviewed "the thermal studies from 1975 and 1976 conducted in accordance with 316(a)." (R. 0666.) No such studies are contained in the administrative record. In fact, the record indicates that the studies to support the Board's 1978 316(a) variance were submitted in 1974, and that neither Midwest Generation, IEPA, nor U.S. EPA can locate copies of those studies. (R. 0492.) In any event, none of those studies are in the administrative record for this case, and therefore cannot be used as a basis to support IEPA's purported continuance of the Board's 1978 316(a) variance. 415 ILCS 5/40(e)(3) (limiting the Board's authority to hear a petition "exclusively on

the basis of the record before the Agency); *IEPA v. IPCB*, 896 N.E.2d 479, 487 (Review of agency decision based “solely on the evidence in the IEPA record”).

In the absence of the studies IEPA deems necessary to make the determinations required by 35 Ill. Admin. Code § 106.1180, all indications in the record are that the biological communities in Lake Michigan have changed dramatically since the original 316(a) studies were conducted in the early 1970s. In response to a request from IEPA, Illinois Department of Natural Resources reported that “There have been significant changes in the aquatic community over the past three decades.” (R. 0618.) The introduction of several non-native species, including the round goby, zebra mussel, quagga mussel, spiny water flea and fish hook water flea, has drastically altered the ecology of Lake Michigan. (R. 0618, 0988, 1029-31, 1032-36, 1042, 0204-05.) Lake Michigan has suffered from declining ecological productivity. (R. 0618.) This has led to declines in yellow perch and alewife populations, which have in turn impacted salmon and trout populations. (R. 0618.) The United States Geological Survey reported in its “Status and Trends of Prey Fish Populations in Lake Michigan” that “[t]otal prey fish biomass in 2012 was the lowest since our bottom trawl survey began in 1973, and follows five years of sustained, record low biomass estimates.” (R. 1053.)

Changes in the thermal regime can exacerbate the effects of other environmental stressors, and can impact reproductive function. (R. 0477.) Nearly 80% of Great Lakes fish, including fish considered to inhabit deep water, use the nearshore “littoral zone” areas for at least part of the year. (R. 1066.) Thus, without the updated studies required by Section 316(a) and Section 106.1180, IEPA cannot assume that the thermal discharges on the shore of Lake Michigan are not directly harming the aquatic ecosystem or making recovery from other impacts

more difficult. IEPA's assumption that the Board's 1978 316(a) variance still protects this vastly changed ecosystem is arbitrary, capricious, and not in accordance with law.

Furthermore, the only evidence in the record of the present nature of the thermal discharges is that they *have* changed materially since the Board's 1978 316(a) variance was issued. The Board's new rules prohibit IEPA from renewing a thermal variance "[i]f the nature of the thermal discharge has changed materially." 35 Ill. Admin. Code § 106.1180(d). The rules are not keyed to an *increase*, but a *change*. Both IEPA and Midwest Generation have emphasized that the nature of the thermal discharge has changed because one of the units that was operating at the time the variance was issued has since been retired. (R. 0987, 0662, 0666.) Midwest Generation even admits that the original 1971 study of the thermal plume "would not accurately represent the current delineation of the thermal plume from the Outfall 001 discharge." (R. 0988.) Without the studies IEPA should have required in the first place, the agency cannot conclude that the current discharges are not causing appreciable harm to a balanced indigenous population of fish, shellfish and wildlife. For example, we don't know if perhaps the lower volume of heated water means that the heated water is impacting more of the sensitive near-shore habitats than it was when the original studies were conducted more than 40 years ago.

In sum, IEPA did not in fact make the findings required to continue a 316(a) variance under 35 Ill. Admin. Code § 106.1180, and there is no basis in the administrative record to support such findings. Why IEPA did not years ago require Midwest Generation to undertake the studies necessary to justify the variance that it wanted is a mystery. Nothing prevented IEPA from requiring Midwest Generation to supplement its 2005 application with additional information to support its (eventual) request for a renewed thermal variance. *Cf.* 35 Ill. Admin.

Code § 309.103; 40 C.F.R. § 122.21(e)(1), (13). At this point there is simply no excuse for IEPA to move forward with a baseless thermal variance. Accordingly, the Board should invalidate the 316(a) variance that IEPA purported to renew in Special Condition 4 of the 2015 Final Permit and direct IEPA to establish effluent limits to meet the Lake Michigan thermal standards.

