BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

SIERRA CLUB, NATURAL RESOURCES DEFENSE COUNCIL, PRAIRIE RIVERS NETWORK, and ENVIRONMENTAL LAW & POLICY CENTER,	)	
Petitioners,	)	
v.	)	No. 15-189
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY and MIDWEST GENERATION, LLC,	)	
Respondents.	)	

NOTICE OF FILING

TO: Service List

PLEASE TAKE NOTICE that on November 14, 2016, I caused to be filed with the Clerk of the Illinois Pollution Control Board via the "COOL" System the attached Respondent's Illinois Environmental Protection Agency's Post Hearing Brief, and hereby served upon you.

Respectfully submitted,

PEOPLE OF THE STATE OF ILLINOIS
ex. rel. LISA MADIGAN, Attorney General
of the State of Illinois

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CERTIFICATE OF SERVICE

I, Angad Nagra, sent the above Respondent's Illinois Environmental Protection Agency's Post Hearing Brief, on this day 14th, November, 2016, and served the following individuals via mail and electronic mail:

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RESPONDENT ILLINOIS EPA'S POST-HEARING BRIEF

Respondent, the Illinois Environmental Protection Agency ("Illinois EPA"), pursuant to the Hearing Officer's order dated October 17, 2016, respectfully submits this Post-Hearing Brief to the Illinois Pollution Control Board ("Board").

I. INTRODUCTION

This is an appeal by Petitioners Sierra Club, Natural Resources Defense Council, Prairie Rivers Network and Environmental Law & Policy Center (collectively "Petitioners") challenging Illinois EPA's re-issuance of a National Pollutant Discharge Elimination System ("NPDES") permit ("2015 NPDES Permit") to Respondent Midwest Generation, LLC ("MWG"). The 2015 NPDES Permit authorizes and regulates effluent discharges from MWG's Waukegan Generating Station ("Facility") in Lake County, Illinois. Petitioners specifically challenge (1) the permit's alternative effluent limit for heated effluent (or "thermal") discharges under Section 316(a) of the Clean Water Act; and (2) its provisions governing the operation of a Cooling Water Intake ("CWI") structure under Section 316(b) of the Clean Water Act. For the reasons set forth below, Petitioners have failed to sustain their burden of proof and the Board should accordingly

affirm Illinois EPA's decision to renew the permit.

II. BACKGROUND

In an order dated April 7, 2016 ("April 7, 2016 Summary Judgment Order"), the Board partly granted and partly denied the parties' respective summary judgement motions and cross-motions, reserving the following two disputed material fact issues for an evidentiary hearing that was held on October 7, 2016 ("October 7, 2016 Hearing"):

(1) Whether the process of issuing the 2015 NPDES Permit complied with Subpart K of Part 106 of the Illinois Administrative Code; and

(2) Whether the record reflects that Illinois EPA and the Facility satisfied the interim best-technology-available ("BTA") requirements of Section 316(b) and related regulations.

III. ARGUMENT

a. Legal Standard

Section 39(a) of the Act (415 ILCS 5/39(a) (2014)) provides that "[w]hen the Board has by regulation required a permit for the . . . operation of any type of facility [or] equipment . . ., the applicant shall apply to the Agency for such permit and it shall be the duty of the Agency to issue such a permit upon proof by the applicant that the facility [or] equipment . . . will not cause a violation of this Act or of regulations thereunder."

The Board's scope of review and standard of review are the same whether a permit applicant or a third party brings a petition for review of an NPDES permit. *Prairie Rivers Network v. Illinois Pollution Control Board et al.*, 335 Ill. App. 3d 391, 401 (4th Dist. 2002) and *Joliet Sand & Gravel Co. v. Illinois Pollution Control Board*, 163 Ill. App. 3d 830, 833 (3rd Dist. 1987), citing *Illinois Environmental Protection*

Agency v. Illinois Pollution Control Board, 118 Ill. App. 3d 772 (1st Dist. 1983). The distinction between the two types of NPDES permit appeals is which party bears the burden of proof. Pursuant to Section 40(e)(3) of the Act, in a third-party NPDES permit appeal such as this one, the burden of proof is on the third-party petitioner. 415 ILCS 5/40(e)(3) (2014); *Prairie Rivers*, 335 Ill. App. 3d 391 at 401.

