

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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| IN THE MATTER OF: |) | |
| |) | |
| MIDWEST GENERATION, LLC |) | |
| |) | |
| Petitioner, |) | |
| |) | |
| v. |) | PCB No. 2018-058 |
| |) | |
| ILLINOIS ENVIRONMENTAL |) | |
| PROTECTION AGENCY, |) | |
| |) | |
| Respondent. |) | |

NOTICE OF FILING

To:

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| Don Brown, Clerk of the Board Illinois Pollution Control Board James R. Thompson Center, Suite 11-500 100 W. Randolph Street Chicago, IL 60601 don.brown@illinois.gov (via electronic mail) | Attached Service List |
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PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Pollution Control Board an APPEARANCE and RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, a copy of which is herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION
AGENCY

Dated: March 12, 2018

By: /s/ Stefanie N. Diers
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Assistant Counsel
Division of Legal Counsel
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
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MIDWEST GENERATION, LLC)
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Petitioner,)
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v.) PCB No. 2018-058
)
)
ILLINOIS ENVIRONMENTAL)
PROTECTION AGENCY,)
)
)
Respondent.)

RECOMMENDATION OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

NOW COMES the Illinois Environmental Protection Agency (Agency), by and through one if its attorneys, Stefanie N. Diers, and in response to the Petition to Approve Alternative Thermal Effluent Limitations (Petition) filed with the Illinois Pollution Control Board (Board) on January 16, 2018 by Midwest Generation, LLC (Midwest Gen or Petitioner), pursuant to 35 Ill. Adm. Code 106.1100 et seq. (Part 106, Subpart K), submits the following recommendation.

INTRODUCTION

On January 16, 2018, Midwest Gen filed the Petition asking the Board to approve alternative thermal effluent limitations for its discharge to the Chicago Sanitary Ship Canal from the its Will County Generating Station.

Section 316(a) of the Federal Clean Water Act, 33 U.S.C. 1326, allows for an owner or operator to demonstrate that the effluent limitations for the facility’s heated effluent are more stringent than necessary to “assure the propagation of balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is to be made.”

The Board incorporated this Federal Clean Water Act provision into 35 Ill. Adm. Code 304.141(c) which allows the Board to determine that alternative requirements may apply to thermal discharge. The Petition was filed pursuant to the Board's procedures for requesting alternative thermal relief under Part 106, Subpart K to demonstrate that the effluent limitations for the facility's heated effluent are more stringent than necessary and to request alternative thermal limitations.

BACKGROUND

The subject facility discharges to the Chicago Sanitary and Ship Canal (CSSC) at a point where 1315.0 cubic feet per second (cfs) of flow exists upstream of the outfall during critical 7Q10 low-flow conditions. The design discharge rate of Unit 4 is 570 MGD (882 cfs). (Petition P. 8). The CSSC is classified as a Chicago Area Waterway System and Brandon Pool Aquatic Life Use B Water. The CSSC is not listed as a biologically significant stream in the 2008 Illinois Department of Natural Resources Publication *Integrating Multiple Taxa in a Biological Stream Rating System*, nor is it given an integrity rating in that document. The CSSC, Waterbody Segment, GI-02, is listed on the draft 2016 Illinois Integrated Water Quality Report and Section 303(d) List as impaired for indigenous aquatic life use with potential causes given as iron, manganese, oil & grease, dissolved oxygen (non-pollutant), and phosphorus and fish consumption use with potential cause given as polychlorinated biphenyls. Aesthetic quality use is fully supported and is not subject to enhanced dissolved oxygen standards.