F. Conclusion

There are several layers of error that render the purported extension of the Board's 1978 316(a) variance invalid.

First, the Board's 1978 316(a) variance expired many years ago and was no longer eligible to be renewed.

Second, even if the Board's 1978 316(a) variance did not expire, IEPA has no authority to renew that variance because it was not adopted pursuant to Subpart K of the Board's rules.

Third, even if the Board's 1978 316(a) variance was considered to be adopted pursuant to Subpart K, Midwest Generation did not submit an application to renew that variance in accordance with 35 Ill. Admin. Code § 106.1180(a).

Fourth, even if Midwest Generation had submitted an application to renew a thermal variance, IEPA could not have made the findings required by 35 Ill. Admin. Code § 106.1180 based on this administrative record.

Consequently, the Board should invalidate the 316(a) variance that IEPA purported to renew in Special Condition 4 of the 2015 Final Permit and direct IEPA to establish water quality-based effluent limits to meet the Lake Michigan thermal standards.

II. COUNT TWO: The Permit Does Not Comply With Legal Requirements Regarding the Cooling Water Intake Structure

An open-cycle cooling water intake structure at an electric generating station on the Great Lakes can kill hundreds of millions of organisms each year through impingement and entrainment. (R. 1068, 0667, 1213-14.) To protect against such devastation, Section 316(b) of the Clean Water Act requires that the “location, design, construction and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.” 33 U.S.C. § 1326(b) (2015); 40 C.F.R. § 401.14 (2015). In 2004, U.S.EPA adopted regulations to set national standards for cooling water withdrawals by large, existing power producing facilities. (R. 0144.) U.S.EPA suspended this regulation in response to litigation in 2007. (*Id.*) Guidance issued March 20, 2007 reiterated that until a new rule was adopted, the existing law required all permits for existing generating stations to “include conditions under section 316(b) of the Clean Water Act developed on a Best Professional Judgment basis.” (*Id.*)

On August 15, 2014, U.S. EPA adopted a final rule governing cooling water intake structures on existing electric generating plants. The new federal application requirements for facilities with cooling water intake structures detail the information that must be submitted with an application to renew an NPDES permit that includes a cooling water intake structure. 40 C.F.R. § 122.21(r) (2015). The submission requirements include physical data and baseline biological characterization data regarding the source water, details about the cooling water intake structure and the cooling system, and studies of impingement, entrainment and compliance options at the facility. *Id.*

On or after October 14, 2014, existing electric generating plants are subject to the new best technology available standards for impingement and entrainment. 40 C.F.R. § 125.94 (a)(1) (2015). Those standards provide seven options to minimize impingement mortality, including closed-cycle cooling. 40 C.F.R. § 125.94 (c). Permit writers are required to make a best professional judgment determination regarding the best technology available to maximize entrainment reduction. 40 C.F.R. § 125.94 (d).

These standards were in effect when IEPA issued the Final Permit on March 25, 2015. Illinois law requires all NPDES permits to comply with federal regulations, including the ones described above. 35 Ill. Admin. Code § 309.141. The 2015 Final Permit violates federal law both because it failed to require Midwest Generation to submit the prescribed cooling water intake studies prior to issuing its NPDES permit and because its purported best professional judgment determination is unsupported and inconsistent with law.

First, the required studies were not submitted prior to permit issuance. 40 C.F.R. § 122.21(r) requires such studies as a foundation for the effluent standards a permit writer establishes for an existing facility. Even the most basic of these studies are not found in the administrative record.

For example, § 122.21(r)(2) requires the submission of source water physical data, including:

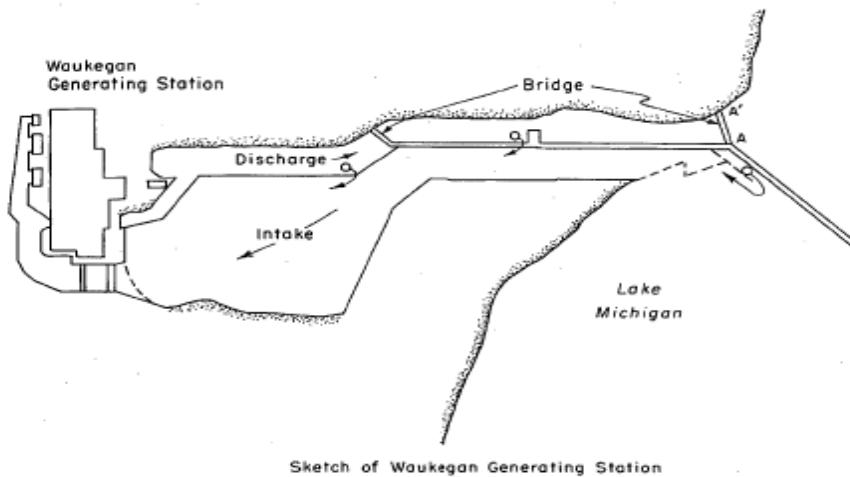
- (i) A narrative description and scaled drawings showing the physical configuration of all source water bodies used by your facility, including areal dimensions, depths, salinity and temperature regimes, and other documentation that supports your determination of the water body type where each cooling water intake structure is located;
- (ii) Identification and characterization of the source waterbody's hydrological and geomorphological features, as well as the methods you used to conduct any physical studies to determine your intake's area of influence within the waterbody and the results of such studies; [and]