The question before the Board in permit appeal proceedings is: (1) whether the applicant proves that the application, as submitted to the Agency, demonstrated that no violation of the Act would have occurred if the requested permit had been issued; or (2) whether the third party proves that the permit as issued will violate the Act or Board regulations. *Joliet Sand & Gravel*, 163 Ill. App. 3d 830, 833; *Prairie Rivers*, 335 Ill. App. 3d at 401. In addressing these issues on appeal, the burden of proof is on the petitioner. *ESG Watts, Inc. v. Illinois Pollution Control Board*, 286 Ill. App. 3d 325 (3rd Dist. 1997).

b. Clean Water Act Section 316(a) & Subpart K

Clean Water Act Section 316(a) authorizes the United States Environmental Protection Agency ("USEPA") or states administering its NPDES program to establish alternative thermal effluent limitations governing thermal discharges from regulated point sources. To qualify for an alternative thermal effluent limitation, the owner or operator of the source in question must

> demonstrate . . . that any effluent limitation proposed for the control of the thermal component of any discharge from such source will require effluent limitations more stringent than necessary to assure the projection 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[.]

Once such a demonstration is made, Section 316(a) authorizes USEPA or the

administering state to establish an alternative thermal effluent limitation

> that will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on that body of water.

In 2014, the Board promulgated new regulations implementing Section 316(a). Those regulations, which now govern the issuance and renewal of alternative thermal effluent limitations in Illinois, are codified at Subpart K of Part 106 of the Illinois Administrative Code ("Subpart K"), which provides, in relevant part, as follows:

> b) 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.
>
> c) If the permittee demonstrates that 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 Agency may include the alternative thermal effluent limitation in the permitee's renewed NPDES permit.
>
> d) If the nature of the thermal discharge has changed materially or the alternative thermal effluent limitation granted by the Board has 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 Agency may not include the thermal relief granted by the Board in the permitee's renewed NPDES permit. The permittee must file a new petition and make the required demonstration pursuant to this Subpart

> before the alternative thermal effluent limitation may be included in the permittee's renewed NPDES permit.

35 Ill. Adm. Code 106.1180. Subpart K thus (1) authorizes Illinois EPA to renew alternative thermal effluent limitations; (2) sets forth the specific grounds on which the agency may do so; (3) requires certain demonstrations by the permittee in order to support renewal; and (4) obligates the permittee to "be prepared" to offer supporting documentation based on "actual operation experience during the previous permit term." 35 Ill. Adm. Code 106.1180(b).

In its April 7, 2016 Summary Judgment Order, the Board reserved for evidentiary hearing the disputed material fact issue of whether, in re-issuing the 2015 NPDES Permit, Illinois EPA complied with Subpart K and, more specifically, whether the agency considered (1) whether the nature of the thermal discharge had changed materially; and (2) whether the alternative thermal effluent limitation caused appreciable harm to a balanced, indigenous population of shellfish, fish, and wildlife. As the record and the testimony presented at the October 7, 2016 Hearing make clear, the Illinois EPA properly considered information concerning each of these criteria when it reissued the 2015 NPDES Permit and thus complied with Subpart K.

i. Nature of the thermal discharge

Subpart K provides that, "[i]f the nature of [a facility's] thermal discharge has changed *materially*," Illinois EPA may not include an alternative thermal effluent limitation in the facility's renewed NPDES permit without having the permittee file a new, properly supported petition for thermal relief. 35 Ill. Adm. Code 106.1180(d) (emphasis added). Here, the record and the testimony presented at the October 7, 2016 Hearing reveal that, as required by Subpart K, Illinois EPA assessed the nature of the

Facility's thermal discharge over time and properly concluded that it had not materially changed. This assessment was based on a consideration of the nature of the discharge in 1978—when the Board originally granted MWG's request for thermal relief—and a comparison of the 1978 discharge with the nature of the Facility's thermal discharge in 2015, when Illinois EPA renewed the subject permit.