PETITIONER'S REQUESTED RELIEF

In lieu of the Chicago Area Waterway System Aquatic Life Use B (ALU B) thermal water quality standards provisions contained in 35 Ill. Adm. Code 302.408 (c)-(f), and (h) and the zone-of-passage requirement in 35 Ill. Adm. Code 302.102(b)(8) of the mixing zone

regulations, Midwest Gen respectfully requests that the Board find that the attached Demonstration Report adequately demonstrates that the following thermal effluent limits will allow for the protection and propagation of a balanced indigenous, community in the Chicago Sanitary and Ship Canal:

1. Water temperature at representative locations in the Chicago Sanitary and Ship Canal shall not exceed the maximum limits listed below for more than 5% of the time in a calendar year. Moreover, at no time shall water temperature exceed the daily maximum limits by more than 1.7°C (3°F).
2. A zone of passage for aquatic life in which the proposed thermal alternative effluent limits are met shall be maintained at 50% or greater at all times.
3. Proposed Numeric Thermal Alternative Effluent Limits for Will County Generation Station:

| | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|--|------|------|------|-------|-----|------|------|------|-------|------|------|------|
| °F | 70 | 70 | 75 | 80 | 85 | 93 | 93 | 93 | 93 | 90 | 85 | 75 |
| Excursion Hours: Daily maximum not to be exceeded by more than 5% of the time in a calendar year; at no time shall water temperature exceed the maximum limits by more than 3°F. | | | | | | | | | | | | |

The above proposed thermal alternative effluent limits for Will County Generating Station (WCGS) are effective at the edge of the allowed 26-acre mixing zone (as determined for compliance monitoring purposes through the continued use of the WCGS Near-Field Model under the terms of its NPDES Permit). As discussed below, these proposed seasonally-based thermal alternative effluent limits (AELs) will effectively replace the function of provisions (c), (d), and (e) of the ALU B limits for the CSSC near WCGS, which will not be applicable to the WCGS under the proposed AEL. They will also replace 35 Ill. Adm. Code 302.102(b)(8).

AGENCY'S RECOMMENDATION

1) Whether the Board should grant the petitioner's requested alternative thermal effluent limitation: The Agency, pursuant to Section 106.1145, recommends the Board grant the alternative thermal effluent limitations for the WCGS.

2) **The rationale for the Agency's position:** The Agency has determined that Midwest Generation has met the requirements to justify a 316(a) demonstration. Petitioner performed both a prospective and a retrospective analysis for the 316(a) demonstration. (See, Appendix B and C of Exhibit 4). The Demonstration Report uses a retrospective analysis of aquatic community monitoring data collected during the operation of the Will County facility over the past 20 years. (Petition, P. 19). This extensive biological database was collected during a period when the less-stringent Secondary Contact and Indigenous Aquatic Life standard applied and the facility went from four-unit to a two-unit, and finally to the current single-unit operation. (Petition, P. 19). The Demonstration Report also utilized predictive studies to assess whether the proposed AELs will “assure the protection and propagation of a balanced, indigenous, community of shellfish, fish, and wildlife.” (Petition P. 21). This approach uses quantitative hydrothermal modeling to predict thermal conditions under various operating and ambient flow conditions, integrated with metrics of thermal requirements and tolerance limits identified in scientific literature for selected aquatic species representative of the balanced indigenous community (BIC). (Petition, P. 21). Collectively, the hydrothermal model and predictive analysis were integrated with representative important species (RIS) life history requirements to develop proposed summer and winter thermal AELs that are protective of the BIC. (Petition, P. 21). The RIS, selected under the criteria found in the USEPA 1977 Draft 316(a) Guidance Manual, were Gizzard Shad (*Dorosoma cepedianum*), Bluntnose Minnow (*Pimephales notatus*), Banded Killifish (*Fundulus diaphanous menona*), Common Carp (*Cyprinus carpio*), Channel Catfish (*Ictalurus punctatus*), Green Sunfish (*Lepomis cyanellus*), and Largemouth Bass (*Micropterus salmoides*). (See, Ex. 4, Appendix B, at pp. B-7 to B-9.)