(iii) Locational maps;

Section 122.21(r)(3) requires similarly fundamental information about the intake structure, including:

- (i) A narrative description of the configuration of each of your cooling water intake structures and where it is located in the water body and in the water column;
- (ii) Latitude and longitude in degrees, minutes, and seconds for each of your cooling water intake structures;
- (iii) A narrative description of the operation of each of your cooling water intake structures, including design intake flows, daily hours of operation, number of days of the year in operation and seasonal changes, if applicable;
- (iv) A flow distribution and water balance diagram that includes all sources of water to the facility, recirculating flows, and discharges; and
- (v) Engineering drawings of the cooling water intake structure.

The closest thing resembling such information in the record is this figure:



Sketch of Waukegan Generating Station

Fig. 7

TABLE 3

(R. 0244.) Or perhaps this one:

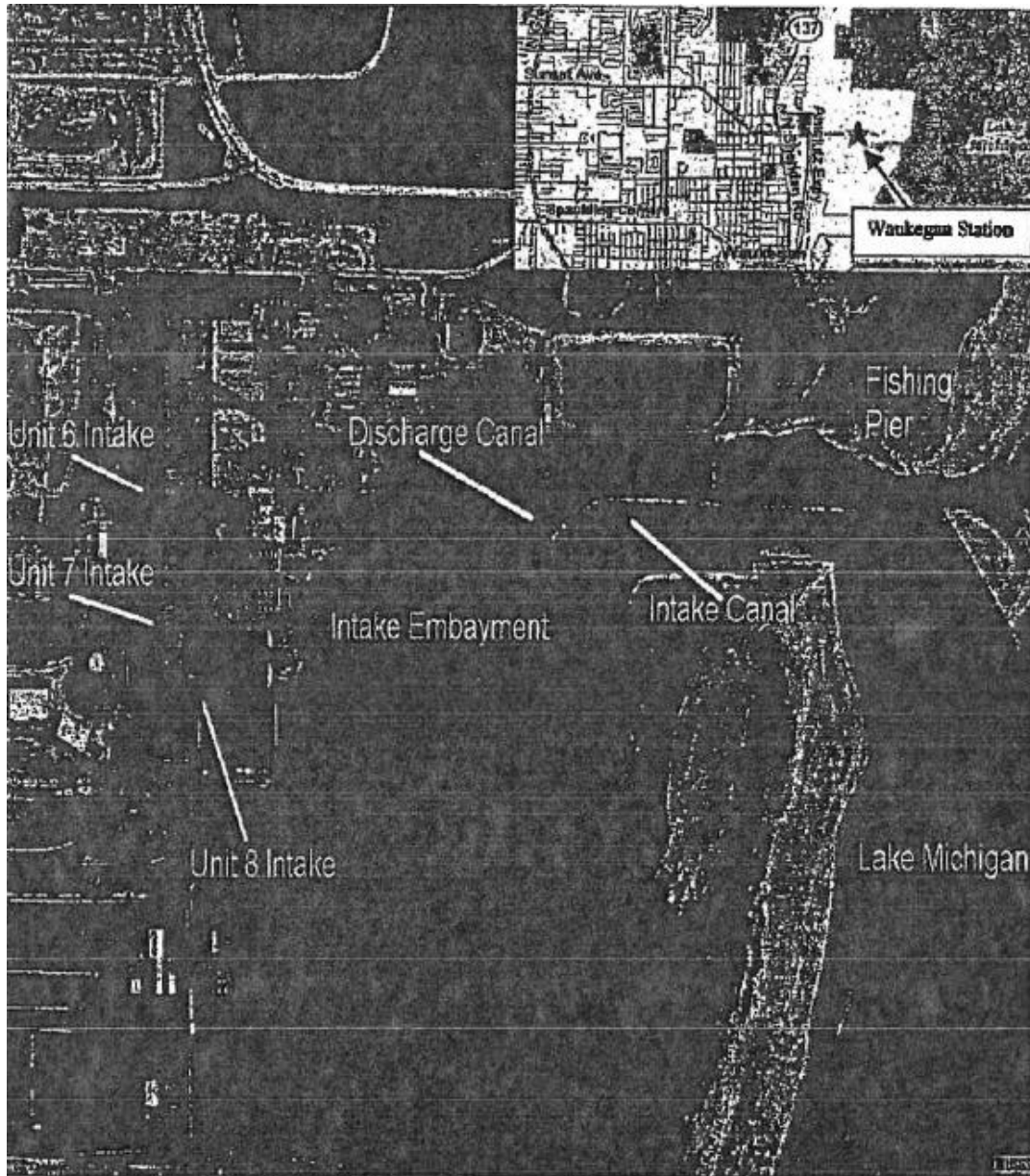


Figure 1. Waukegan Station Intake and Discharge Area

(R. 1227.) Absent from the record is any information about the depths or temperature regime in this area of Lake Michigan, engineering drawings, operational information, or a flow distribution/water balance diagram. Looking beyond these most basic requirements, there is

nothing in the record resembling the source water baseline biological characterization data required by Section 122.21(r)(4), the “Chosen Method(s) of Compliance with Impingement Mortality Standard” required by Section 122.21(r)(6), the “Entrainment Performance Studies” required by Section 122.21(r)(7), the “Entrainment Characterization Study” required by Section 122.21(r)(9), or the “Comprehensive Technical Feasibility and Cost Evaluation Study” required by Section 122.21(r)(10), among other things.

Instead of requiring Midwest Generation to submit these required studies in order to establish effluent standards in the 2015 permit and comply with the law at the time the permit was issued, IEPA included a permit condition requiring that “[a]ny application materials and submissions required for compliance with the Existing Facilities Rule, shall be submitted to the Agency no later than 4 years from the effective date of this permit.” (R. 0696.) Postponing for at least 4 years the submission of information required to support the permit today is arbitrary, capricious and not in accordance with law. Therefore, Petitioners ask the Board to remand the permit to IEPA to require that the studies required by 40 C.F.R. § 122.21(r) be submitted prior to permit issuance.