As the record reflects, the 1978 thermal discharge was of an amount "associated with the generation of 1016 [MW] of electric power with the generating station equipment on site as of July 1, 1977," whereas the 2015 thermal discharge was of the amount of the original thermal discharge minus the amount associated with generating the sum of 129 MW and 112 MW of electricity, to account for the retirements of Units 5 and 6, respectively. (R:203.) Additionally, as recounted in the testimony of Darin LeCrone—the Manager of the Industrial Unit of Illinois EPA's Division of Water Pollution Control, and the individual that supervised the agency's issuance of the subject permit—the agency's assessment of whether the nature of the Facility's thermal discharge had changed materially also included consideration of the following: (1) the findings of various studies submitted in support of MWG's original request for an alternative thermal effluent limitation in 1978, including studies of Lake Michigan currents and thermal plume studies that modeled thermal levels in the lake (October 7, 2016 Hearing Transcript ("Tr.") at p. 117, lines 6-24; p. 118, lines 1-6); (2) information concerning the Facility's heat load rejection rate over time (which, as the agency's assessment confirmed, had decreased since 1978 as a result of the retirement of two of the Facility's four electricity generating units) (October 7, 2016 Hearing Tr. at p. 118, lines 19-24; p. 119, lines 1-7); and (3) information concerning the Facility's cooling water discharge rate over time (which, as the agency's assessment also confirmed, had

decreased since 1978 for the same reasons that the heat load rejection rate had decreased) (October 7, 2016 Hearing Tr. at p. 119, lines 8-24). After taking all of this information into account, the agency concluded that "there have not been any changes at the facility which would result in additional heat being discharged into the lake." (R:665-66.) Additionally, the agency found no indication in the record that the location of the Facility's thermal plume had changed in any material way. (October 7, 2016 Hearing Tr. at p. 120, lines 1-24; p. 121, lines 1-15.) Accordingly, Illinois EPA's eventual determination that the nature of the Facility's thermal discharge had not materially changed—and its consequent renewal of the 2015 NPDES Permit—was properly supported and fully complied with Subpart K.

ii. Appreciable harm to organisms and wildlife

Renewal of an alternative thermal effluent limitation pursuant to Subpart K also requires a demonstration that "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." 35 Ill. Adm. Code 106.1180(c). Here, the record and the testimony presented at the October 7, 2016 Hearing reveal that, as required by Subpart K, Illinois EPA properly determined that Midwest Generation's alternative thermal effluent limitation has not caused such harm in the receiving water, Lake Michigan. This determination was based on (1) consideration of the fact that the Facility's decreased thermal output resulting from the retirement of Units 5 and 6 correspondingly reduced its thermal impact on Lake Michigan aquatic life in the vicinity of the Facility; (2) an assessment of Lake Michigan's balanced, indigenous population of shellfish, fish, and wildlife as it existed in 1978, when the Board originally granted MWG's request for thermal relief; and (3) a

comparison of the 1978 population with Lake Michigan's current balanced, indigenous population of shellfish, fish, and wildlife.