The requested numeric thermal AELs will protect the BIC in lieu of other narrative

criteria found in 302.408(c)-(e). (Petition, P. 18). Additionally, the ALU B thermal standards (35 Ill. Adm. Code 302.408) provide for abrupt standards changes from March to April (60 °F to 90 °F) and from November to December (90 °F to 60 °F). (Petition, P. 17). The proposed thermal AELs for several of the transition months (April, May, and November) are more stringent than the corresponding limits under ALU B and closer to seasonal temperature expected in the Chicago Sanitary and Ship Canal (Petition, P. 17).

Petitioner is proposing to have 5% excursion hours in a calendar year instead of the proposed 1 % of excursion hours in any 12-month period. The 5% excursion hours in a calendar year is similar to the current water quality standard. The 316(a) Demonstration Report shows that there is no evidence that operation of the facility in accordance with the former Secondary Contact Waters thermal limits have caused appreciable harm to a BIC in the Chicago Sanitary and Ship Canal. (Petition, P. 17).

Petitioner has requested an adjustment to the thermal requirements found at Ill. Adm. Code Section 302.408(f). Petitioner has proposed increasing the temperature in the winter months (Dec. – March) due to the potential of unseasonably warm winter weather conditions and/or low-flow conditions. (Petition, P. 16). Petitioner has also proposed increasing the temperature in the summer months (June – September) from 90 °F to 93 °F to account for “worst case” summer conditions (historically high intake temperatures combined with chronically low waterway flows). (Petition. P. 16).

The Agency notes that the propose temperature limits are all below the current secondary contact standards. Furthermore, the 316(a) Demonstration Report shows that there is no evidence that operation of the facility in accordance with the former Secondary Contact Waters thermal limits have caused appreciable harm to a BIC in the Chicago Sanitary and Ship Canal.

(Petition, P. 17).

Petitioner has requested a zone of passage of 50% or greater at all times. Petitioner is proposing to utilize 50% of the cross-sectional area or volume of flow for the mixing zone; therefore, allowing a zone of passage of 50% of the stream. Section 302.102(b)(8) requires that in streams where the dilution ratio is less than 3:1, the volume in which mixing occurs, alone or in combination with other volumes of mixing, must not contain more than 50% of the volume flow unless an applicant for an NPDES permit demonstrate, pursuant to subsection (d), that an adequate zone of passage is provided for pursuant to subsection (b)(6). Based on the design flow of the facility (570 MGD (882 cfs)) and the 7Q10 flow of the receiving stream (1315.0 cfs), the dilution ratio is less than 3:1. This discharge is located directly below the electric barrier, which does not allow any passage of fish. The Agency is comfortable with recognizing that WCGS can utilize up to 50% of the stream flow for mixing.

The Demonstration Report shows that there is no evidence that operation of the WCGS in accordance with the former Secondary Contact Waters thermal limits, nor the identical current interim thermal limits applicable until July 1, 2018, have caused appreciable harm to a BIC in the CSSC. (Petition, P. 17). The numeric thermal AELs proposed in this petition are more stringent than the prior Secondary Contact and Indigenous Aquatic Life limits and logically should also not result in any such appreciable harm. (Petition, P. 17). The 316(a) Demonstration Report data and analysis demonstrates that the BIC will be protected under the proposed thermal AELs. (Petition, P. 17).

3) Whether the plan of study sufficiently addresses the Agency's response pursuant to Section 106.1120(f): The Agency approved the "Detailed Plan of Study" on March 3, 2016 with no additional comments. On December 5, 2016, Midwest Generation submitted a

request for changes to the approved “Detailed Plan of Study”. The request was to use 2015 and 2016 fish data instead of waiting to collect 2017 fish data and use one year of Quality Habitat Evaluation Index (QHEI) data instead of two years. The Agency approved the modification since the 2015 and 2016 data were collected during single unit operation and the Agency agreed that there was no need to wait for the 2017 data collection for fish to continue the work on the alternate effluent limitation development. Additionally, the Agency agreed that there was not a need to collect two years of QHEI data since the habitat data does not vary by a significant amount yearly.