Furthermore, the actual effluent standard that IEPA applied to establish the best technology available to minimize adverse environmental impact from the cooling water intake structure in the 2015 Final Permit was invalid and unsupported by the record. A permit must comply with the law at the time it is issued. 40 C.F.R. § 122.4 (“No permit may be issued” that does not comply with the Clean Water Act or its regulations.)

The law in force at the time the permit was issued – US EPA’s 2014 § 316(b) rule – defined the Best Technology Available to minimize impingement mortality as one of seven alternatives:

1) closed-cycle recirculating system; 2) 0.5 feet per second through-screen design velocity; 3) 0.5 feet per second through-screen actual velocity; 4) existing offshore velocity cap; 5) modified traveling screens; 6) systems of technologies as the BTA for impingement mortality; and 7) impingement mortality performance standard. 40 C.F.R. § 125.94 (c). The Best Technology Available standards for entrainment are to be set by the agency on a site-specific basis. 40 C.F.R. § 125.94 (d).

The 2015 Final Permit did not comply with these October 2014 best technology available standards for either impingement or entrainment. Instead, IEPA established a special condition stating the following:

Based on available information, the Agency has determined that the operation of the cooling water intake structure meets the equivalent of Best Technology Available (BTA) in accordance with the Best Professional Judgment provisions of 40 CFR 125.3 and 40 CFR 125.90(b), based on information available at the time of permit issuance.

(R. 0696.) IEPA's reference to 40 C.F.R. § 125.90(b) implies the Agency decided that the Waukegan Station is not subject to the requirements of 40 C.F.R. § 125.94, but contains no explanation or justification for exempting this facility. Further, IEPA's statement that "the operation of the cooling water intake structure meets the equivalent of Best Technology Available" does not even state which alternative IEPA is requiring to minimize impingement mortality under 40 C.F.R. § 125.94 (c), nor does it require the permittee to achieve the maximum reduction in entrainment under 40 C.F.R. § 125.94 (d).