As Darin LeCrone of Illinois EPA testified at the October 7, 2016 hearing, Illinois EPA's assessment of the 1978 population was based on the Board's own findings from that time. (October 7, 2016 Hearing Tr. at p. 122, lines 21-24; p. 123, lines 1-4.) As the record reflects, in August 1978, based on expert testimony backed by data compiled by two environmental consulting firms, the Board found "virtually no damage . . . to the Lake Michigan environment as a result of thermal discharges" from the Facility and ordered that its permit be modified to include the alternative thermal effluent limit. (R:2.) The Board's August 1978 order further noted that "while some changes in the relative abundance of various kinds of fish have been noted, these changes are more attributable to competition among the species than to thermal changes in the environment." (R:2.) The following month, in September 1978, the Board convened a new hearing to resolve some ambiguities from the record of the previous decision, but its assessment was unchanged: "It is the Opinion of the Board that [Waukegan Generating Station has] not caused and cannot be reasonably expected to cause significant ecological damage to receiving waters." (R:1116.)

After assessing the 1978 population based on these Board findings, Illinois EPA then compared that population with the current population to determine if there were any adverse impacts or changes attributable to the Facility's thermal discharge. Although that comparison revealed "significant changes in the aquatic community" during that timeframe—such as "declines in yellow perch and alewife populations"—the record and testimony presented at the October 7, 2016 Hearing indicate that those changes were actually the result of lake productivity declines and invasive species

proliferation rather than the effects of thermal discharges. (R:673; October 7, 2016 Hearing Tr. at p. 125, lines 4-9.)

Other contemporary studies of Lake Michigan aquatic life similarly indicated that thermal discharges were not the cause of any observed aquatic population declines in the lake. For instance, a 2009 USGS survey of aquatic life in Lake Michigan, conducted as part of a trawling program, found that declines in rainbow smelt populations had occurred on a lake-wide basis and not just in the vicinity of the Facility. (R:222, 231-32.) As Darin LeCrone testified at the October 7, 2016 Hearing, this is exactly the opposite of what one would expect if the Facility's thermal discharge had been adversely impacting aquatic life in Lake Michigan. (October 7, 2016 Hearing Tr. at p. 129, lines 18-24; p. 130, lines 1-3) Indeed, the USGS's report summarizing its findings attributed the observed rainbow smelt drop-offs to other, independent causes such as predation.[1] (R:231-32.) Additionally, as Illinois EPA was aware, the Facility's 2015 thermal discharge was significantly smaller than its 1978 thermal discharge as a result of the retirements of Units 5 and 6, which correspondingly reduced the Facility's thermal impact on aquatic life in its vicinity. (R:203.)

Other field data collected during a 2003-2005 impingement/entrainment study conducted by Midwest Generation at the Facility revealed that the current composition of the fish community in the vicinity of the Waukegan Station remains fundamentally similar to that which existed in the 1970s, and that most Lake Michigan open-water or deep-water species like salmonids, sculpins and coregonids are impinged in low numbers. (R:204; 1216.) As Darin LeCrone testified during the October 7, 2016

[1] These findings had particular relevance to Illinois EPA's permitting decision because, as Darin LeCrone noted in his testimony, one of USGS's trawling locations for its survey was in the vicinity of Waukegan, near the Facility. (October 7, 2016 Hearing Tr. at p. 128, lines 18-23.)

Hearing, this suggested that those species are not present in the area affected by the Facility's thermal discharge and are therefore at minimal risk of exposure to its thermal plume. (October 7, 2016 Hearing Tr. at p. 127, lines 9-12.) Accordingly, as Darin LeCrone further testified, even though the agency lacked a recent thermal plume model when it renewed the 2015 NPDES Permit, the absence of such a model did not deprive Illinois EPA of sufficient information to make its determination that the Facility's alternative thermal effluent limitation had not caused appreciable harm to Lake Michigan's balanced, indigenous population of shellfish, fish, and wildlife. (October 7, 2016 Hearing Tr. at p. 130, lines 4-15.) That determination was thus adequately supported, and the agency's renewal of the 2015 NPDES Permit fully complied with Subpart K.

c. Clean Water Act Section 316(b)

Section 316(b) of the Clean Water Act requires that the location, design, construction, and capacity of cooling water intake ("CWI") structures at certain facilities "reflect the best technology available for minimizing adverse environmental impact." 33 U.S.C. § 1326(b). USEPA recently issued a regulation implementing these requirements—the Existing Facilities Rule—which requires CWI structures at existing facilities to (1) submit certain items of information in their applications for NPDES permit renewals; and (2) implement BTA standards set forth in Section 316(b)'s implementing regulations.