4) Whether the petition has met the requirements of Part 106, Subpart K. The Agency believes that the Petitioner has met the requirements for requesting alternative thermal relief under Part 106, Subpart K. Petition content requirements for requesting alternative thermal relief are provided in Section 106.1130. *See* 35 Ill. Adm. Code 106.1130.

Section 106.1130(a); General Plant Description

The Agency believes that the Petitioner has met the requirements in Section 106.1130(a). *See* Petition at 5-6.

Section 106.1130(b); Description of Method for Heat Dissipation

The Agency believes that the Petitioner has met the requirements in Section 106.1130(b). *See* Petition at 6-7 and 8-9.

Section 106.1130(c); A summary of compliance or non-compliance with thermal requirements at the facility in the past five years

The Agency believes that the Petitioner has met the requirements in Section 106.1130(c). *See* Petition at 7-8.

Section 106.1130(d); The detailed plan of study submitted to the Agency under Section

106.1120(a) and the Agency's written response under Section 106.1120(f)

The Agency believes that the Petitioner has met the requirements in Section 106.1130(d).
See Petition at 11.

Section 106.1130(e); The results of the studies conducted under the detailed plan of study submitted under Section 106.1120

The Agency believes that the Petitioner has met the requirements in Section 106.1130(e).
See Petition at 12-13.

Section 106.1130(f); Any additional information or studies, including information or guidance published by USEPA, that the petitioner judges to be appropriate to support the alternative thermal effluent limitation demonstration

The Agency believes that the Petitioner has met the requirements in Section 106.1130(f).
See Petition at 24 and attached appendix of each Demonstration Report.

Section 106.1130(g); A statement of the requested relief

The Agency believes that the Petitioner has met the requirements in Section 106.1130(g).
See Petition at 25.

5) Any information the Agency believes is relevant to the Board's consideration of the proposed alternative thermal effluent limitation: The Agency does not believe that any additional information is needed to supplement the alternative thermal relief request.

6) Whether the Agency communicated with or received comments from the Illinois Department of Natural Resources, the United States Fish and Wildlife Service, or USEPA and the content of those communications: Midwest Generation provided the Detailed Plan of Study to IDNR. According to the petition on Page 11, IDNR provided comments, those comments were addressed and IDNR sent and approval, by e-mail, on June 9, 2016. Midwest

Generation has been in contact with USEPA throughout the process.

IDNR and USEPA were informed that Midwest Generation filed the instant petition with the IPCB. IDNR and USEPA were provided a link to the Board's website and informed of the March 12th, 2018 deadline for the Agency to file its recommendation on January 30th, 2018. On March 1, 2018, IDNR terminated the Endangered Species Consultation indicating that the state-listed banded killifish (*Fundulus diaphanous*) was present in the vicinity of the project, but adverse impacts were unlikely.

WHEREFORE, Illinois EPA respectfully submits its Recommendation that the Board grant the Petitioner's requested thermal relief.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION
AGENCY

Dated: March 12, 2018

By: /s/ Stefanie N. Diers
Stefanie N. Diers
Assistant Counsel
Division of Legal Counsel
Stefanie N. Diers

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APPEARANCE

The undersigned hereby enters her appearance as attorney in the above-titled proceeding on behalf of the Illinois Environmental Protection Agency.

Dated: March 12, 2018

By: /s/ Stefanie N. Diers
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Assistant Counsel
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CERTIFICATE OF SERVICE

I, Stefanie N. Diers, Assistant Counsel for the Illinois EPA, herein certifies that I have served a copy of the foregoing Notice of Filing, Appearance for Stefanie N. Diers, and the Recommendation of the Illinois Environmental Protection Agency, via electronic mail upon:

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Respectfully submitted,

ILLINOIS ENVIRONMENTAL PROTECTION
AGENCY

Dated: March 12, 2018

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