Even assuming for the sake of argument that IEPA was free to use its best professional judgment under the previously-existing general rule (40 C.F.R. § 125.3) to establish technology-based effluent limits to minimize adverse environmental impact from the Waukegan Station's

cooling water intake structure , Special Condition 7 identifies no such effluent limit. Such limits “represent the minimum level of control that must be imposed in a permit.” 40 C.F.R. § 125.3 (a) (2015). Special Condition 7 does not even identify what characteristics of the cooling water intake structure or the operation of that structure represent the “best technology available” to minimize adverse environmental impact.

In fact, as far as the record shows, neither IEPA nor Midwest Generation knows what “the operation of the cooling water intake structure” entails. In 2005, Midwest Generation was not even aware “[w]hether the Station has implemented any operational controls, including flow or velocity reductions, which reduce impingement mortality or entrainment.” (R. 1210.) Midwest Generation concluded at the time that the “Waukegan Station cooling water intake system does not appear to include any control technologies specifically designed to reduce impingement mortality or entrainment below the calculation baselines” (R. 1209) and “does not appear to use any operational measures specifically designed to reduce impingement mortality or entrainment.” (R. 1210.) In 2013, Midwest Generation confirmed that operation practices are typical and that no control technologies were in place that were specifically designed to reduce impingement mortality or entrainment. (R. 0512.) This absence of information does not define the “best technology available” to minimize adverse environmental impact in any way that is sufficient to represent an enforceable permit condition.

Furthermore, a Best Professional Judgment determination, like any agency action, must be supported by an adequate basis in the record. *IEPA v. IPCB*, 896 N.E.2d 479 at 486. (IEPA permitting decisions must be supported by substantial evidence). *Des Plaines River Watershed Alliance v. IEPA*, PCB 04-88 at 12 (April 19, 2007) (“The Board does not affirm the IEPA’s decision on the permit unless the record supports the decision”).

The sum total of information in the record that IEPA could have relied upon to make its Best Professional Judgment determination consists of the two rudimentary diagrams set forth above (R. 0244, 1227) and two paragraphs describing the most basic attributes of the intake structure (R. 0512). IEPA claims it reviewed studies of the impingement and entrainment impacts from 1975-76 (R. 0666), but those studies are not included in the administrative record. Midwest Generation proposed a plan of study for the intake structures a decade ago in 2005 (R. 1208-1231), and may have in fact begun some of those studies (R. 1215-16, 1221), but IEPA evidently did not require Midwest Generation to either complete or submit such studies. The present-day impacts of the intake structure are unknown.

The story the record does tell is that the Waukegan Station kills hundreds of millions of organisms annually, and that Midwest Generation employs no control structures or operational controls to minimize that environmental impact. There is no information in the record that IEPA could use to arrive at a conclusion that the current operation of the intake structure is the best technology available to minimize environmental impact from the cooling water intake structure, yet somehow that is the conclusion set forth in Special Condition 7. Because IEPA has no adequate basis for its purported “best professional judgment” determination, and because the determination contained in Special Condition 7 is on its face inconsistent with legal requirements, we ask the Board to invalidate it and remand the permit to IEPA with instructions to demand the information necessary from the permittee to make a best professional judgment determination by a date certain.

CONCLUSION

Petitioners are entitled to summary judgment on both counts of their Petition. First, as a matter of law, IEPA did not have authority to continue the Board's 1978 316(a) variance, regardless of the facts in the record. Further, there is no dispute that Midwest Generation did not submit the application or studies required to support either an extended thermal variance or IEPA's determination that the existing cooling water intake structure represents the best technology available to minimize adverse environmental impact. Accordingly, IEPA's decisions to extend the Board's 1978 316(a) variance and "best professional judgment" determination regarding impingement and entrainment are not supported by substantial evidence. Furthermore, neither action complies with applicable law. Therefore, Petitioners ask the Board to grant this motion for summary judgment, invalidate Special Condition 4 and Special Condition 7 in the 2015 Final Permit, and remand the permit to IEPA with instructions to establish thermal effluent limitations and require the best technology available to control impacts from the cooling water intake structure.

Respectfully Submitted,



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CERTIFICATE OF SERVICE

I, Jessica Dexter, hereby certify that I have filed the attached *Notice of Filing* and *Motion for Summary Judgment* upon the service list below by depositing said documents in the United States Mail, postage prepaid in Chicago, Illinois on October 22, 2015.

Respectfully submitted,



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