In its April 7, 2016 Summary Judgment Order, the Board held that the interim best technology available ("BTA") standard set forth in 40 C.F.R. § 125.98(b)(6) is the applicable standard governing the Facility's CWI structure, and reserved for evidentiary hearing the issue of whether the Facility's CWI structure actually met that standard.

That provision provides as follows:

> [t]he Director must establish interim BTA requirements in the permit on a site-specific basis based on the Director's best professional judgment in accordance with § 125.90(b) and 40 CFR 401.14.

Id. 40 C.F.R. § 125.90(b), in turn, provides that

> [CWI] structures not subject to requirements under §§ 125.94 through 125.99 or subparts I or N of this part must meet requirements under section 316(b) of the CWA established by the Director on a case-by-case, best professional judgment (BPJ) basis.

As authorized by these provisions, Special Condition 7 of the 2015 NPDES Permit expressly reflects the Illinois EPA's determination,

> [b]ased on available information, . . . that the operation of the [CWI] structure meets the equivalent of [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:696.) Although Special Condition 7 cites 40 CFR 125.3 as one basis for Illinois EPA's BPJ determination, as Darin LeCrone acknowledged at the October 7, 2016 Hearing, that particular citation was not necessary to Special Condition 7 because the most directly applicable BPJ provisions are actually found at 40 CFR 125.90(b), which Special Condition 7 also cites, and 40 CFR § 401.14, which Special Condition 7 does not cite, but which is specific to intake structures like the Facility's. (October 7, 2016 Hearing Tr. at p. 137, lines 9-14.) As Darin LeCrone further testified, Illinois EPA only included a citation to 40 CFR 125.3 in the language of Special Condition 7 in an attempt to "incorporate[] the entirety of the concept of best professional judgment." (October 7, 2016 Hearing Tr. at p. 137, lines 2-8.)

As the record and testimony presented at the October 7, 2016 Hearing

demonstrate, Illinois EPA fully complied with 40 C.F.R. § 125.98(b)(6) and Petitioners have failed to sustain their burden of proving otherwise. As Darin LeCrone testified at hearing, "[t]here is nothing in the record that indicates [the cooling water intake structure at the Waukegan Facility] would not constitute an interim Best Technology Available based on our best professional judgment." Notably, this position was shared by USEPA in its own comments on the draft permit. (R:622.)

Additionally, the BTA standard requires Illinois EPA to "determine[] whether appropriate studies have been performed, whether a given facility has minimized adverse environmental impact, and what, if any, technologies may be required." 69 Fed. Reg. 41576, 41584 (July 9, 2004) (describing system of case-by-case BTA permits applied prior to 2014). In renewing the 2015 NPDES Permit, Illinois EPA based its decision on extensive information regarding impacts on aquatic life, including impingement studies that had been relied on for decades without objection from the USEPA. (R:770, 1157-65.) Based on those studies, Illinois EPA appropriately concluded, on an interim basis, that the Facility's CWI structure constituted BTA for minimizing impingement mortality and entrainment, and the agency's renewal of the 2015 NPDES Permit accordingly complied with 40 C.F.R. § 125.98(b)(6).

IV. CONCLUSION

For the reasons set forth below, Petitioners have failed to sustain their burden of proof in their challenge to Illinois EPA's renewal of the 2015 NPDES Permit and the Board should accordingly affirm Illinois EPA's decision to renew MWG's NPDES Permit.

Dated: November 14, 2016

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

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